



European Commission



LOUIS BERGER S.A.



REGIONAL ENVIRONMENTAL CENTER  
Albania



# Local Environmental Action Plan Commune of Shengjin

*for a healthy community  
in a healthy environment*







# **Local Environmental Action Plan**

## **Commune of Shengjin**

**This document is prepared under the CARDS project “Environmental Legislation and Planning in Albania – ELPA”, financed by the European Commission in collaboration with the Ministry of Environment, Forest and Water Administration. Implemented by Jacobs, Louis Berger S.A and Regional Environmental Center (REC), Albania**

2006  
Printed by Gent Graphic, Tirana

**This document is prepared with the assistance of**



**QENDRA RAJONALE E MJEDISIT**  
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<http://albania.rec.org>

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## A. Introduction

The preparation of this document is funded as part of the in the framework of EU CARDS programme, as part of the project “Environmental Legislation and Planning in Albania (ELPA) Environmental Action Plan component”, The overall objective of ELPA is to support the Government’s objective of meeting Albania’s sustainable development principles in accordance with EU environmental requirements, and thus to prepare for EU accession talks. This includes the strengthening the technical and administrative capacity of local government’s planning controls and the capacity building for the Environmental Action planning process at regional and local level.

This LEAP also links with other components of the ELPA project:-

- The National Environmental Strategy (NES) sets out the environmental policy for all development sectors including sustainable management of environmental resources used for development, and the protection of biodiversity;
- Regional Environmental Action Plan for Drini delta;
- Pilot plan for the coastal area from Ishmi river mouth up to Buna river mouth;;
- Raising environmental awareness at regional and local levels. The public consultation process involved in the development of this LEAP is a key activity required under the EU laws for the development of all Plans.

The Regional Environmental Action Plan process is in line with Albanian government efforts for further developing and strengthening the environmental planning at different levels as required by the SAP and, within this project, as support to the development and drafting the National Environmental Strategy.

The overall goal of this LEAP process is to address unplanned development of cities, accompanied by uncontrolled interventions into the existing infrastructure, which has had a negative impact on the environment and public health. In addition, the creation of new population centres and rapid urban expansion, have put huge pressure on an already derelict infrastructure. Outward migration from the mountain areas to the coast has caused particular problems of declining infrastructure in the mountains and pressure on the coastal regions.

Taking into consideration the lack of monitoring and enforcement capabilities, there is a very low awareness of environmental issues amongst business, institutions and public alike. This project has worked to raise the awareness of environment on government and public agendas, and address data collection, monitoring and public information system improvements.

The collection of the necessary data from the different fields the commune area began with the physical and geographical features, terrain, natural and underground resources, water, agriculture, biodiversity, forestry, fishery, hydro - geology and demographic data, also the environmental impact of territory planning, energy, urban waste, education etc. Based on these data, an integrated document has been produced with clear focus on nature protection and sustainable development.

This document presents a detailed data’s analysis over last 50 years in different fields, with different physical conditions (marine ecosystems, lowland peri-Adriatic, valley and canyons, lagoons). The study area presents an area of great environmental interest for everyone. With a new vision of interdisciplinary development in Albania, different fields influencing each-other are presented in an integrated and harmonized way and in respect with the nature and sustainable development.

The LEAP document will serve as a strategy for local and national institutions, business, different organizations, experts and other actors, to develop more further their vision on the exploitation of natural resources in a sustainable manner in Shengjini Commune.

### B. Processes and methodology

The Local Environmental Action Plan has been prepared by local experts from commune of Shengjini, the national experts from Ministry of Environment, Forestry and Water Administration, as well as by the support of international experts from ELPA Project.

Developed in three main parts, the REAP is structured in the following chapters: Part One :Situation analysis; Part two , Recommendations and Development Strategy and Part Three; Action Plan , presenting for each topic the identified problems, recommendations and proposed concrete interventions. Special attention is paid to the interaction between different issues.

One of the most important steps of the process has been the discussion of each phase of the document with a considerable number of local experts, specialists and community representatives. Aiming at preparing a comprehensive document where different interests are taken into account. Several public consultations, institutional communications, round tables and calls for cooperation were held in the commune level to promote local ownership of the Plan.

ELPA project team and REC Albania would like to thank the local and regional actors involved n this process for their generous support and commitment to the LEAP process as the first piloted model and prototype in Albania.

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## Abbreviations

<b>ELPA</b>	Environmental Legislation and Planning in Albania
<b>REC</b>	Regional Environmental Center
<b>MEFWA</b>	Ministry of Environment, Forest and Water Administration
<b>CTTRA</b>	Council for Territorial Regulation of the Republic of Albania
<b>DFS</b>	Directorate of Forestry Service
<b>MTRT</b>	Ministry of Territorial Regulation and Transports
<b>RC</b>	Regional Council
<b>IUCN</b>	World Nature Conservation Union
<b>NGO</b>	Non-Governmental Organisation
<b>REA</b>	Regional Environmental Agency



### C. General analysis of the opportunities and risks for the development of the commune of Shengjin

This exercise was held with the working groups for the commune of Shengjin, with the purpose to analyse that can help this commune with high natural values to develop towards sustainable development and to enforce the management of those natural values, dealing with risks and obstacles slowing this development

Commune of Shengjin

Strengths	Opportunities
Geographical location Human resources The sea port Natural resources (lagoons, etc.) Closeness to national highways	Tourism potential Development of commerce in the area Fishing activities Processing of agricultural products Opportunities for infrastructure development (roads)
Weaknesses	Risks
Uncontrollable phenomenon of extra legal building Absence of master plans and urban planning blueprints Smallness of the commune Dysfunctional public services (drinkable water supply, waste management, etc.)	High erosion of the land and coastline Floods (Drini river, the Lezha Island, etc.) High seismic activity



## 1. General description of the commune

*(Relief, climate, human dynamics, development, etc.)*

### 1.1 Description of administrative units and demography

The commune of Shengjin is among the most important administrative units of the region of Lezha. The town of Shengjin, giving the name to the entire commune, stands for one of the country's important portal and tourist facilities. The area is blessed with a highly varying relief which combines the beauty of the blue color of the sea waters and the shining sun over the vast beaches. The beauties of the area are greatly enriched by the shadows of the Mountain of Renc, the pine forests, the sand dunes and the vegetation of the legatines which are home to a large variety of animals, especially birds of various sizes and multifarious colors.

Shëngjin, a portal town and vast beach, stretches 8 km east of the town of Lezha, at the foot of the sloping side of the Renci Mountain. The area is surrounded by legatines, the lagoons of Kenalla, Kune-Vain, Kashta, Merxhani, Ceka, Kulari, Gjoli i Buajve, etc. The relief is mainly flat, ranging from 1-2 m up to 550 meters above the sea level (Maja e Zezë of the Hill of Renci). There are also sections of the area which are situated at sea level or even below sea level, which has entailed the creation of lagoons, marshlands and swamps. In antiquity the town of Shengjin was known by the name of Nimpheum and has been created at about the same time with the city of Lissus (4th century before our era) firstly as the port of an Illyrian and later Roman town.

The commune of Shengjin has a coastal line of 13 km. It is comprised of the town of Shëngjin and four villages: Ishull Shëngjin, Ishull Lezhë, Mali i Rencit and Mali Shëngjin.

The center of the administrative unit is the town of Shengjin with a population density of 195.4 inhabitants/km<sup>2</sup>. The commune has a population of 10552 inhabitants (or 10.87% of Lezha's population) of which 5229 (49.55%) are females. The town's 2677 households live over an area of 54 km<sup>2</sup>. The population in the urban area accounts for 33.70 % and in the rural area for 66.30 %.

The population of Shengjin (counting 7000 inhabitants in the year 1990), from the year 1990 to 2005 has been increased by 50.74 % (or with 3552 inhabitants) representing one of the fast growing towns in the area of Lezha. The new settlers are mainly from the mountainous areas of Mirdita, Shkodra, Malësia e Madhe, Tropoja, Puka, etc.

About 32 % of the population is under 15 years of age and 55.9 % under 30 years. Only 7% of the population is above 65 years. Number of births in the month of December 2005 was 8 children and mortality rate of babies under one year was 0. In 2005 alone, the population of the commune of Shengjin grew by 346 inhabitants.

### 1.2 Climate

From the climate point of view, Shengjin is characterized by Mediterranean climate with hot summers and rainy winters. Annual average temperature is 16°C with average winter temperature 7 °C and average summer temperature 25 °C. Number of days with sun varies from 230 to 250 annually.

*Table 1. Average monthly temperatures in the last 20 years. (Source: commune of Shengjin)*

Years	Months												Average temperature
	January	February	March	April	May	June	July	August	September	October	November	December	
1 9 8 4 - 1994	6.7	8.5	10.5	13.5	18	21	23.6	25.5	20.9	16.9	12	8.3	15.4
1 9 9 5 - 2005	8.1	9	11.2	14.5	18.7	22.4	24.9	25	22	18	13.7	10	16.5

As is seen from the table, there is an increase of average temperature of 1 grade, which may require a thorough analysis in order to foresee implications it may create for the future.

Table 2. Amount of rainfall in mm for the last 30 years (Source: Commune of Shengjini)

Years	Months												Annual Average
	January	February	March	April	May	June	July	August	September	October	November	December	
'73-'83	198	173	172	100	113	87	36	49	92	203	210	210	1,643
'84-'94	134	146	155	131	115	68	45	80	110	180	218	180	1,592
'95-'05	174	148	138	121	98	78	38	54	190	152	94	175	1,463

Annual average of rainfalls ranges from 1500 - 1700 mm. The analysis of data concerning rainfalls shows that the intensity remain more or less the same in the last years whereas floodings have been of large proportions in the recent years.

### 1.3 Development tendencies

The absence of master plans and regulation plans has created several problems with regard to the demographic movement and the extra legal buildings in the tourist area which are taking place in total disregard of standards and criteria. The number of buildings used to house families is 2020. The town is going through a rapid growth which combines the characteristics of urban areas with those of tourist facilities in one. Table 3 shows statistics regarding the number of inhabitants and the capacity for tourist accommodation in the commune, the town and the rest of the villages.

Table 3. Change of population and population forecast for 2020 according to the Civil Register (Source: EPTISA project)<sup>1)</sup>

1 Forecast made by the project "Study for Rural Development (Eptisa)"

General note: General data at commune level for the year 2005 and forecast until the year 2020 have been taken from the data collected under the Study for Regional Development (SRD) for the areas of Shkodra and Lezha. The study was conducted by the advisors of the EPTISA (Spain) abd funded by the EU CARDS Program for Albania.



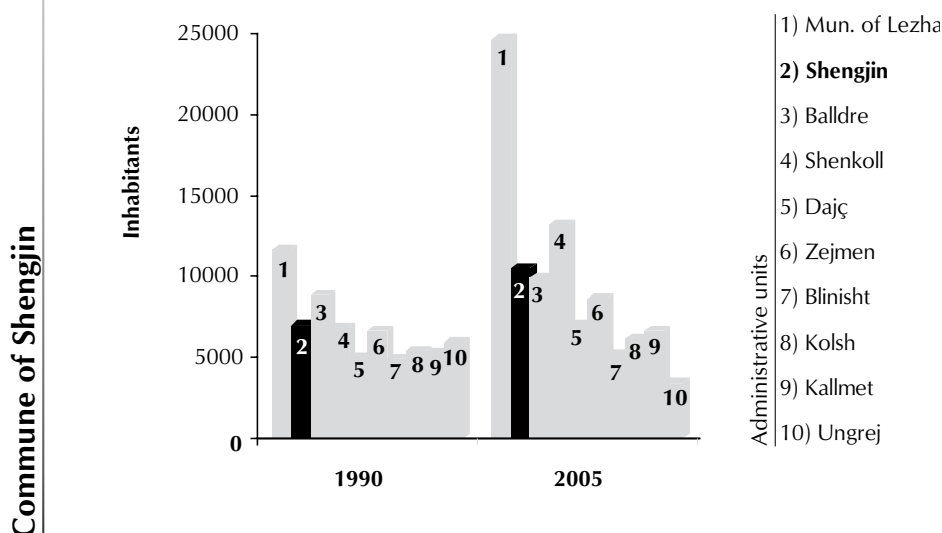
Administrative units	Year 2003	Year 2005	Projections for 2020
Commune of Shengjin	10120	10206	28767

Estimations indicate that about 4000 tourists may be accommodated during the peak of tourist season in the summer time. The study on development prospects of the region of Shkodra and Lezha indicates that the total population of the commune of Shengjin will grow to 10500 people and accommodation capacity will increase to receive 8000 tourists in the year 2020. The figures show that the town of Shengjin will attract 8000 inhabitants and 8.000 tourists by amounting to a total of 26,000 people, residents and tourists together, during the peak of the summer season. The town is faced with strong pressure coming from demand to build additional residential facilities which are destined to house the new comers, the tourists, but also to be sold as second houses and apartments to people living outside the area. The pine forest and the beach with the sand dunes south of the town are presently visited during the summer time by families who travel from the nearby towns and villages to spend their free time and vacations.

Table 4. Assessment of changes in number of the population and visitors.

	Population in the year 2005 Local residents and visitors	Increase of the population until the year 2020 Local residents and visitors	Population in the year 2020 Local residents and visitors	General "urban" area	Gross density of the population
The entrance tourist village Ishull-Lezhë	1,000 + 200	1,500 + 2,300	5,000	68 ha	74 inhabitants/ha
Tourist center of Shengjin	6,000 + 4,000	8,800 + 8,150	26,950	135 ha	200 inhabitants/ha
"Existing" town	5,500 + 3,500	3,800 + 3,000	15,800	50 ha	320 inhabitants/ha
"New" town	500 + 500	5,000 + 5,150	11,150	85 ha	130 inhabitants/ha

Graphic 1. Change in population for some of the commune of Lezha Region, for the period 1990 - 2005 and the Munic. of Lezha (Source: Census 2005)



**There is a need for development of comprehensive urban plans, which needs to include the following concepts and principles:**

- The urban zones within the town's existing boundaries should be consolidated and rehabilitated;
- Further unplanned development outside the designated areas should be stopped, especially in the coastal pine forests which need urgent rehabilitation;
- Extension of mixed urban and tourist areas southwards to the Lagoon of Kune should be banned. New urban expansion must be contained within the designated east site;
- The plans for the future of Shengjin picture it as a combination of informal tourist centers concentrated in the port and beach areas. With the passing of time, Shengjin should become part of the competition among the small towns in the Mediterranean which combine sea activities with tourism. The main elements of the development plan for Shengjin are: i) Use to the maximum extent possible the port and military areas in the town's northern boundary; turn them into "coastal areas" integrating a wide range of tourist attractions and activities which are linked with the port and the sea. This will be the main center with interest for the visitors and will include: one information center for the visitors; one small harbor for vessels and one fishing fleet, a large number of fish restaurants, a larger number of sea and coastal attractions, as well as services for organized accommodation and recreational activities in this area; ii) Achieve better urban development in order to create a better urban image incorporating better quality facilities and services backed up by efficient public services of cleaning, maintenance and management; iii) Strengthen relations with the forest and mountain behind the town; use part of the forest and mountain to create a forest park; iv) Improve the management of the urban beach; build a pedestrians' boulevard and stop further urban expansion which damages the area of the beach; v) Orient new urban development east of the town on the side of the Lezha highway, by increasing the population density in the less populated zones; vi) Protect the small lake (the pool) of Kenalla as a characteristic feature of the landscape; vii) Contain further urban expansion south of the city in order to protect the Lagoon of Kune, which is located close to the town; build a road to enter the lagoon and allow the creation of low density populated areas and the creation of recreational and shopping facilities within the surface of pines stretching along the seaside; viii) Rehabilitate the pine forest along the coast; ix) Build visitor's attraction on both sides of the road leading to the beach and forest south of the town in order to encourage people to leave cars behind and walk inside the area; x) The main tourist supply will remain the Albanians living in their ethnic lands outside the Republic of Albania who prefer the sea compared to other kinds of tourism. Also the area will be visited by tourists on short vacations during the various seasons of the year who will be attracted by the sea, but also by the coastal facilities, the fish restaurants and a wide range of activities. As the area improves, so will its capacity to attract day visitors who are generally disposed to spend more. With the passing of time, Shengjin may gain the advantage of attracting small sailing vessels and tourist ships. The foreign visitors who like Albania may be attracted by the coast landscape, the mountainous landscape of Mali i Rencit and the vast surface of wetlands.
- The space for new urban development in the town of Shengjin is limited. There are a number of hotels already in the town, therefore the main orientation should be to upgrade these facilities and the urban environment surrounding them. New development within the center of the city and its expansion eastward

may involve: i) Five to ten small hotels; ii) Probably a big hotel; iii) Probably a recreational facility; iv) An increased number of managed apartments; v) A space for camping.

- In addition to the beach, the area needs a number of facilities to serve the visitors. A small port needs to be built and coastal facilities provided for visitors. The area of the beach needs to be equipped with better facilities, a center for visitors and space for leisure. Also a number of top quality restaurants need to be created.
- The designation of sites for the establishment of these facilities should necessarily take into account the seismic features of the area and quality conditions of the land. A conceptual zoning plan has been designed which serve as the basis for the creation of the revisited master plan which in its previous condition did not take proper count of the rates of development and the need to protect the environment.

#### 1.4. Zoning in accordance with land category and land importance

Land was fragmented as a consequence of the land reform based on Law 7501. Land distribution was effected in accordance with field and hilly locations, according to fertility category, irrigation availability and distance from the inhabited centers. As a result, one farmer owns land in 3-4 different locations with areas of 1-4 dynym. Such fragmentation has negative impacts on systematization, watering, irrigation, mechanization, the use of contemporary technologies, etc. As a consequence, productivity is low, cost of production is high and farmers' income is limited which makes for very low rates of economic efficiency. To improve the situation, the following is required:

- To complete the distribution of land and equip the farmers with ownership title, so that they feel they have power over their property;
- To build awareness of the community on the need to dissolve conflicts, disagreements and whatever hurdles on the way to providing long term solution to the land issue in Albania;
- To complete the initial registration of land in the Office of Property Registration and equip farmers with relevant certificate as a step to pave the way toward the development of the land market so that land can be bought and sold at market prices.

Land in the town of Shengjin and the mountain of Renc belongs to the fourth category of the regimen categorizing land according to quality; in Ishull Shengjin it varies from 3<sup>rd</sup> to 4<sup>th</sup> to 5<sup>th</sup> category; in the zone of Kenalla and Ishull Lezha it varies from 2<sup>nd</sup> to 4<sup>th</sup> category; whereas in Kune Vain although it is in the 4<sup>th</sup> category, it has great importance for the development of tourism.

Agriculture is the main contributor in the economy of the region. About 60% of the population lives in the rural area and relies on agriculture as the main source for its income. Agricultural land is very fertile in the entire area. However and despite its great weight in the economy of the region, agriculture remain underdeveloped and badly managed by the farmers themselves.

Table 5: Distribution and use of land

Name	Land total in ha	Of which				
		Arable land in ha	Forests in ha	Meadows in ha	Pastures	
					Natural in ha	Man made in ha
Commune of Shengjin	2,579	1,425	624	51	479	0

The surface of total distributed land is 1226, with 0.12 ha per capita and utilization coefficient of 47. The area of unused land is 650 ha.

Table 6. Distribution of agricultural land per commune in the zone covered by the study

Commune	Agricultural land total in ha	Portion of agricultural land stretching in the field (ha)	Portion of agricultural land located in the hills and mountains (ha)
Shengjin	1.020	1.020	0

Despite the high fertility and the favorable climate conditions, the area is hit by various problems created as a consequence of floods taking place regularly every year. As a result of the floods, agricultural productivity has fallen considerably low and is always under threat. Another negative consequence is the so called “washing off” of the land during floods which makes them less fertile. These factors have made farmers less enthusiastic to invest in agriculture.

Based on population growth the following estimations regarding future needs for agricultural land have been made:

Table 7. Demand for land (estimate)

Zone	Population growth until the year 2020	Demand for land (ha)
Commune of Shengjin	18,561	38.7

\* Source: Project on the Study of Regional Development (EPTISA)

However, up to 5% of the demand may be fulfilled through recouping abandoned lands and the systematic cultivation of land in between the existing habitats. The existing situation is unfavorable for the development of agriculture. Therefore, to effect improvements, it is necessary to establish groupings, associations or production farms of no less than 10-50 ha in order to increase productivity through the use of new technology to face competition.



## 2. Human activities and services

### 2.1. Employment, income, business

The existence of a large informal sector, coupled by informal employment as well as by self employment in agriculture in circumstances of bare survival makes it difficult to establish accuracy of data regarding employment in the city of Lezha and still more difficult in the commune of Shengjin. Self employment in agriculture, especially in the rural areas, fictively increases the number of the employed people, although such employment in most cases does not contribute in any substantial way to the household income. About 48 per cent of the people working in agriculture are poor and about 28 per cent of the inhabitants of the rural zones belong to the social groups with the lowest level of income.

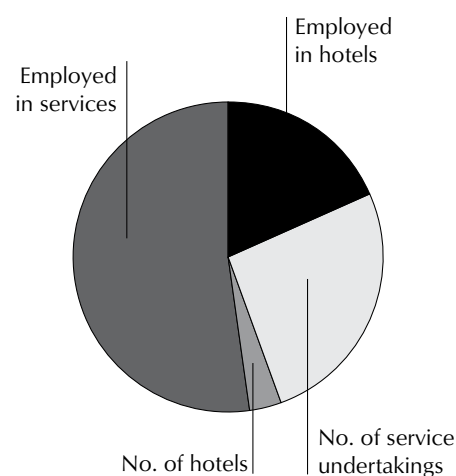
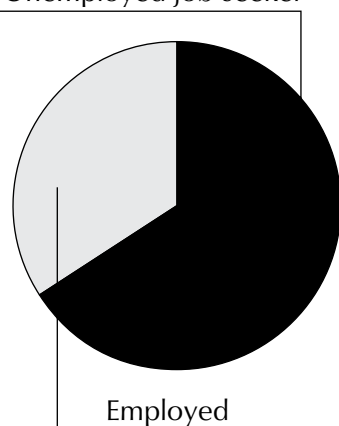
It must be said that employment in Lezha in the state and private non-agricultural sector is 10.96 per cent; whereas in the Commune of Shengjin it is 12.06 %. Characteristic is the declining tendency of employment in the state sector and a slight increase of employment in the private non-agricultural sector.

Employment in the agricultural sector of people in the rural areas has been counted to be at 100% by the employment offices. However this is very relative and as a study conducted by this project has revealed, employment of able bodied and active manpower can be as low as 51 per cent. There are no accurate data with regard to employment in police and army forces or in the prison administration of people from this commune

Table 8. Employment according to employment offices of Lezha

Year	Active labor force Total	Total	State sector	Private non agricultural sector
Commune of Shengjin December 2005	5316	641	331	310

Unemployed job seeker



The highest employment rate is reached during the beach season. In addition to increased employment, during this season about 550 households rent space to visitors. The movement of rural population towards the urban centers has pushed up unemployment rate considerably. Income per capita ranges from 165 to 300 Lek

per day. Unemployment rate is 6.21% for those who seek for a job, or about 5 times higher as compared to other communes in the area of Lezha. However, in view of the fact that 49 % of the active force in the agricultural sector is unemployed, it follows that the overall unemployment rate is 40%.

#### 2.1.1 Agriculture as a source of income

The commune of Shengjin is in possession of land measuring 2579 ha of which only 60% has been put into use. The indicators of agricultural productions (cultivated area and productivity) have experienced decline from year to year. Following the nineties, policies to stimulate agricultural production such as provision of soft loans were implemented which were interrupted after the year 1997. There are a number of factors discouraging farmers from cultivation of the land and consequently contributing to the increase of barren surfaces such as floods, blockage of draining canals, dysfunctional hydrovors (which do not work due to shortages of electricity or high amortization levels), increase of prices of agricultural inputs, etc.

The low quality of the land, lack of irrigation infrastructure, fragmentation of the land into small plots, long distances from the urban center (due to weak road infrastructure) add to the factors which have a negative impact on the development of agriculture in the Commune of Shengjin.

Among cereal crops, the first place is taken by wheat which is grown over large areas. Vegetables occupy an important part of the cultivated area; particularly in the rural areas where every family cultivates a good part of their plot with vegetables such as beans, and potatoes. Melons are cultivated mainly in the filed area and are a source of significant income. Fodder is also an important crop and is used for feeding animals during winter time.

The climate and the geographical location of the commune of Shengjin favor the growth of many types of medicinal crops such as: sage, blueberries, north tea, thyme, savory, etc. The production of such crops is a source of seasonal income for the unemployed people in the area. It is of importance to underline the fact that the activity is badly managed which creates serious problems for the natural environment.

With regard to fruit trees, the area is also endowed with favorable conditions for the growth of olives and citruses. Following destructions of the year 1990, the surface used to cultivate vines has seen considerable growth not just due to the tradition of the area but also to the great economic gains that they bring. However, presently the wines and liquors produced are mostly consumed within households due to the difficulties to access market which means that a very important source of income is not being fully utilized.

Stock breeding, too, is very important in the income of the inhabitants. After the year 1992 there has been a considerable increase in the overall number of heads of sheep, goat, cows, birds and bees. However, the issue of disease prevention among the animals remains a great concern among farmers. The breeding of animals is entirely natural. Meat and milk are a good source of income which benefits the villages close to the urban areas.

The market of agricultural products is uncontrollable and the situation is critical. Products are sold in appalling sanitary conditions, usually along sideways. Due to the interplay of a number of reasons such as issues of unresolved land ownership, lack of willingness by the farmers to cooperate, etc., the market for such products remains under developed. The area lacks technology for the packaging and standardization of

products for sale both on internal and foreign markets.

### 2.1.2. Fishing as a source of income

Fishing is one of the most important sectors of the economy providing jobs for the population of the Bay of Drin and beyond. The sector employs 260 fishermen organized in associations which fish in open sea and internal waters (the lagoons). Fishing is carried out by a fleet of 27 ships; whereas the fish processing industry is represented by two Albanian-Italian joint ventures "Poseidon" and "Eurofish" and by an Albanian owned company called "Rozafa". The first two companies process about 1000 tons of salted fish. The primary source comes into frozen blocks of fish or salted fish in barrels imported mostly from Spain, Italy Greece, Morocco and Argentina. They employ about 500 workers. The Albanian owned company "Rozafa" processes fresh fish from the Adriatic sea caught mainly with its own vessels. Its products are destined for the Albanian and foreign markets.

The technical conditions in all three of these companies are in breach of standards prescribed by the Albanian legislation. They do not use environmental friendly technologies. Moreover, they represent the biggest sources of pollution with technological waste in the zone of Shengjin and beyond.

#### *Types of fishing in the zone:*

In the last year, with the privatization of the fishing fleet and the newly developed requirements in the fish market, the structure of fishing methods has also changed. Up until the end of the nineties, the pelagic method was used to catch about 75 % of fish that went into the canning industry. After the nineties when the fish processing industry saw major transformations and the demand for export and local consumption has qualitatively changed, the bottom method has gained weight. However, other methods are not excluded either such as coastal fishing, lagoon fishing, sports fishing and tourist fishing.

**Bottom fishing:** Presently this method accounts for only 9-12 per cent of the fish volume. The fishing fleet with its 27 ships catches an amount of 600 ton annually mainly through the bottom method which is used in about 60% of the cases. The method provides for good quality fish which is sold at expensive prices both for local consumption and export.

The bottom method ensures quality kinds of fish such as sea bass, skate, mullet, etc. This method of fishing needs strict supervision because the laying of nets at the bottom of the sea at depths below 20 meters damages the aquaculture which is not for fishing and upsets and destroys the equilibres of the underwater habitats. The use of this method ensures good revenue for the sector as the fish may be sold at higher prices both locally and regionally.

**Coastal fishing** is used at the Bay of Drin with fish rods and hooks at a depth of up to 5 meters and with nets of sizes up to 18 mm. The method is especially efficient at the time when the fish head for the entrance to the lagoon in search of food.

This method of fishing has negative consequences such as the damage of the food reserves for the fish, the destruction of fish eggs thrown in the coast, the disturbance of fish reproduction, fish are not allowed to enter the lagoon; in addition the method yields fish below standards.

**Fishing in the lagoons:** is carried out with traditional means made with rods and yarn, and yields low amounts from 50 - 150 kg/ha mainly of quality fish such as sea bass, eel, mullet, etc. This method of fishing takes into account the biological cycles of the fish. The fishing zones are open in April and closed in August. The fish stays in lagoons in search of the food for a period of 5-6 months. Fishing in the lagoons starts

in the month of August and continues until the month of January of the coming year. Uncontrollable fishing produces negative consequences such as the damage to the basic food for fish, damage to the water regimen, and fish shelters and reduces fish productivity per ha.

Tourist and sports fishing: is practiced by a considerable number of local people or visitors from other zones. This method of fishing is exercised daily in the mouth of Merxhan, on the coast and in the lagoons. This type of sports fishing is also spread among amateur fishermen who have obtained a license and earn their living through catching and selling good fish mainly sea bas for the local market. The fish caught in this way is sold to the restaurants for daily consumption fresh from the sea.

*Presence of aquaculture in the zone:*

Privatization of the fishing sector starting with the catching, processing and selling create opportunities for free enterprise in projects related to aquaculture. These projects are connected with the real natural opportunities available to the population in the Bay of Drin and their long time experience in this sector.

Up until now it has been possible to identify two projects in aquaculture: one already being implemented the other in the pipeline to be approved by the relevant authorities.

The project under implementation takes place in the water environment under the jurisdiction of the port in an area of 100 m<sup>2</sup> which cultivates 3-5 tons of mussels every year destined for the local market.

The project still under review will cover an area of 100 ha of water surface which will be used to install the technology for the cultivation of mussels in accordance with modern standards and is expected to yield high productivity and provide jobs for 30 workers.

## 2.2 Services

### 2.2.1 Supply of drinking water and new water sources

The main water streams forming the hydrographic net of Lezha are the Lezha Drin and the Gjader River (with a basin area of 188 km<sup>2</sup>, height about 422 m above the sea level, and flow up to 8,00 m<sup>3</sup>/sek.). Other sources are the stream of Manatia in the commune of Kolsh, the Stream of Voma in Kalivac, the commune of Ungrej. This basin includes the area of Zadrima-Bregu i Matit and supplies drinking water to the towns of Lezha and Shengjin as well as the entire villages on the field. The amount of water supplied including technological water is 400 l/sec. The main water supply works are the ones of Barbulloja and Rrila. The feeding strata are mainly situated South along the banks of the Mati River. Estimated water reserves amount to 2500 l/sec. Many wells have been drilled in the area, which in conditions of free flow provide 10-60 l/sec. But these waters are also used for land watering and reduction of saltiness especially when vaporization due to hot weather in the lagoons is in high levels. The basin belongs to the gravel water collection deposits whose thickness increases in the direction of the Mat River and reaches up to 180-200 meters. They are found under clay and sub clay covers whose thickness measures up to 45-50 m.

Underground waters abound in the region of Lezha and are spread throughout the Lezha basin. They are of good quality, but in some part they are little known. It has been established that the waters of this basin are of two kinds: of low level of hardness (in Barbulloja) and waters with high levels of mineralization. Analyses show growing incidence of general mineralization of nitrates (Na) and chlorine (Cl). Analyses also show that these waters do not contain microelements. Main problems encountered recently



have to do with the risk of salted waters infiltrating into clean waters especially due to overexploitation of the latter. About 20% of underground waters are used for watering in the agricultural activity. The risk of surface pollution is low thanks to the thickness of the screening cover, long distance from the feeding sources and the artesian character of the water collecting strata. Protection and monitoring of the quality of underground waters is a necessity to ensure the population adequate supply with water which meets standards requirements with regard to both quantity and quality.

A considerable part of the population is supplied with drinkable water from sources and springs. This is particularly so in the northeastern part of Lezha. The method of supply is through wells with mechanical lifting and free flow. The situation is as follows: about 60% of households in the commune of Shengjin have a running tap inside home; 27,4 % have taps outside the home (in the front of back yard) and 12,6 % procure water from the wells or are supplied with cisterns. About 15% of households have no plumbing installations at all, of these 90 per cent are in the villages. There are areas in the commune of Shengjin which are supplied with drinking water up to 10 hours a day. However, in the summer time, water supply is reduced drastically with the town of Shengjin only being supplied for 2 hours a day.

In the urban zones, the number of households having plumbing installations inside their homes is two times higher than in the rural areas. The number of households with water supply installations outside home in the rural zones is three times higher than in the urban zones. In the Island of Lezha and the Island of Shengjin less than half of the villages have access to water supply facilities (part of the households have connected themselves extra legally to the pipes). It must be pointed out that the fraction of the population with access to controlled drinking water is only about 29,62% in the urban zones and 20 per cent in the rural zones. These households are supplied from the rural or urban water supply systems. The rest of the population is supplied from the natural sources or simply through the wells and other small drilling works.

Table 9. Main indicators of the water supply systems

	Type of source	Destination	Flow l/sek	Type of supply	Time of supply
Commune of Shengjin	Depot	=	100	Free flow	2-10 hours

### 2.2.2 Sewage system

The system of sewage collection and waste management in the commune of Shengjin has been primarily studied as these services pertain to the town of Shengjin and the rural zones.

#### *Town of Shengjin*

The town of Shengjin has a managed sewage system (for the upper part stretching from the Uldedaj Gas Station to the Camp of Workers) with a collector of about 2 km length, thanks to the World Bank project dedicated to the construction of such sewage (2005). The system can accommodate the needs of 50% of the population of the town of Shengjin. Due to the locational lowness of the town, sewage is discharged through the underground pumping station in Kenallë. Sewage amounts to 380 m<sup>3</sup>/ditë. The type of solution through the pumping station is expected to negatively affect the flora and fauna of the zone.

The northeastern part of the town discharges its sewage directly to the sea (close to the port) through a closed canal; whereas the part of the town situated above the marine station, discharges sewage in the torrent flowing in the northwestern part of the town, above the fuel storage depots and throws it onto the sea in the area close to the port. The torrent only has water in the fall and winter, whereas during the rest of the year it dries out. In addition to the sewage, the fish processing businesses discharge their waste into the torrent. The bad smell is a huge problem for the inhabitants especially in the hot and dry season of the year. The town of Shengjin is home to two large fish processing companies: "Rozafa" and "Poseidon" which employ about 120 workers. The two businesses together discharge technological waste at a rate of 1-1.5 l/sec. Although "Eurofish", the third fish processing company in the area, conducts its business in the zone of the municipality of Lezha, it discharges its technological waste in the canals which transverse the commune of Shengjin across from the village of Ishull Shengjin.

The polluted urban waters discharge in the surface waters 98% of the biological need for oxygen (BNO) and all other pollutants with the exception of oils and fats which are discharged from the fish processing companies (20 m<sup>3</sup>/day), although two of the three processing companies have installed filters to treat technological waters.

Composition of the sewage in Shengjin is characteristic for discharges of this type, but the organic content and feeding substances are at levels lower than those of the other European countries: COD=160-164mg/l; BOD=66-67mg/l; TDS=0,375-0,8gr/l; SS=28-102mg/l; P-total=12,2-13,75mg/l; N-total=20,14-28,5 mg/l.

It must be pointed out that the natural zone of the Lake of Kenalla is made up of a natural flow of carstic waters which take root at the top of the hill and end up in the lagoon. This is a temporary water surface polluted by the direct discharges of sewage coming from the town of Shengjin. Due to these pollutants, the risk on the life of marine microorganism is high, as it affects directly the reproduction of marine species.

In the vicinity of the delta of the River Drin, the people doing the study have encountered high levels of organic matter (proteins 61%, carbohydrates 34%, lipids 5%), which are up to 3.5 times higher than the parameters in the areas without human activity. In addition, the values of the active photosynthetic pigments have been measured to be at high levels (0,94 mg/m), whereas the bacterial biomass and its density in the sediments were within the norms, with higher values, however, in the vicinity of the towns, the delta of the rivers and in the ports. Of concern remains the uncontrollable discharge of waste from the fishing vessels at the entrance of the Port of Shengjin.

In the rural zones there is no infrastructure to collect sewage. In 90% of the cases sewage is collected in septic holes or in small collection points which are then discharged into the Drin River or in open canals. In the villages of Ishull Lezhe and Ishull Shengjin sewage ends up into the watering canals and through the canals into the Drin River and through the hydrovor of Tale and the one of Ishull Shengjin are discharged into the sea. The field zones are more problematic. As they are possessed of a multitude of underground waters (especially the zones close to the wetland), following heavy rainfall and saturation of the land, these waters come out into the surface.

A measure to be taken urgently is the formulation of a special work plan by the Environmental and Health Inspectorates to monitor the parameters of technological waters running through these conservation points. Equally urgent is the need to install works dedicated to the cleaning of technological waters.

### 2.2.3 Waste

#### *Types of waste and industrial residues*

Urban waste is generated from households, the public administration, the construction sector, the works for fish processing and beer production, the various service industries, the port, the oil deposits, etc. The waste is collected without prior sorting out. So, together with normal urban waste goes also hazardous waste such as (batteries, chemicals, etc.). The Commune of Shengjin has an organized system of waste collection and transportation through the Commune's service enterprise. The rural zones the villages of Ishull Lezhe and Ishull Shengjin are not known to have any kind of service for waste collection and transportation. The development of tourism puts increased emphasis on the need to consider waste management as part of the infrastructure for tourist hospitality.

#### *Systems of urban waste collection*

Urban waste in the town of Shengjin amounts to approximately 4200 ton/year. The main elements in the waste are: of food origin (above 45%), paper, glass, metal, textiles plastic, stone and wood. Solid urban waste is not administered on the basis of environmental criteria. As of presently there is no point to deposit urban waste which fulfills environmental criteria. In the summer months, when the number of the citizens in the town of Shengjin so much as increases by 5 fold, solid urban amounts to 2 ton/daily. The place designated to discharge waste is 9 km away from Shengjin and in sanitary and environmental conditions which are totally unacceptable. A part of urban waste including waste from construction and demolition work are thrown along the banks of the River Drin or in the Lake of Kenalla.

As a consequence, the region is faced with an intolerable situation in the administration of waste, not only in the town, villages and streets, but also in the places designated to collect waste. Considerable amounts of urban waste have been deposited on the sideways which causes irrigations canals to block, not to mention the fact that often mixed in urban waste there are hazardous and dangerous materials that pose a threat on people's and animals' life.

Burning of waste is a common phenomenon in almost all the deposit places which represents a potential source for highly poisonous gasses such as dioxins. Fires are set on purpose, mostly to make easier the process of spotting out aluminum containers by people who live on this kind of business. However, burning is also a means to dispose of large amounts of waste in the conditions of complete absence of waste processing with appropriate means and methods. Entrance in the places of waste deposit is free for humans and animals which increases the risk of direct exposure to hazards on their health and safety. There is lack of resources to provide for the necessary manpower and technology to process waste collection at the points of deposit. Sometimes the problems are also due to bad management of whatever resources that are available including manpower.

### 2.2.4. Floods

#### *Flood protection system:*

Over the entire territory of the Drin Bay are created surface waters which cause flooding of the agricultural land at extents, area and location which varies

according to the relief. To prevent floods in the area, several safeguards have been established which form a protection system:

1. Two protection dams have been built on the river Drin in a 6,7 km length which create a surface water of 18,4 ha.
2. The Hydrovor of Tale which in addition to irrigating the zone of Bregu Matës serves also to irrigate about 800 ha of agricultural land in the village of Lezha.
3. The Hydrovor of Ishull Shengjin with a capacity of 4 m<sup>3</sup>/sek was built in the year 2003.
4. The dams K/11 and K/12 which serve as safeguards from the overrun of the seawaters in cases of high tides.
5. A net of canals of various sizes such as first, second and third canals. The first two canals are the property of the Water Management Enterprise which is responsible for their cleaning and maintenance; the third tier canals are the property of the farmers.

Table 10. Data on the net of canals in the commune of Shengjin

Type of canal	First tire canals	Second tire canals	Third tire canals
Length	15.4 km	12.5 km	63.5 km

The most endangered zone is a surface of about 800 ha, located at about 1 m altitude over the sea level in the vicinity of the two lagoons of Kune-Vain.

#### *Causes of Floods:*

Among the factors with weights in causing floods, the following stand out:

- The functioning below capacity of the pumping stations in Ishull Shengjin and Tale. This is due to shortages of electricity at periods of intensive rainfall. Shortages are created because of defects in the electricity supply lines, or simply due to the negligence of the authorities charged to keep the pumping stations in full working capacity.
- The breaking of the dams over the Drin River caused by the heavy currents of the river which are beyond the capacity of the dams; or because of the low height of the dam, or because of the weak quality of materials and workmanship going into the building of the dam.
- The split of the dams K/11 and K/12, specially built to stand the high tides of the sea. Although this is a rare occurrence, it may happen subject to height and magnitude of the waves and the withholding strength of the dam.
- Lack of a clear strategy to cope with the factors behind the floods and to identify the best solutions are inhibiting the improvement of the situation. Another negative factor is the lack of funding for implementation of short and mid term projects.
- Lack of cooperation among governmental entities negatively affects progress towards the assessment of the situation and division of responsibilities for damages caused by floods.
- Lack of legal frameworks clearly delineating obligations of the parties with regards to measures to prevent floods is an additional hindrance.
- The third tier canals and works of art over these canals such as bridges and turbines are also at the root causes of floods. The net of third tier canals with a length of 63.5 km which belongs to the farmers is almost entirely out of operation and a contributing factor to floods.
- The high intensity of rainfall per unit of time which may be well beyond the



pumping capacities of the existing stations and of the entire net of canals in all three of its tires.<sup>1)</sup>

The high frequency of floods in the last 10 years is due to the amortized irrigation system and the lack of great investment works to enhance the system.

Some of the main causes of floods in the last 15 years are shown in the table below:

Table 11. Greatest floods in the last 15 years (Source: Commune of Shengjin)

Month	Year	Flooded area (in ha)	Cause of flood
November	1992	840	Breaking of the dams of the rivers Mat and Drin
August	1995	700	The pumping station in Ishull Lezhe out of order
September	1996	800	Heavy rainfall
October	1996	700	Heavy rainfall and pumping stations out of order
February	1998	500	Breaking of the canal of high waters
December	2000	300	Breaking of the sea dam in Ishull Shengjin
February	2002	400	Breaking of the sea dam.
September	2002	800	Breaking of the River Drin Dam

Among damages caused by floods mention can be made as follows:

1. Floods have caused considerable economic damages to the local communities. Thousands of hectares of agricultural land sown with crops have been destroyed.
2. Floods incurred to the breaking of the dam of the sea have entailed changes in the chemical properties of the land and the increase of the saltiness of underground waters and of the agricultural land which has caused the decline of productivity of the crops.
3. The frequent floods have created a feeling of insecurity in the ranks of the local communities who hesitate to cultivate the land for fear of future floods.
4. Frequent floods and the remaining of land under water for a long time has entailed negative consequences on the physical structure of the land (its capillarity) and has cause nature's balances to be upset.

## 2.3. Agriculture

### 2.3.1 General analysis

With a population of 10555 inhabitants, this commune can provide each inhabitant with 1,2 dynym. The lands in the commune of Shengjin have are highly fertile given that they are mainly made of the Drin's alluviums. Notwithstanding the serious problems affecting agriculture presently, this area has seen the self selection from year to year of the polyculture which has adapted to the agro climate conditions of the area.

Table 12. Use of land in the territory of the commune

<sup>2</sup> In various periods of the year, especially end of fall and beginning of winter the intensity of rainfall per unit of time has been so heavy that it has not been withheld by the irrigation system, thus floods have occurred.

Agricultural land	Arable land	Vineyards	Unused land	Forests	Meadows Pastures
1,308 ha	1,300 ha	8 ha	255 ha	1,720 ha	210 ha

Despite the efforts of the communities, and despite the good tradition of the zone, agriculture encounters serious problems caused by the floods and the dysfunctional irrigation and drainage systems. These systems have been damaged and suffered great deformations due to abuse of land, extra legal buildings and lack of maintenance for these vital systems.

Access to markets is still highly problematic. The products of the zone would be more profitable if a large size modern market was built especially for the summer time.

### 2.3.2. Land productivity

The fragmentarization of land after the nineties created serious problems for large and small irrigation and drainage. This has become an obstacle for farmers to engage into a more rational use of the land they own. The quality of products is acceptable. The project that is being implemented on the River Drin, provides opportunities for the drainage of the arable land, but also of the 255 ha left barren or abandoned.

Table 13: Structure of crops and productivity (kv/ha)

Agricultural crops	Sown area (ha)	Productivity (kv/ha)	General harvest
Wheat	60	35	2,100
Corn	59	50	2,950
Vegetables	139	215	29,885
Beans	38	15	570
Potatoes	19	150	2,850
Forage	730	300	21,900

As is also seen from the table, the farmer grow mainly crops that serve as basic food for humans (corn, wheat and vegetables) and animals (forage). Vine growing is spontaneous and for household use due to the limited access to markets and limited demand from large scale companies producing liquors or processing fruit.

Among the factors with an impact on the growth of productivity mention can be made:

1. The creation of associations dedicated to collection of produce and access to markets;
2. The application of protectionist policies for agricultural and livestock products. Access to markets remains still an unresolved problem on a country scale this discouraging even those farmers who are capable of rational use of their land.
3. The establishment of closed cycle farms destined to provide for artisan processing for ecotourism.

### 2.3.3. Direct employment in agriculture

Despite the present serious problems such as lack of access to markets, still with some incentives and subsidies, such as selling fuel without excise to farmers and providing free cultivars, the farmers look upon agriculture as an important sector for self employment.

Table 14. Employment in agriculture

Village	No. of farms	Employed Farmers
Ishull – Shëngjin	401	500
Ishull – Lezhe	423	550
Mali i Rrencit	22	40

#### 2.3.4. The drainage and irrigation system (for agricultural purposes)

The commune had a very efficient drainage system in the past. Given the lowness of the area from the sea level and the need to move waters through pumping stations, special care was taken to maintain the system in good shape. Presently, the deposit of alluviums and solid matter in the draining canals as a result of the total absence of control over extra legal buildings and of interventions by individual farmers in the systems, whole segments are out of function and the system operate only partially.

In Ishull Lezhe an area of no less than 70-80 ha has been drained. The Hydrovors of Tale pumping the waters of Ishull Lezha and the hydrovor of Ishull Shëngjin pumping the waters of this village continue to be in operation despite the frequent cut offs of electricity.

The zone under the jurisdiction of the Commune of Shengjin is drained though an irrigation system made up of these canals:

1. In Ishull-Lezha – First tire Canals - K-10-II = 4 km
- Second tire canals - K-12-II = 2,5 km length
- K-13 - II = 2,5 km, K- 14 - II = 1,5 km, K - 15 - II = 1,5 km K - 29 - II = 1 km length
- Third tire canals with length = 25 km

Positive impact has also the dam that isolates the swamp of Vain

2. In Ishull-Shëngjin- First tire Canals
- K - 1 - II = 4,5 km length, K - 11 - II = 3,5 km length, K - 12 - II = 2 km length
- Second tire canals = 10 km length
- Third tire canals = 15 km length

This village, too, has a dam which goes parallel with the River Drin over a length of 5 km, and another dam parallel with the lake of Merxhan with a length of 7,5 km. The project that is being implemented on the River Drin designed to widen it by 40 m from the river of Gjadri to the Bridge of Lezha and to deepen it starting from the Bridge of Lezha where the Commune of Shengjin start until the flow of the River into the sea in the rear boundary of this commune will create the possibilities for better irrigation and prevention of floods. Furthermore, the project will create the possibilities for an additional 40 m<sup>3</sup> water/sec from the Drin cascade and the river will increase its flow to the sea. These measures will ensure speed in the flow of the River Drin. They will increase the amount of gravel and will thus re-establish the equilibres in the Lagoon of Vain, will curb the progress of sea into the land , will enhance the water collection capacity (rainfall plus the flow of mountainous torrents) and will protect habitats thus creating a substantial impact on the improvement of fauna.

To ensure the efficiency of irrigation systems, the following are required:

1. Cleaning up and deepening the canals
2. Building a unique structure for irrigation

3. Ensure control over the movement of agricultural machines
4. Establish and operate irrigation associations.

## 2.3.5. Stock breeding

The commune of Shengjin has preserved the tradition of stockbreeding thanks to the conditions of the area, the ample surface and multifarious vegetation including the Mountain of Renc which offers more than 52 ha of land. The good health of the animals, the high productivity of meat and eggs are considerable sources of come. For the past 30-35 years qualified veterinaries have assisted the local population with their stockbreeding efforts.

The structure of cultivated crops for husbandry is another sign of the traditions of the local population with animal raising. The total surface of arable land is 1300 ha, of which 69,85 % is sown with forage.

Animal products meet the needs of households and there is surplus which can go to the market. The building of two dairy works to process livestock products would add value for the market.

### 3. Natural resources and protected areas

#### 3.1 Protected areas

The protected zones of the commune of Shengjin stretch on both sides of the delta of the River Drin and occupy an area of 2300 ha (13 % of the surface of forests in Lezha and 5 % of the overall area of the town of Lezha). Kune-Vain is the first protected zone in the country declared in the year 1940 and has been re-declared by Government decrees four additional times (in 1940, 1960, 1977, 1983, 1992). Kune-Vain represents a legatine system comprised of a complex of natural values unique for the variety of its habitats and biodiversity certified long time ago as one of the pearls of the Albanian nature. This legatine system is made up of the main system of maritime habitats, as well as lagoon and wetland systems, but also by non-legatine systems such as forests, pastures, shrubs and agricultural land.

The mountain of Renci and its connection with the coastal environment, with the sand and rocky landscape, with the carstic physiognomy of the other part of the terrain has created the conditions for biodiversity which is multifarious and specific at the same time. For its characteristics and attractive landscape, the Mountain of Renc has been proposed to be proclaimed as Protected Landscape (category V of the IUCN)

##### 3.1.1. Floristic aspects

The best studied from the floristic point of view is Kune-Vain. Here the tall trees are estimated to represent 277 species involved in 67 families and 202 genders. The family with the greatest number of species is the family of Gramineae with 35 species, followed by the families of Compositae 24 species, Leguminosae 20 species, Cyperaceae 16 species, Chenopodiaceae 16 species, etc.

Among the main types of vegetation in the lagoon of Kune-Vain (according to Mullaj) are:

1. Water vegetation: represented by the monophytic affiliation of *Zostera noltii* and *Ruppia cirrhosa* and with a lesser role of *Lemna minor* affiliations.
2. Hydro-hygrophil vegetation: represented by companions with *Phragmites australis*, *Typha angustifolia*, *Scirpus* sp.
3. Halophil vegetation: represented by types with a dominance of the species of the gender of *Arthrocnemum*; *Juncus*, of the species *Scirpus holoschoenus*, *Saccharum ravennae*, *Plantago crassifolia*, *Schoenus nigricans*, etc.
4. Psamphil vegetation or vegetation of the sand dunes stretching up to 10 km of coastal line with a width of 30-40 meters. The physiognomy of this vegetation is shaped by types of the species of *Cakile maritima*, *Xanthium strumarium*, *Cyperus capitatus*, *Sporobolus pungens*, *Echinophora spinosa*, *Eryngium maritimum*, *Medicago marina* and more rarely *Ammophila arenaria*.
5. Forest vegetation is made up by types associated with the dominant species of *Alnus glutinosae* and *Fraxinus angustifolia*, of the species of *Populus alba*, and of the species of the gender of *Pinus*,
6. The shrub vegetation occupies an important area and is outstanding for the dominance of types affiliated with the species of *Tamarix* and *Salix*.

The mountain of Renc and the mountain of Shengjin represent an entirety of specific natural values; they have great landscape values with the fragmented pastures and the slopes where the lime rocks come to break out into the surface. Characteristic of these mountains is the rare forest of oak trees (*Quercus trojana*). Vegetation in



this lime terrain is dominated by the prototypes of the kind growing in such terrains such as *Phillyrea medil* L. and to a lesser extent even *Juniperus sp*, *Paliurus aculeatus*, *Crategus monogyna*, wild rose (*Rosa sp.*), *Rubus ulmifolius* Schott. In addition, there are other plants, less tall, such as *Salvia officinalis*, *Teucrium polium*, *Teucrium chamaedrys* L., *Thymus sp.*, *Satureja montana*, *Quercus ilex*. In this area, in its natural shape grows also the tree of *Punica granata* which has been identified as one of the endangered kinds in our country.

Grass vegetation is especially developed in this area particularly in spring. It is highly profitable as food for the animals but also as medicinal plants. In the westerns coastal slope in the middle of lime rocks as well as in the zone of Kenalla and by the side of the automobile road close to the entrance of Shengjin town grows the plant of *Myrtus communis* which is known for its medicinal and aromatic values. Sage is another characteristic plant of the Mountain of Renc with valuable medicinal properties.

In the eastern and northern sides of the town of Shengjin, but also on the coastal side especially beyond the area of the port, grows *Pinus sp.*, an important tree which is being endangered by tree felling to create clearances for construction. Another threat are the intentional or unintentional fires that often sweep the pine forests.

### 3.1.2. Faunistic aspect

Kune-Vain represents a genuine nature's treasure with a wealth of biodiversity and very attractive landscapes. With regard to the faunistic aspect, relative to the kinds known as of now in accordance with systematic groups mention can be made (according to F. Bego): Mollusks 17 kinds, crustaceans 59, amphibians 10, fish 12, reptiles 24, birds 196, mammals 23.

The species globally endangered such as the Mediterranean turtle *Caretta caretta*, and the Mediterranean *Monachus monachus* have a part of their aureole in this zone; whereas the curly pelican (*Pelecanus crispus*) is considered accidental or disappeared (encountered up until the year 1993).

Mammals: With reference to the results of the monitoring undertaken by the Museum of Natural Sciences (2002), it follows that the bioindicator of mammals at risk to disappear (7 kinds) represent 63.6% of the kinds of observed bioindicators (11 kinds). This situation is worse in comparison with the zones with the same legatine features of Narta and Karavasta. Among the mammals whose situation has worsened, which are at risk to disappear or have become rare are:

1. *Lutra lutra*, in the bay of Drin and in the lagoons (worsened)
2. *Delphinus delphi*, observed in Shengjin (worsened)
3. *Meles meles*, coastal depression (at risk to disappear)
4. *Tursiops truncatus*, observed in the bay of Drin (rare)

Birds: This ecological complex is the most important in the country as regards winter birds of the water and the nestling birds of Ardeids and Phalacrocoracids. The most often encountered birds are *Ardea cinerea*, *Egretta garzetta*, *Egretta alba*; *Phalacrocorax carbo* etc. and swans (*Cygnus olor*). Thanks to the great variety of birds, the scholars have called this ecosystem "An Oasis of Mediterranean Ornithology". The monitoring of winter water birds and of nestling birds in the Albanian coastal lagoons and the reproduction of water birds in the lagoons of Kune-Vain has revealed the following data:

Table 14. Number of water birds that visit the lagoons of Kune-Vain

Lagoon	No. of water winter birds	No. of individuals of the water winter birds	No. of nestling water birds
Kune- Vain	32	2,318	12

The monitoring results show a considerable reduction of the number of wintering birds. This complex system is losing its importance due to its constant impoverishment, especially with regard to the drastic reduction of its accommodation capacities. The birds are more concentrated in the water surfaces of Vain and to a lesser extent in the lagoon of Merxhan; whereas on the sea their number is very low.

Table 15. The number of wintering individuals in years in the complex of Kune-Vain over the period 1995-2002

Years	1995	1996	1997	2001	2002
No of individuals	17,250	9,723	10,795	3,370	2,318

In the observations carried out in the year 2006 is noted a slight improvement of the situation in connection with the increase in the number of individuals of the kinds of both wintering and nestling birds. However their numbers remain far less than the accommodation capacities. Thus, the nestling birds do not exceed the number of 11 kinds.

The area is also known for the prey birds of which mention can be made of the eagle of the mountain (*Aquila chrysaetus*) and *Falco peregrinus*. These are rare birds protected by international conventions. According to the Red Book<sup>1)</sup> there are three kinds of endangered birds, 9 kinds whose condition has worsened, 1 kind at risk for disappearing, 2 kinds disappeared, 11 kinds of rare birds.

**Fishes:** The area is blessed with a wide variety of fishes populating the water of Drin and those of the lagoon of Kune Vain, of which mention can be made of the 12 kinds in the River Drin, and 11 kinds in the lagoons of Kune Vain. Of these fishes, the following are endangered and should be placed under protection: *Lichia amia*, *Seriola dumerili*, *Decentrarchus labrax*, *Lampetra fluviatilis*, *Argyrosomus regius*, *Lebistes reticulatus*.

**Amphibians and reptiles:** 10 kinds of amphibians and 29 kinds of reptiles have been identified in the lagoon area. The zone of Kune has the greatest number of endangered kinds of amphibians and reptiles (14 kinds). The number of land turtles *Testudo hermanni* has fallen 2 times in comparison of 13 years ago; the number of long arrow, *Coluber caspius*, of the short arrow, *Coluber gemonensis*, of home copper head *Elaphe longissima*, has fallen approximately 4 times. The decrease of populations for many kinds of reptiles is more noticeable in the forest of Kune than in the forest of Vain. Of concern remains the catching of sea turtles (*Caretta caretta*) in the fishing nets. These globally endangered animals unfortunately are killed by the fishermen. The studied population of 104 individuals of the sea turtles (*Caretta caretta*) belong to the lagoon of Patok and only one exemplary of the kind *Dermochelus coriacea* has

1 (According to the Red Book edition of 1997) The Red Book uses the scale of risk for endangered plants and animals in accordance with the definitions of the IUCN (International Union for the Conservation of Nature) of the year 1994. It categorises: Extinct type/taxon (Ex), Endangered (E), Worsened (W), Rare (R), with indefinite status (I), under review (K'), insufficiently known (K), troubled (T), candidate (C).

been caught in August 2002 close to the shores of Kune in 3 meters depth. The zone is particularly famous for its reptiles of which mention can be made of the viper with horns (*Vipera amodytes*).

Insects: Entomofauna is dominated by the maritime kinds, combined with the one of the forests surrounding the area and the entomofauna of the environments having sweet water or waters with inconsiderable levels of salt. In Kune-Vain are encountered 117 kinds of insects (11 kinds are endangered) and 13 kinds of water insects. The activity of harmful kinds is not of any great danger, with the exception of *Thaumetopoea pityocampa* and the *Hypantiria cunea*, which must be kept under control in order to avoid periodical massive explosions.

Mollusks: The special biogeographic variety of these legatine environments does not justify the low numbers of these kinds. The poverty is connected with the constant negative influence wrought on the legatine ecosystems.

Table 16: Distribution of mollusk kinds in the lagoons of Kune – Vain (year 2002)

Lagoon	Mollusks total in the lagoon	Gastropods in the lagoon	Bivalves in the lagoon	Mollusks total on the coast
Kune	40	16	24	23
Vain	30	13	17	

The number of endangered kinds is the highest (21 kinds) in comparison with the other legatines in our country.

The impoverishment of biodiversity is a constant threat. More tangible this decrease is in the protected and coastal zones. The measures taken for the protection of rare and threatened kinds of the fauna and flora have been insufficient. There is a lack of capacities to implement the law by the administrators, while the care and concern of the state bodies and local government units has been at low levels. The non profit organizations have no active role in the advocacy of these issues.

Among the causes of impoverishment of populations and kinds in the natural complex of Kune Vain mention can be made;

- Damage of the habitats and landscape; negative consequences created by the uncontrollable entrance of people and vehicles, construction work and the economic activity of the bars, motels and leisure facilities.
- The intensive hunting without criteria of the birds within and outside of the protected areas, bad treatment of the animals and capture of animals for commercial purposes;
- Lack of capacities for the exercise of the activity of fishing in the lagoons in conformity with the technical and scientific rules to the benefit of the protection of the accommodation and natural production capacities.
- The increase of the commercial uses of mollusks as food which entails their uncontrollable catching and utilization.
- Continuous fishing with explosives, intensive fishing in the deltas and in the coast, use of bottom fishing nets, fishing by ships in areas where fishing is prohibited.
- Damage to the fish eggs by prey mammals and also by human impact
- Pollution of waters due to discharge of sewage of the surrounding villages and also other waters containing detergents, agricultural poisonous chemicals and fuel.

- Damage to the delta of Matkeqe, coastal erosion and sea expansion are factors which are altering the traditional nature's values and reducing nature's accommodation capacities.
- Absence of a management plan for the protected zones.

Although the Mountain of Renc represents the most protected natural asset in the commune of Shengjin, the values of the area are the least studied. Biodiversity and landscape are threatened by:

1. The tendency of the urban zone to extend into the portal area and towards the coastal zone known by the name of Rëra e Hedhur.
2. Growing pressure for tourist settlements in the zone of Rera e Hedhur.

For all the reasons described above the Local Environmental Action Plan recommends:

- i. Suspending in a differentiated way hunting in the coastal legatine zones for a period of 3-5 years, in order to allow for the wild fauna to recuperate itself and pass at a subsequent phase into controllable and rational hunting in conformity with the real opportunities for game hunting;
- ii. Drafting management plans for the protected zones;
- iii. Increasing control by the various Inspectorates on the activities carried out within these zones, in order to streamline them and minimize their impact on the fauna, the pastures, fishing and allow for time to rehabilitate and recuperate;
- iv. Banning fishing in the low coastal waters which is harmful even to water mammals such as dolphins which fall in the fishing nets in these waters;
- v. Preventing disturbances from human presence and activity in the zones of reproduction and mating;
- vi. Placing signs and posters for bird protection and banning human disturbances;
- vii. Increasing awareness levels about the importance of species and kinds for ecotourism;
- viii. Instituting measures and awareness campaigns for fishermen with regard to the role and importance of sea mammals on the maritime economy and life;
- ix. Banning the use of explosives for fishing purposes;
- x. Banning the uncontrollable massive collection of mollusks in all kinds of environments especially at the time of reproduction.

### 3.2. Forests

The natural forests of the coast of the delta of the Drin River are represented by typical hygrophilous forests. These forests grow on alluvium lands, mainly base, with high levels of underground waters and often flooded by rivers spilling over in times of heavy rain. Until 10-15 years ago these forests represented some of the most beautiful ecosystems of Adriatic Sea: with great variations, almost impassable by the intertwining of the trees with lianas and with other hygrophilous elements such as the kind of *Alnus glutinosa*. Of equal amount of types and coverage is the *Fraxinus angustifolia*; whereas other types of plants such as *Quercus robur* and *Populus alba*, and *Ulmus minor* come in less variety.

Damages wrought on the forests these 15 years are more pronounced in the belt of Shengjin-Kune. What were once forests have now come to resemble shrubs. To reconstitute the forests to their former condition may require more than 10-15 years. A considerable part of the forests in the zone of Kune is degrading due to erosion and the infiltration of salted waters from the sea. A considerable area in the zone of Merxhan (Kune) and Matkeqe (Vain) is planted with wild pines (*Pinus halepensis*,

*Pinus pinaster*) which are now damaged by illegal felling and erosion. Considerable forestation with pine trees has taken place in the Mountain of Renc close to the town of Shengjin, above the port area and over the coastal zone in the direction of the zone of Rera e Hedhur. These have also been damaged due to illegal felling and the opening of clearances to create construction plots.

Of the problems relating to the administration of forests, mention can be made as follows:

- Illegal felling and damage of forest mainly for lumber has been going on for many years. Equally problematic is the illegal selling of lumber and non wood products.
- Reduction of the forest area goes on. The three nurseries for saplings in the region do not meet local needs for young trees.
- There is still a lack of capacities to ensure the adequate implementation of the law.

Some recommendations

- Protection and defense of the forests from further damage is an urgent task.
- Re-forestation should immediately take place especially as regards autochthonous trees such as *Alnus glutinosa*, *Fraxinus angustifolia* and above all *Quercus robur*, which is an endangered species in the Albanian coast.
- In the damaged forests, in cases when the trees have come to resemble shrubs, it is urgent to make the tree population less dense in order to give more space to the trees to grow.
- Of importance is to stop illegal felling and extra legal buildings in this forest belt.
- It is urgent to stop felling in the forest economy of the Mountain of Renc, as well as to ban extra legal constructions.

### 3.3. Management of protected zones

Biodiversity is one of the most valuable treasures of the commune of Shengjin. This commune has under its jurisdiction the natural complex of Kune Vain which represents the first zone ever to be declared protected in the country.

Table 17. Information about the protected zones in the commune of Shengjin

No	Name of the protected zone	Management category	Area in ha	Declared in year
1	Kune	Category IV Managed Natural Reservoir	800	1940,60,77,83,92
2	Vain	Category IV Managed Natural Reservoir	1500	1940,60,77,83,92
3	Mali i Rencit	Category V Protected landscape	2000	2005



4	Rëra e Hedhur	Category III Nature's Monument		2002
5	Rivat e Drinit (Kune)	Category III Nature's monument		2002
6	Kënta e Kashtës (Kunë)	Category III Nature's monument		2002
7	Shpella e Sukës së Vogël (Mali i Rrencit)	Category III Nature's monument		2002

### 3.4. Zones proposed to be protected

Table 18. New proposed zones by ELPA

Name of the proposed zone	Management Category	Characteristics	Comment
Knalla	Managed Natural Reservoir (category IV)	Although in damaged condition, there is typical Mediterranean shrub vegetation; whereas in the surrounding lagoon and legatines there are multifarious kinds of birds for which the zone has gained the status of IBA. The lagoon has special values especially as regards fish populations.	It also has been proposed in the National Biodiversity Strategy and Action Plan for 1999.
The agricultural zone of the coastal depression of Kune Vain.	Protected landscape (Category V)	Multifarious mixed cultures; peripheral diverse wild flora; and legatine space with very attractive view	It has been proposed by the ELPA project for the Bay of Drin River, 2006

Fourth managed category (managed natural reservoir) according to IUCN aims to provide management towards protection (conservation) through managed interventions.

Sixth managed category (reserve of managed resources) aims to provide for managed maintenance mainly towards sustainable utilization of nature's ecosystems and assets.

Pursuant to Law No. 8906 dated 06/06/2002 "Concerning protected zones" these zones should be matched with buffer zones in accordance with the conditions contained in the management category in order to mitigate human impact on the zone's resources.

The main legal framework on protected zones is Law no.8906, dated 06.06.2002 "Concerning protected zones" and the Decision of the Council of Ministers no.267, dated 24.04.2003 "Concerning procedures for the proposal and proclamation of protected and buffer zones."

The protected zones in the commune of Shengjin continue to be administered without relevant management plans, namely without objectives, consequently there is no management at all. Therefore, it is difficult to monitor the success or failure of management practices in these zones and no specific recommendations can be made to enhance and support the management objectives.

### 3.5. Medicinal plants and their administration

In the zones harboring natural assets in Kune Vain and in the Mountain of Renc, a wealth of medicinal plants grows, both taniferous and ether-oleanous:

The Mountain of Renc has long been utilized for the harvesting of medicinal plants of which the most harvested plants are:

Table 19. Types of medicinal plants collected in this zone

Name of the collected plants	Area over which plant grows (in ha)	Average productivity in a season (annually) dry plant in ton
Sage	160	35
Thyme	240	34
Oregano	8	0.1
Common Myrtle	18	8

The main problem affecting medicinal plants has to do with the decline of productivity due to abusive collection by the community in disrespect for the technical conditions and growth laws of the plant itself.

The following measures need to be taken:

- Build awareness of the community on the consequences of abusive collection.
- Enforcement of legal sanction in the event of breach of law by the administrators.
- Start cultivation of the plants to ensure the conservation of the kinds.
- Protect medicinal plants from over grazing by the sheep.
- Draft and implement action plans for the endangered kinds.

### 3.6. Coastal erosion

Coastal erosion is very expressed in the coast of the zone of Kune - Vain in Lezha. Here the sea progresses into the land on an average of 2.5 meters annually and from the year 1936 it has advanced up to 400 m. Based on literature and according to specialists it is derived that these developments have to do with the reduction of flow of the alluviums from the Drin River up to 13 times in comparison with the year 1854 when this River split into two branches. A serious contribution in this direction has been made by the hydrotechnic systematization of the River Drin due to the construction of two hydropower stations after the year 1963. This phenomenon is currently more expressed on the right side (facing the flow) of the delta of the River Drin.

The spill overs of the sea especially the one of December 1999 have caused a large

number of trees in the zone of Kune –Vain to suffer damages and dry out due to salted waters.

From various pieces of evidence it is clear that the dynamics of hydrogeomorphological processes continues to be high especially in the boundary line with the lagoon system of Kune Vain with the sea progressing towards the land.

### 3.7. Landscape issues

Due to geographical position, the hydro geological characteristics, its climate, microclimate and relief, the commune of Shengjin has a highly varying landscape. The variety of landscape, the presence of a range of habitats: legatine, river, sea, field and mountainous, and their combination causes every visitor to be before pleasant sightseeing surprises. Very attractive and striking are the landscapes of the lime Mountain of Renc with its cones, carstic wells and caves, with striking shrub vegetation and forests with a large variety of trees. Rera e Hedhur as one of the nature's monuments not only offers specific values, but also appeals with its views which combines water with clean sand and vegetation with natural and multifarious virginity.

An issue of concern remains the urban and portal landscapes which are not in harmony with elements of the tradition, or of the modern developments. This landscape is not in harmony with the nature's values, either, and comes to clash with them as is the case of extra legal buildings in the zone above the port of Shengjin

### 3.8. Water resources

#### 3.8.1 Water resources

The territory of the Commune of Shengjin stretches along a coastal line of 13 km length and is traversed by the Drin River in a length of 6.7 km. This river crosses two villages: Ishull Shengjin and Ishull Lezha. The coastal line is possessed of a sand area of 18 ha and forested area (sand) of 12 ha. On both sides of the delta of the River Drin, stretch two lagoons which have the shape of a belt of 10 km length and width of 1,8-5km, namely the lagoons of Kune and Vain with an area of 1860 ha, of which 180 ha are forests, 30 ha pastures, 600 ha marshland, and 1050 ha water surface. This territory stands on a water carrying zone, with underground and superficial waters, including the river, the legatines and the natural reservoirs.

Non observance of national and international laws is creating numerous problems in the management of the waters in the territory of the commune. Often, water resources have been turned into points of collection of sewage and other organic waste as is the case of the discharge of sewage from the town of Shengjin into the natural lake of Kenalla and the sewage of the town of Lezha into the Drin River.

Underground waters: The water holding basin of the Bay of Drin is a continuation of the basin of Barbulloje feeding on the River Mat. Estimated water reserves in this area are 2000 l/sec. The water holding basin is part of the water collecting deposits of gravels whose thickness grows in the direction of the River Mat to reach 180-200 m. About 30 artesian wells have been opened and have been operating in this area since the year 1975 with an extraction capacity of about 10-20 l/sec, which have enabled the desalting of the lagoon waters. The monitoring of the quality of these waters shows that they have low level hardness and little mineralization. This type of waters flows from the zone of the Bay of Drin towards Barbulloja.

Considerable amounts from this water holding basin are presently used as drinkable

water for the inhabitants of the villages of the zone and the towns of Lezha and Shengjin.

## Ground waters:

- Adriatic Sea: The commune of Shengjin has a coastal line of 13 km, originating in the north in the dividing boundary with the commune of Velipoje and ending in the south in the boundary with the commune of Shenkoll.

- Drin River: This river transverses the commune of Shengjin in a length of 6,7 km, and width at the delta of about 30 m, which gradually decreases as the altitude towards the north increases into 25 ml. As it pertains to the territory of the commune, the Drin River accounts for an areas of 18,4 ha.

- Lagoon (Kune – Vain): The lagoon stretches in the southwestern part of the town of Shengjin and has water surface of 1050 ha, with average depth of 1,5 ml. (min 0,75 ml and max.5ml). The lagoons communicate with the sea by means of two canals. In the seventies, the Kune Reservoir was a small island about 1/3 of which was made up of ponds of sweet waters. It represented a wavy landscape and multifarious vegetation.

- Knalla: It is a natural lake with sweet water in the vicinity of the town of Shengjin, next to the national Lezha – Shengjin highway. The lake has a surface of about 4483 m<sup>2</sup>, with maximum depth of 13 - 14 m. This environment creates a special natural habitat for the birds that live in the bulrushes (Rallidea) and various kinds of amphibians and reptiles. This lake has suffered considerable pollution due to the systematic discharge of part of the sewage from the town of Shengjin and waste from the entire surrounding area.

## 4. Development of tourism, community education and awareness building

### 4.1. General assessment

The great demographic changes in the commune of Shengjin during the transition period, have caused the expansion of the urban area and have harmed environment particularly. Changes in the urban centers and especially in the town are taking place at fast pace. Extra legal constructions that do not meet current criteria for tourist zones and urban development have negatively impacted the environment and have grown at the expense of green belts.

The beach of Shengjin is 8 km from the town of Lezha. The beach zone is 6 km long and stretches over an area of 30 ha, of which 18 ha is sand and 12 ha is green space. The beach of Shengjin visited by 40 – 50 thousand tourists in special days of the week in period of July-August. The visitors are from other parts of Albania, Kosova, Montenegro, and Macedonia, but also from Western European countries. Tourism is a substantial source of income, therefore of development, too. The growth of accommodation capacities is accompanied by new job openings. Presently tourism employs 140 seasonal workers and 60 permanent workers.

The zone has a considerable supply of accommodation facilities in hotels, motels and private homes. Hotels and motels are mainly in the town of Shengjin and at the entrance to the Lagoon of Kune. Table 2 shows the present situation of accommodation capacities and perspective of development.

Table 20: Accommodation capacity for tourists and forecast for the future

Name	Situation 2006	Mid term	Long term
I. hotels + motels	12	17	40
Rooms	330	500	1,400
Average number of rooms hotels+motels	27	30	35
Number of beds	450	850	2,350
Number of overnight visitors	700	1100	2,900
II. Rooms for rent in private homes	300	500	900
Number of beds	430	750	1,000
Number of overnight visitors	600	1050	2,000
Total (I+II)	630	1000	2,300

The rooms are rented at the height of the summer season, but these capacities remain almost unused by visitors for almost ten months of the year.

The concept of tourism improvement should be based on the improvement of existing destinations by promoting the development of ecological tourism and tourism of special interests. The opportunities for the development of ecotourism to the benefit of the communities are huge, suffice it to mention the existence of two natural reservoirs of Kune and Vain which are protected and managed in accordance with internationally accepted standards.

The purpose is to use this protected nature's zone for recreation in the bosom of nature.



Promotional efforts should be invested in the development of tourism for special interests such as the hunting of wild game and the observation of migratory birds.

The geographical position of the commune offers a variety of relief landscapes: a combination of the mountain with the field and the coastal line which creates possibilities to declare the zone of the Mountain of Renc as protected landscape. The reservoirs of Kune Vain and the landscape of Renc represents an area of special importance as regards the attracting nature and its potential for income making. With good management these areas may experience a rapid growth of ecotourism.

The strategy of the zone aims to not damage the natural values. Therefore, intervention will be well studied and will make sure that natural resources are not over exploited. The strategy will involve concrete actions and policies aimed to facilitate the influx of visitors through the offer of services and attractions for recreational activity. Investment under the strategy should concentrate in the town of Shengjin in order to create an important tourist center.

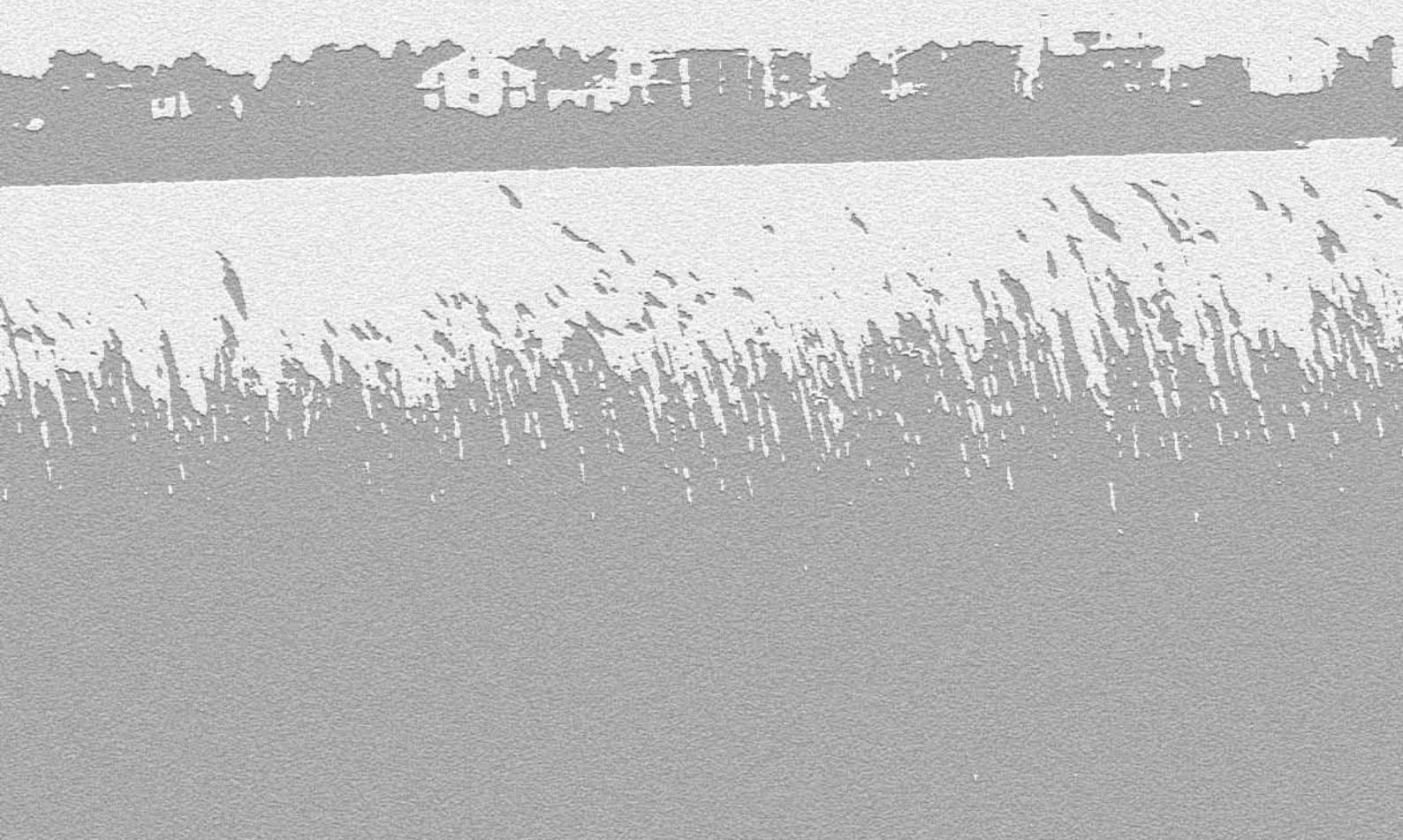
Tourist zones should supply ample and accurate information for the visitors (brochures, leaflets, maps of the town, etc.). Tourism organizations should provide detailed information on the holding of activities, on opportunities for the exchange of experiences, hold events to promote tourism, construct web sites, etc.

There are three non profit organizations that operate in the territory of the commune: on tourisms, fishing and the hunting of wild birds. These associations are involved in the development of ecotourism and offer to assist with access to markets.

The commune of Shengjin has three 9 year schools and 1 secondary school. A 100 per cent of the children of school age are enrolled in the 9 year schools; the secondary school enrolls 82 per cent of pupils completing 9 year education. About 7,5 % of the population of the commune has received higher education. To promote the development of tourism, a secondary school of vocational education teaching economy and tourism has been opened in the town of Lezha and is attended by over 20 pupils coming from the commune.

Education and awareness of the community on the advantages of tourism has been at low levels and has not met the expectations for ambitious development.

## 5. List of problems





<b>Problem</b> a) Indicates in negative sense, using words like decrease, destroy, loss, etc.	<b>Cause/es</b> (List of causes, causing the problem, which might be natural or human ones)	<b>Impact</b> a) Indicates the negative impact in environment, health, wellbeing, else identified b) For each impact (where it is possible) is given by a short description how this problem gives the negative impact	<b>Population affected</b> a) Numri i banorëve ose nëse nuk mund të përcaktohet jepet me përqindje b) Ku është e mundur jepet ndaria sipas gjinisë dhe cila shtresë e popullsisë është më e prekur	<b>Level of impact</b> Using the scale: a) High; b) Medium; c) Low	<b>Priority</b> Using the scale: * = low importance ** = average importance *** = very important (requires immediate intervention)
1. Lack of master plans for urban development	- Shortage of financial and human resources	- Lack of infrastructure - Damage to the green space and to the agricultural land - Development of agriculture and tourism - unsustainable	10552 inhabitants	High	***
2. Lack of stability in urban administration	- There is no digitalization of the existing situation. - Lack of master plans for development	- Decline of the quality of public services - Decreasing income from tourism	10552 inhabitants	High	***
3. Overexploitation of underground waters Lack of infrastructure for water supply	- Lack of management plans for water administration - Lack of financial resources - Abusive management	- Water reserves decreasing - Decline of access in the service for the inhabitants. - Unsustainable development of tourism. - Risk of water pollution	10552 inhabitants 20912 inhabitants	Medium High	*** ***
4. Increased human pressure on the physical environment, mainly due to internal migration from the villages to the towns, especially towards field areas	- Unclear policies relative to the development of rural zones. - Lack of infrastructure to support basic service delivery.	- Population migration - Low levels of basic services - Occupation of agricultural land	20912 inhabitants	High	***

5. Lack of decent working conditions and lack of new job openings	<ul style="list-style-type: none"> <li>- Lack of credit for small and medium size enterprises.</li> <li>- Incomplete legal framework.</li> </ul>	<ul style="list-style-type: none"> <li>- Decline of income per capita</li> <li>- Increase of incidence of infectious and respiratory diseases.</li> </ul>	5316 inhabitants	High	** *
6. Lack of financial resources and bad management of available funding	<ul style="list-style-type: none"> <li>- Lack of coordination among donors</li> <li>- Lack of responsible administration.</li> </ul>	<ul style="list-style-type: none"> <li>- Declining wellbeing</li> <li>- Unsustainable development of tourism</li> </ul>	20912 inhabitants	High	** *
7. Lack of willingness by the enterprises on the territory of the community to employ local people on priority basis	<ul style="list-style-type: none"> <li>- Lack of coordination.</li> <li>- Lack of training.</li> <li>- Bring pressure to bear on the local communities.</li> </ul>	<ul style="list-style-type: none"> <li>- Low level of living conditions</li> <li>- Decrease of per capita income</li> </ul>	5316 inhabitants	High	** *
8. Lack of financial resources from internal sources for increased investment in environment, in the priority areas	<ul style="list-style-type: none"> <li>- Lack of soft credit lines</li> <li>- Allocation of insufficient funding by the central government</li> <li>- Funds not being administered rationally</li> <li>- Floods, chemicals, etc.</li> </ul>	<ul style="list-style-type: none"> <li>- Unsustainable development of tourism</li> <li>- Unsustainable environmental development</li> <li>- Increase of pollution risks</li> </ul>	30912 inhabitants	High	** *
9. Worsening of the quality of land components		<ul style="list-style-type: none"> <li>- Reduction of productivity</li> <li>- Reduction of income</li> </ul>	10552 inhabitants	High	** *
10. Loss of water in the distribution grid and decline of water quality	<ul style="list-style-type: none"> <li>- Extra legal connections.</li> <li>- Lack of meters.</li> <li>- Amortized distribution grid.</li> <li>- Pollution of drinking water.</li> <li>- Lack of sanitary controls.</li> </ul>	<ul style="list-style-type: none"> <li>- Degradation of living standards</li> <li>- Decrease of water reserves</li> <li>- Increase of incidence of diseases from polluted waters.</li> </ul>	20912 inhabitants	Medium	** *
11. Build the awareness of local communities on the need to use water rationally.	<ul style="list-style-type: none"> <li>- Unsafe interventions in the grid of drinking water.</li> <li>- Extra legal buildings within the protected zones.</li> </ul>	<ul style="list-style-type: none"> <li>- Bad management of water</li> <li>- Increase of infectious diseases</li> <li>- Unsustainable development of tourism</li> </ul>	10552 inhabitants	High	** *
12. Dysfunctional legal and regulatory framework; lack of law implementation by the public and private entities alike.	<ul style="list-style-type: none"> <li>- Low efficiency in law implementation</li> <li>- Lack of cross agency cooperation.</li> </ul>	<ul style="list-style-type: none"> <li>- Bad management of water</li> <li>- Increase of infectious diseases</li> <li>- Bad management of water reserves</li> </ul>	10552 inhabitants	High	** *



13. Urban waste is collected in open places, with no control; they are not sorted out and are deposited in sites close to the inhabited centers	<ul style="list-style-type: none"> <li>- Increase of population density especially close to the coastal zone</li> <li>- Increase of consumption</li> <li>- Lack of overall plans for designing and establishing waste deposit sites</li> <li>- Problems of land ownership</li> <li>- Lack of experience in the management of urban waste and low awareness levels on the part of the community.</li> <li>- Inadequate and insufficient human and financial resources.</li> </ul>	<ul style="list-style-type: none"> <li>- On the health of people due to the increase of risk for infectious diseases as a consequence of waste decomposition in open air and in deposits out of control.</li> <li>- On environmental pollution especially the air and the water.</li> <li>- Negative impact on the ecosystems.</li> <li>- Negative impact on the economy and the tourist zones; waste pollution sends tourists away</li> </ul>	10552 inhabitants + the numerous visitors	High	** *
14. Pollution caused as a consequence of damage to or absence of sewage pipes	<ul style="list-style-type: none"> <li>- Damage to the existing sewage system.</li> <li>- Total absence of the sewage system in almost all of the communes.</li> <li>- Lack of funds for feasibility studies and/or construction of these systems</li> <li>- Absence of urban plans incorporating such systems</li> </ul>	<ul style="list-style-type: none"> <li>- Increases the risk of pollution of clean waters destined for the population to drink</li> <li>- Increases the risk for the spread of infectious and contagious diseases,</li> <li>- Pollutes the environment</li> <li>- Pollutes underground waters</li> <li>- Has a negative effect on the fauna</li> <li>- Damages the natural environment and has a negative impact on tourism</li> </ul>	10552 inhabitants + the numerous visitors	High	** *
15. Technological waste from fish processing	<ul style="list-style-type: none"> <li>- Increase of capacity of the waste processing works</li> <li>- Non operability of the works for processing technological waters</li> <li>- Absence of studies relating to sites for the discharge of technological waters.</li> </ul>	<ul style="list-style-type: none"> <li>- Increases the risk for the pollution of sea waters</li> <li>- Has a negative influence on the sea fauna</li> <li>- Increases the risk of infecting visitors on the beaches</li> </ul>	Numerous visitors	High	** *

16. Degradation of the protected area of Kune Vain; impoverishment of biodiversity, increase of pressure on the biodiversity.	<ul style="list-style-type: none"> <li>- Illegal hunting</li> <li>- Lack of capacity on the part of responsible authorities to implement the law concerning fauna protection and administration of hunting activity</li> <li>- Lack of investment funds to keep the gorge of Matkeqe open</li> <li>- Construction activity in the internal parts of the protected areas, chaotic urban development.</li> <li>- Lack of community awareness on the need to protect the fauna and the flora</li> </ul>	<ul style="list-style-type: none"> <li>- Considerable decrease of the birds and other species, especially in the protected zone of Kune-Vain</li> <li>- Reduction of the populations of birds and mammals.</li> <li>- Damage of habitats, fragmentarization and damage of ecological corridors,</li> <li>- Damage to the landscape of Kune – Vain and to the mountain slopes due to the illegal fellings</li> </ul>	Population of the commune of Shengjin and of the town of Lezha. The entire population in the region is indirectly affected by the reduction of tourism potentials	High (The number of nestling bird couples has decreased by 50 times compared with the year 1951 in the colony of Kune. The habitats are heavily damaged by the felling of the trees)	***
17. Damage of rising risk of terrain alteration and impoverishment of biodiversity in the zone of Kenalla	<ul style="list-style-type: none"> <li>- Urban constructions in the vicinity of the legatine and the tendency to turn the legatine into construction grounds</li> </ul>	<ul style="list-style-type: none"> <li>- Damage to the habitats</li> <li>- Impoverishment of biodiversity</li> </ul>	The population of Shengjin and of Ishull Shengjin	Medium	***
18. Damage to the formations of forests trees, degradation of the habitats of Kune Vain and of the pine trees in the coastline along Rera e Hedhur.	<ul style="list-style-type: none"> <li>- Extra legal fellings in the forests of Kune-Vain and the Mali i Rrencit</li> <li>- Intensive grazing in the slopes of the mountain in particular the ones close to the urban zone of Shengjin and Ishull Shengjin</li> <li>- Chaotic urban development, occupation of land especially inside the forests and in the vicinity of the port mainly for construction purposes</li> </ul>	<ul style="list-style-type: none"> <li>- Damage to the shrub and tree vegetation in the studies area</li> <li>- Impoverishment of vegetation especially in the vicinity of the urban area and generally of the area covered by this study.</li> <li>- Damage due to constructions to the forest sown with pines in the Mountain of Shengjin.</li> </ul>	Population of the town of Shengjin and of the villages of Ishull Shengjin, Ishull Lezha, and Mountain of Renc	High	***

## Commune of Shengjin

19. Damage to and decrease of productivity of medicinal, taniferous and ether oleaneous plants under their natural capacity.	<ul style="list-style-type: none"> <li>- Abusive collection of plant in disregard for growth and harvest conditions</li> <li>- Overgrazing in the zone of medicinal plants.</li> </ul>	<ul style="list-style-type: none"> <li>- Impoverishment and decline of productivity of sage, myrtle, etc.</li> </ul>	Population of the Mountain of Renc, Ishull Shengjin and 5 % of the town of Shengjin	High	**
20. Low management capacities and inadequate administration of the protected zones	<ul style="list-style-type: none"> <li>- Lack of studies and financial resources to support the design of management plans</li> <li>- Absence of a strong and capable authority to implement the law.</li> </ul>	<ul style="list-style-type: none"> <li>- Overexploitation of the production potentials thus damaging accommodation capacity</li> <li>- Reduction of economic opportunities for the community and damage to the protected zone</li> </ul>	Population of the villages of Ishull Lezhè and Ishull Shēngjin	High	***
21. Coastal erosion	<ul style="list-style-type: none"> <li>- Multiyear reduction of the inert and gravel materials brought by the River Drin due the hydropower works on its cascade and the deviation of the flow of the River Buna</li> <li>- Lack of plans and investments for stalling erosion</li> </ul>	<ul style="list-style-type: none"> <li>- Averagely 2,5 m of lands consisting of forest vegetation along 3-4 km of coastal line is lost yearly to costal erosion in Kune Vain alone</li> </ul>	Villages of Ishull Lezhe, Ishull Shēngjin and town of Shēngjin	High	***
22. Damage to the drainage system	<ul style="list-style-type: none"> <li>- Negligence by the stakeholders</li> <li>- Lack of funds</li> </ul>	<ul style="list-style-type: none"> <li>- Floods damaging crops and disturbing protected zones</li> </ul>	About 4500 Inhabitants or 45% of the population in the commune	High	** *
23. Low drainage capacities	<ul style="list-style-type: none"> <li>- Absence of pumping stations</li> <li>- Insufficient capacity by the existing drainage system to cope with rainfall</li> </ul>	<ul style="list-style-type: none"> <li>- The land remains for several days under water</li> <li>- Quality of the land is damaged</li> <li>- The surface of the land is washed off</li> <li>- Flora and fauna habitats are damaged</li> </ul>	3000 inhabitants	High	** *

24. Frequent blockage of the drainage system	- Closure of third tire canals	- Damage to crops and reduction of productivity	5500 inhabitants	High	* * *
25. Absence of a unified drainage system	- Fragmentation of the agricultural land	- Decline of production - Risk of constant floods - Abandonment of the agricultural land	4000 inhabitants	Medium	* *
26. Partial damage to the second tire canals	- Blockage by solid waste and urban waste	- Dysfunctional drainage system	3500 inhabitants	Medium	* *
27. Complete damage to third tire canals	- Negligence on the part of the farmers to maintain them	- Floods persisting for long periods	6600 inhabitants	High	* * *
28. Lack of security of the dam over the Drin River	- Lack of complete works on the River Drin	- Flooding of the area surrounding the river	3500 inhabitants	High	* *
29. Lack of security of the dam to the sea K/11	- Damage due to investment funds for rehabilitation	- Sea floods and saltization of the land	4000 inhabitants	High	* *
30. Dysfunctional fishing sector	Non implementation of the law on fishing and aquacultures, lack of demand for law enforcement	Lack of control and bad management	200 people	Medium	* * *
31. Lack of professionalism in fishing	- Lack of experience and knowledge	- decline of productivity	200 people	Medium	* *
Low technological level of the fishing fleet	- Old ships and outdated technology	- Lack of competition on the market	200 people	Medium	* * *
32. Fishing associations not very active	- Weak organization and lack of interest	- Social balances upset	260 people	Medium	* *
33. Extra legal hunting in the lagoons at the time or fish reproduction	- Lack of strict control over the activity	- Species endangered	3500 inhabitants	Medium	* * *
34. Illegal hunting with explosives	- Weak law enforcement	- Total damage to generations	All consumers	High	* * *
35. Non observance of the hydric regimes of the lagoons	- Absence of a specialized unit in this regard	- Damage to the habitats in the lagoon - Decline of productivity	200 people	Medium	* *

36. Damages to the drainage and irrigation systems	<ul style="list-style-type: none"> <li>- Lack of maintenance for the system</li> <li>- Damage due to constructions extra legal interventions</li> <li>- The depth quotas of the canals have not been observed</li> <li>- Partial rehabilitation of first and second tire canals</li> <li>- Low concern on the part of farmers to clean third tire canals</li> <li>- Water management associations not functional</li> </ul>	<ul style="list-style-type: none"> <li>- Water remaining on the surface and damaging thermic regimen. Hence, low productivity and abandonment of the land.</li> <li>- Increase of floods in the agricultural lands</li> <li>- Sowing plants in disregard for their biological laws, decline of productivity</li> </ul>	4500 inhabitants	High	** *
37. Reduction of the flow of the River Drin	<ul style="list-style-type: none"> <li>- Reduction of flow from the source of the River due to deviation</li> <li>- Partial deepening and widening of the river in certain segments</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of organization of the part of the farmers to comply with market laws; lack of clear policies for cooperation with other stakeholders</li> <li>- Decline of the varieties of the cultivars and creation of food deficits for people and animals</li> <li>- Almost annual floods and little deposit of gravel and alluvium at the delta</li> <li>- Increase of sea erosion and consequently change of the salt levels in the land</li> </ul>	5000 inhabitants	High	** *
38. Uncontrollable use of chemicals and pesticides in open fields	<ul style="list-style-type: none"> <li>- Lack of knowledge of impact created on the environment and translated into economic losses</li> <li>- Lack of awareness of the importance of flora and fauna</li> <li>- Lack of knowledge of possible risks on human life</li> </ul>	<ul style="list-style-type: none"> <li>- Reduction of value therefore of selling price</li> <li>- Increase of pollution levels in land and damage to the ecosystems</li> <li>- Poisons building up constantly in the human body</li> <li>- Pollution of waters in the protected zones</li> </ul>	4000 inhabitants	Medium	**
			1000 inhabitants	Medium	**
			500 inhabitants	Low	*
			1500 inhabitants	Low	**

39. Lack of opportunities to sell agricultural products	- Absence of infrastructure to collect agricultural products	- Reduction of economic gains - Lack of interest on the land and sustainable agricultural development <sup>2</sup>	3000 inhabitants	Medium	**
40. Potential types of tourism not being developed	- Due to shortage of investment	- Decline of the number of visitors and non utilization of resources	15 %	Medium	** *
41. Tourist values not being properly managed	- Slow improvement as regards attitude towards tourism	- Decline of development rates	5-8 %	Medium	** *
42. A whole range of tourist service lacking	- Lack of training and qualifications at all levels	- Decline of the quality of service	10 %	Medium	**
Pollution of the environment from waste and sewage	- Low awareness levels on the part of the public	- Increase of disease and mortality rate	3 %	Medium	**
43. Lack of infrastructure (roads, electricity, drinking water)	- Shortage of investment funds, inefficient management of the existing funds	- Reduction of visitor numbers, pollution of the environment	10552 inhabitants	Medium	** *
44. Lack of information centers	- Non inclusion in the organigrams	- Information on tourist values not disseminated	15000 Inhabitants and tourists	High	** *
Little activity on the part of NGO-s	- Lack of capacities - Lack of information	- Degradation of the standard of living - Reduction of the number of visitors	3 %	Medium	**
45. Damage of the flora and fauna	- Illegal hunting - Weak management and non enforcement of the legal framework	- Extermination of fish and birds and decline of expected productivity	15 %	Medium	**
46. Pre primary education at low level	- Lack of appropriate space - Lack of equipment	- Reduction of the number of pupils in primary schools	10 %	Medium	**
47. Environmental education not included in the school curricula	- Environmental knowledge not accurate - Lack of coordination among ministries	- Increased pollution of the environment - Lack of environmental initiatives	15 %	High	** *





## **6. Opportunities - Recommendations**



**Problem 1: Informality in urban development**

## Opportunities

- a. Endorsement of territorial adjustment plans in accordance with economic and social development of the present and future time
  - Controlled movement from the rural to the urban areas
  - Development of rural zones
- b. Designing action plans for intervention in the problematic areas which have invaded the tourist zones
- c. Securing the necessary financial resources to invest for the infrastructure of the town of Shengjin, particularly to enhance the infrastructure in the entrance, but also in the rural and peripheral zones which have seen spontaneous growth lately (Ishull Shengjin, Mountain of Renci, Mountain of Shengjin and Ishull Lezha).

## Preferred option:

**Endorsement of the territorial regulation plans in accordance with economic and social developments both of the present and future**

## In observance of:

- Natural values
- Reduction of poverty and income growth
- Development of tourism
- Public education and awareness building
- Improving the health of the population

**Problem 2: Overexploitation of underground waters**

## Options:

- a. Inventorying the water sources
- b. New infrastructure for the town of Shengjin and villages and repair of leaks in the existing water supply system
- c. Identification of illegal connection to the grid, elimination of extra legality and installation of water meters
- d. Enhance the quality of drinking water, by establishing strict sanitary control both in the urban and rural areas
- e. Elimination of waste and pollution sources affecting the quality of water
- f. Management plans relative to underground waters (to ensure efficient administration)
- g. Putting in place a serious program for the uninterrupted observation of water sources especially the underground waters.
- h. Improving and completing the legal framework for the administration of water based on the principles of environmental protection

## Preferred option:

**New infrastructure for the town of Shengjin and villages and repair of leaks in the existing system of water supply**

## In observance of:

- Natural values
- Reduction of poverty and income growth
- Development of tourism
- Public education and awareness building
- Improving the health of the population

**Problem 3: Lack of adequate working conditions and lack of job openings**

Options:

- a. Relieving bureaucratic procedures for business start up
- b. Implementation of in service training programs
- c. Providing incentives to business for job creation
- d. Development of agriculture, coastal and ethno cultural tourism
- e. Local people should be employed on priority basis in the bid enterprises with business location in the territory of the commune
- f. Equal employment chances for men and women alike
- g. Ensuring safe working conditions

Preferred option:

**Development of coastal and ethno cultural tourism**

In observance of:

- Natural values
- Reduction of poverty and income growth
- Development of tourism
- Public education and awareness building
- Improving the health of the population

**Problem 4: Increased human pressure on the physical environment from internal migration in the direction of village-town**

Options:

- a. Possibilities to increase the level of employment and institution of relieved procedures for business start up
- b. Salary increase, better working conditions, better quality of education and health services, stable security and public order
- c. Creation of possibilities for controlled emigration by the government
- d. Clear development strategies for rural zones:
  - Improvement of road, educational, health, water supply and other infrastructure
  - Soft loans for rural areas,
  - Provision of incentives for highly qualified people who work in the rural zones
  - Planned movements in accordance with development master plans

Preferred option:

**Clear development strategy for rural zones drafted with broad based participation and grounded on real opportunities for development available at the local level**

In observance of:

- Natural values
- Reduction of poverty and income growth
- Development of tourism
- Public education and awareness building
- Improving the health of the population

**Problem 5: Low levels of awareness among local communities**

Options:

- a. Involvement of local authorities and other actors in:
  - a. Building public awareness concerning urban administration
  - b. Building public awareness in connection with the protection of land quality
  - c. Building public awareness in connection with drinking water management
  - d. Building public awareness in connection with participation in policy and decision making, monitoring activities, etc.

Preferred option: <b>Building public awareness relative to the need to participate in the drafting of policies and plans for development, in decision making and monitoring activities</b>	In observance of: <ul style="list-style-type: none"> <li>- Natural values</li> <li>- Reduction of poverty and income growth</li> <li>- Development of tourism</li> <li>- Public education and awareness building</li> <li>- Improving the health of the population</li> </ul>
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**Problem 6: Lack of a urban waste management system coupled by high levels of environmental pollution**

Options:

- Carry out a study for a waste collection site for long term and at a long distance from the inhabited areas.
- Building public awareness relative to the damages caused by throwing waste carelessly and in sites not designated for this purpose
- Outsourcing the service of cleaning the town to a private company

Preferred option: <b>Carry out a study for a waste collection site for long term and at a long distance from the inhabited areas and the tourist zone</b>	In observance of: <ul style="list-style-type: none"> <li>- Natural values</li> <li>- Reduction of poverty and income growth</li> <li>- Development of tourism</li> <li>- Public education and awareness building</li> <li>- Improving the health of the population</li> </ul>
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**Problem 7: Damaged and badly managed sewage systems**

Options:

- Design comprehensive projects for systematization and channeling of sewage of the inhabited centers and discharging these into a controlled site like the one of the legatine in Ishull Shěngjin
- Maintenance of the existing sewage system.

Preferred options <b>Design comprehensive projects for systematization and channeling of sewage of the inhabited centers and discharging these into a controlled site like the one of the legatine in Ishull Shěngjin</b>	In observance of: <ul style="list-style-type: none"> <li>- Natural values</li> <li>- Reduction of poverty and income growth</li> <li>- Development of tourism</li> <li>- Public education and awareness building</li> <li>- Improving the health of the population</li> </ul>
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**Problem 8: High levels of pollution in the environment and the hydric system due to the dumping of technological waste from industry**

Options:

- Construction of contemporary works for treatment of technological waters resulting from fish processing industries and empowering the sanitation authorities to check constantly over the operations of such industries
- Designating a special site to dump solid waste resulting from fish processing



Preferred option: <b>Construction of contemporary works for treatment of technological waters resulting from fish processing industries and empowering the sanitation authorities to check constantly over the operations of such industries</b>	In observance of: <ul style="list-style-type: none"> <li>- Natural values</li> <li>- Reduction of poverty and income growth</li> <li>- Development of tourism</li> <li>- Public education and awareness building</li> <li>- Improving the health of the population</li> </ul>
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**Problem 9: Degradation of the protected zone of Kune-Vain, impoverishment of biodiversity, increased human pressure on the zone**

Options:

- Launching the GEF project relative to monitoring activities (2005) and drafting a relevant management plan
- Training staff charged with the administration of Kune Vain
- Passing the law on the protected zones
- Effecting partial improvements in the growth of bird generations
- Reconfirmation of Kune-Vain as a zone under category IV of the ELPA project of the Bay of Drin and submission of the proposal for buffer zones

Preferred option:

**Launching the GEF project relative to monitoring activities (2005) and drafting a relevant management plan**

In observance of:

- Natural values
- Reduction of poverty and income growth
- Development of tourism
- Public education and awareness building
- Improving the health of the population

**Problem 10: Damages and threats of altering the terrain and impoverishing biodiversity in the zone of Knalla**

Options:

- Proclaiming Knalla a category IV protected zone (in accordance with the Albanian law and IUCN criteria) and including it in the protected system of Kune Vain given its location north of this system and potentially an IBA zone
- It is proposed to be a protected zone under the same category also in the "National Strategy of Biodiversity and Action Plan" endorsed in 1999.
- There is an improvement in the number of legatine birds and often the situation of bird generation is better than compared to Kune Vain



Preferred option: <b>Proclaiming Knalla a category IV protected zone (in accordance with the Albanian law and IUCN criteria) and including it in the protected system of Kune Vain given its location north of this system and potentially an IBA zone</b>	In observance of: <ul style="list-style-type: none"> <li>- Natural values</li> <li>- Reduction of poverty and income growth</li> <li>- Development of tourism</li> <li>- Public education and awareness building</li> <li>- Improving the health of the population</li> </ul>
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**Problem 11: Damage to the plantations of forest trees and the degradation of the habitats of Kune-Vaini as well as the pine forest on the coastal slope in the direction of Rera e Hedhur**

Options:

- Launching the GEF project relative to monitoring activities (2005) and drafting a relevant management plan
- Completing the ELPA study, reconfirmation of the protected area under consideration and of the protected area of Mali i Rrenc; submitting the proposal to proclaim as strictly protected area the zone of Rera e Hedhur; and as protected landscape the agricultural zone of the coastal depression of Ishull Lezha and Ishull Shengjin.

Preferred option: <b>Completing the ELPA study, reconfirmation of the protected area under consideration and of the protected area of Mali i Rrenc; submitting the proposal to proclaim as strictly protected area the zone of Rera e Hedhur; and as protected landscape the agricultural zone of the coastal depression of Ishull Lezha and Ishull Shengjin.</b>	In observance of: <ul style="list-style-type: none"> <li>- Natural values</li> <li>- Reduction of poverty and income growth</li> <li>- Development of tourism</li> <li>- Public education and awareness building</li> <li>- Improving the health of the population</li> </ul>
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**Problem 12: Damage to and decline of the production of medicinal plants , taniferous and ether oleanous plants below their natural capacities**

Options:

- Strengthen control on the part of the Directorate of Forest Service in Lezha for the implementation of the technical conditions of plant harvesting by the different subjects; inventorying the types and kinds as a first step towards protection and improvement of the situation of the plant stock.

Preferred option: <b>Strengthen control on the part of the Directorate of Forest Service in Lezha for the implementation of the technical conditions of plant harvesting by the different subjects; inventorying the types and kinds as a first step towards protection and improvement of the situation of the plant stock.</b>	In observance of: <ul style="list-style-type: none"> <li>- Natural values</li> <li>- Reduction of poverty and income growth</li> <li>- Development of tourism</li> <li>- Public education and awareness building</li> <li>- Improving the health of the population</li> </ul>
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**Problem 13: Low management capacities and inadequate administration of the protected zones**

## Options:

- a. Establishing an adequate authority for the administration of the protected area in the commune of Shengjin, in view also of the proposal of the ELPA study for the Bay of Drin (2006).
- b. Launching the GEF project relative to monitoring activities (2005) and drafting a relevant management plan for the area.

## Preferred option:

**Establishing an adequate authority for the administration of the protected area in the commune of Shengjin, in view also of the proposal of the ELPA study for the Bay of Drin (2006).**

## In observance of:

- Natural values
- Reduction of poverty and income growth
- Development of tourism
- Public education and awareness building
- Improving the health of the population

**Problem 14: Coastal erosion**

## Options:

- a. Experience of other in stalling coastal erosion.
- b. Increase of capacities and local resources to cope with the phenomenon.
- c. The presence of plentiful natural reserves of lime stone to be used to counter the waves in the case of endorsement of this technology.
- d. Increasing the awareness of the public and of the local authorities.
- e. Implementation of the project for the deepening of the River Drin as a means to increase its flow will have a positive impact on the mitigation of erosion due to the increase of sediments carried by the river.

## Preferred option:

**The presence of plentiful natural reserves of lime stone to be used to counter the waves in the case of endorsement of this technology. Possibility of creating buffer zones around the lagoons so that they may serve as amortizes in the event of flooding**

## In observance of:

- Natural values
- Reduction of poverty and income growth
- Development of tourism
- Public education and awareness building
- Improving the health of the population

**Problem 15: Bad management/uncoordinated management of the water assets**

## Options:

- a. Maximum exploitation of the water assets of the commune of Shengjin.
- b. Avoidance of annual flooding in the seasons of winters and falls
- c. Improvement of the legal framework on water management
- d. Return of the River Drin to its previous bed.
- e. Design of concrete action plans for the improvement and management of the entire water system in the zone.
- f. Implementation of the hydric regime of waters in the lagoons.

Preferred options: <b>Design of a concrete and efficient strategy for the management of waters in the area.</b>	In observance of: <ul style="list-style-type: none"> <li>- Natural values</li> <li>- Reduction of poverty and income growth</li> <li>- Development of tourism</li> <li>- Public education and awareness building</li> <li>- Improving the health of the population</li> </ul>
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#### Problem 16: Very poor quality of drainage systems

##### Options:

- Improving the drainage capacities through the rehabilitation of the entire drainage system.
- Design projects which enable the full operability of the entire drainage system.
- Implementation of concrete projects for the rehabilitation of third tire canals.
- Enhance the scale of security of the dam on the River Drin and the dam on the shores of the sea (K/11).
- Deepening and widening the River Drin to increase its flowing capacity.
- Creation of a full irrigation and drainage infrastructure in the commune.

##### Preferred options:

**Operating full capacity the entire drainage system in the territory of the commune of Shengjin**

##### In observance of:

- Natural values
- Reduction of poverty and income growth
- Development of tourism
- Public education and awareness building
- Improving the health of the population

#### Problem 17: Very poor productivity and lack of a customized local level management plan for aquaculture

##### Options:

- Enforcement of the law in general and legal framework on aquaculture in particular.
- Improvement of the fish catching techniques through the renovation of the Fishing Fleet and increase of qualifications levels of the fishermen.
- Increase the accountability of the fishing association in connection with its responsibilities for the good management of the sector.
- Reduce illegal and abusive hunting especially through explosives and hazardous substances
- Enforce criteria both scientific (biological) and environmental for fishing in the lagoons.
- Create clean environments for the development of aquaculture.
- Implement new technologies for the cultivation of mussels
- Enhance opportunities for upgrading the capacities of fishing staff.

##### Preferred option:

**Law enforcement with regard to fishing in general, aquaculture in particular; training fishermen and enhancing their knowledge on the values of sustainable fishing.**

##### In observance of:

- Natural values
- Reduction of poverty and income growth
- Development of tourism
- Public education and awareness building
- Improving the health of the population

**Problem 18: Absence of a market place for the selling of agricultural products**

Options:

- Create a well managed market with the necessary infrastructure in order to pave the way for the certification of agricultural products.
- Create awareness of the farmers on the need to create small farms which must be directed by trained specialists qualified in accordance with the specificities of the field.
- Producing products in accordance with standards and with all the indices required by the foreign and domestic market.

**Preferred option:**  
**Build awareness of the farmers for the creation of small farms which must be managed by specialists trained and qualified in accordance with specificities of the farm**

In observance of:

- Natural values
- Reduction of poverty and income growth
- Development of tourism
- Public education and awareness building
- Improving the health of the population

**Problem 19: Directed non utilization of pesticides**

Options:

- Building the awareness of the farmers to ask and receive advice from specializing experts
- Receiving continuous assistance from competent people.
- Enforcing laws and by laws concerning plant protection.
- Necessity of the operation of centers of prognosis and danger detection

**Preferred options:**  
**Enforcing laws and by laws concerning plant protection.**

In observance of:

- Natural values
- Reduction of poverty and income growth
- Development of tourism
- Public education and awareness building
- Improving the health of the population

**Problem 20: Medium quality of the agricultural and livestock products and by - products**

Options :

- Increase number of animal heads and improve their breed.
- Establish one or two dairy works per each village together with opportunities for product certification.
- Establish a slaughter house with all the necessary technical conditions
- Create opportunities for controlling the quality of agricultural products

**Preferred option:**  
**Establish one or two dairy works per each village together with opportunities for product certification.**

In observance of:

- Natural values
- Reduction of poverty and income growth
- Development of tourism
- Public education and awareness building
- Improving the health of the population

**Problem 21: Dysfunctional drainage canals**

Options:

- a. Returning the first-second-third tire canals to their original depth by removing deposits as per coefficients per m<sup>3</sup>/ml.
- b. Deepening all canals especially the second tire canals by about 50 cm below the level of streaks and lines
- c. Creating new drainage canals in about 100 ha.
- d. Re-activate the heads of drainage pumps by cleaning the surface in about 50 ml from the canals where they flow

Preferred options:

**Returning the first-second-third tire canals to their original depth by removing deposits as per coefficients per m<sup>3</sup>/ml.**

In observance of:

- Natural values
- Reduction of poverty and income growth
- Development of tourism
- Public education and awareness building

**Problem 22: Obstacles to the development of potential types of tourism; lack of management of tourist values**

Options:

- a. Design projects for the development of tourism in accordance with the social and economic development of the zone; implement the projects.
- b. Increase funding levels by the central and local government, as well as by donors.
- c. Increase access to credit lines so that investments can take place.
- d. Provide incentives to emigrants to invest in tourism development.
- e. Increase allocations from local government taxes for infrastructure investments.
- f. Increase the commitment of local administration with regard to investment attraction and guiding potential investors.
- g. Increase the role of the society for a cleaner environment and the rehabilitation of damaged resources as a way to reduce health and environmental risks.
- h. Cooperate with NGOs to educate and increase awareness of the public on the need to prevent environmental pollution, to avoid risks and threats on human health and biodiversity.
- i. Create opportunities for involvement of local government structures, schools and written and electronic media to advocate in the name of environmental protection.
- j. Increase participation of the public in the design and implementation of plans for the protection of the environment.
- k. Incorporate more of environmental education in the school curricula.
- l. Utilize the increase of central and local allocations for investment as a way to generate more environmental protection and enforce environmental policies.
- m. Improve waste management, provide for their technological processing, complete the sewage project in the town of Shengjin and build works for the treatment of polluted waters.

Preferred options; <b>Design projects for the development of tourism in accordance with the social and economic development of the zone; increase central and local allocations to implement these projects.</b>	In observance of: <ul style="list-style-type: none"> <li>- Natural values</li> <li>- Reduction of poverty and income growth</li> <li>- Development of tourism</li> <li>- Public education and awareness building</li> </ul>
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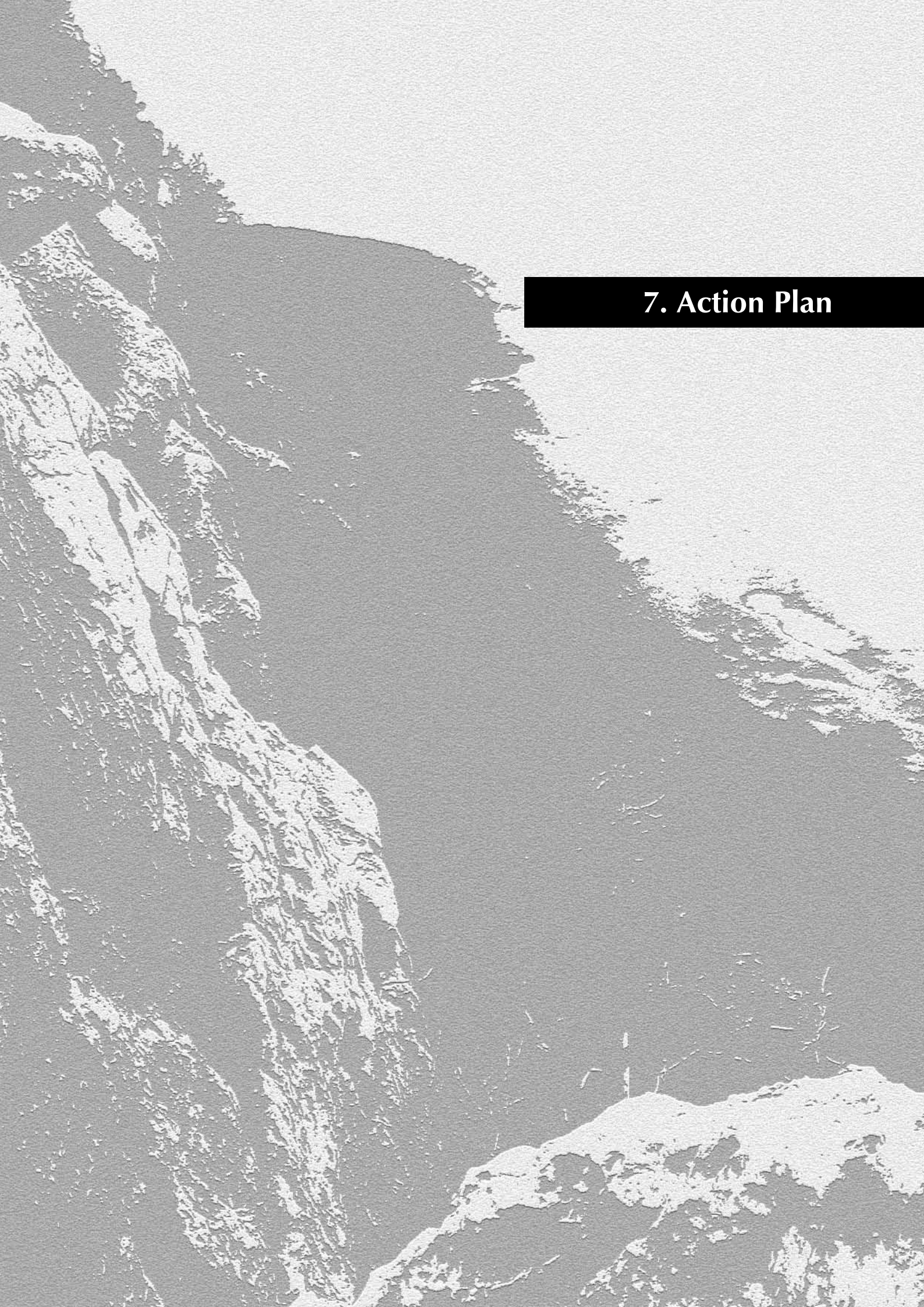
**Problem 23: Decline of the quality of ecosystems as alternative sources for natural tourism**

Options:

- Design of projects for the protection of nature's resources as means to bring about economic growth, reduce poverty and improve living standards.
- Increase awareness of the public and local communities on the hazards and damages of illegal hunting of fish and wild birds.
- Effect management plans and better management of these resources in full observance of the law and specific rules for this sector
- Develop concrete work programs to proceed with the growth of endangered species of birds, wild animals, fish, etc.
- Upgrade the technical and professional capacities of the personnel.
- Increase central allocations for protected zones to invest into these zones and increase income generation every year to guarantee the development of fauna and flora with a direct impact on the development of tourism.
- In the institutional aspect, give more space to the local government and create opportunities for a more efficient management of the protected zones.
- Identify extra legal constructions in the lagoons and rehabilitate the pine forest along the seaside.

Preferred option: <b>Design projects for the protection of natural assets; increase central allocations for the protected zones to implement these projects.</b>	In observance of: <ul style="list-style-type: none"> <li>- Natural values</li> <li>- Reduction of poverty and income growth</li> <li>- Development of tourism</li> <li>- Public education and awareness building</li> </ul>
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## 7. Action Plan



<b>Problem</b> Here are listed the major problems (or all of them) taken from the chapter 5 List of problemes)	<b>Action</b> Gives a number of solutions and actions to be taken to solve the problem	<b>Priority Time line</b> Priority is given Using the scale: * = low importance ** = average importance *** = very important (requires immediate intervention)  Time line is given in the scale: short term (1-5 years); Medium term (5-10 years); Long term (10-15 years)	<b>Responsible institutions and possible collaborators</b>	<b>Cost</b> (in 000,000 lek)	<b>Effect</b> Gives an positive effect achieved by solving the selected problem
1. Absence of master plans for urban development	1.1 Design urban master plans for the commune based on the existing situation and the plans for the future of the area (extension of the town in the vicinity of the entrance)	* * * 2 years	Regional Council (RC) Ministry of Territorial Regulation and Transports (MTRT) Council for Territorial Regulation of the Republic of Albania (CTRRA)	5	-better quality of public services - sustainable urban development - reduced pollution - sustainable development of tourism
2. Lack of stability in urban administration	2.1 Endorsement and implementation of development plans 2.2 Assessment of the existing situation and enter data in the mapping	* * * 2 years	R.C.Lezha M.T.RT Commune CTRRA Construction Police	3	- improved administrative operations - improved quality of administration services - prevention of environmental pollution - sustainable development of tourism

3. Overexploitation of underground waters.	3.1 Inventorying water resources 3.2 design and implement a serious program for the uninterrupted monitoring of the administration of water resources especially the underground water 3.3 Feasibility study and management plan for the water collecting basin of Barbulloje and Rile	*** 5 years	Ministry of Agriculture and Food (MAF) Ministry of Environment (ME) Directorate of water supply and sewage Community Donors	8	<ul style="list-style-type: none"> <li>- renovation and protection of water resources</li> <li>- ensuring continuous water supply and protecting water from pollution</li> <li>- avoid flooding</li> <li>- development of tourism</li> <li>- development of agribusiness</li> </ul>
4. Lack of infrastructure for water supply	4.1 construct a new water supply system specially for the town 4.2 building an extension to the water supply system of Ishull Lezha 4.3 the existing water supply of Shengjin must cover Ishull Shengjin alone	*** 2 years	Commune Directorate of Water Supply MTRT Donors	150	<ul style="list-style-type: none"> <li>- longevity increased</li> <li>- health improved</li> <li>- pollution decreased</li> <li>- sustainable development of tourism</li> </ul>

5. Increased human pressure on the physical environment especially due to internal migration from villages to town in the field areas	<p>5.1 Improvement of the road, health, water supply and other infrastructures</p> <p>5.2 Favorable policies by the government to provide the rural area population with access to credit</p> <p>5.3 Provision of financial incentives for specialists working in the rural areas</p> <p>5.4 Managed movement of the population in accordance with the master plans for development</p>	<p>*** 5 years</p>	Government Banks Communes Donors	200	<p>- internal migration reduced</p> <p>- living standards improved</p> <p>- agriculture and stock breeding developed</p> <p>- quality of public services improved</p> <p>- sustainable development of the environment</p> <p>- sustainable development of tourism</p>
6. Lack of adequate working conditions and lack of new job openings	<p>6.1 provision of adequate working conditions for employees</p> <p>6.2 Access to credit for small and medium enterprises</p>	<p>*** 3 years</p>	Ministry of Labor and Social Affairs (MLSA) Regional Inspectorate of Labor Ministry of Economy Banks Communes Donors	200	<p>- jobs created</p> <p>- income increased</p>
7. Lack of financial resources and irrational use of revenue	<p>7.1 Increase access to credit</p> <p>7.2 Increase allocations for tourism, environment, urban administration, etc.</p> <p>7.3 Continuous financial audits (internal audits) etc.</p>	<p>*** 5 years</p>	Communes Banks Government Donors	75	<p>- Sustainable development of tourism.</p> <p>- better quality of the environment</p> <p>- development of agriculture and live stock</p> <p>- increased efficiency in income management</p>

8. High unemployment levels among local people	8.1 employing the residents of Shengjin on priority basis in the enterprises with operations in the commune	*** 2 years	M TRT Ministry of Finance Ministry of Environment Commune Business	1	- job creation - income growth
9. Reduced quality of land components	9.1 Improvement and standardization of methodologies for monitoring of land pollution 9.2 elimination of floods 9.3 minimization of chemical utilization	*** 5 years	MAF ME. Regional Directorate of Agriculture Directorate of Waters Commune Donors	3.5	-health conditions improved -productivity increased -income generation growing -protection of the earth from degradation
10. Loss of water and decline of its quality in the water supply grid	10.1 Identifying extra legal connections to the grid and eliminating them 10.2 Installing water metres. 10.3 Improving the water supply distribution grid and elimination of leaks and losses 10.4 Establish strict sanitary control 10.5 Elimination of the open deposits of waste that pollute water; avoid infiltration of polluted waters in the grid of drinking water 10.6 Disinfect water in accordance with established norms	*** 5 years	MTRT. Directorate of Water Supply and Sewage Commune Community Sanitary Inspectorate Business Donors	320	- health improved - economy enhanced - pollution sources decreased - rational use of water increased - water quality improved - sustainable development of tourism



11. Low levels of public awareness	<p>11.1 educating the public on aspects of urban administration</p> <p>11.2 educating the public in connection with the preservation of land quality</p> <p>11.3 educating the public in connection with the need to manage drinking water</p> <p>11.4 educating the public in connection with the need to participate in policy making, monitoring activities and decision making at central and local level</p>	<p>*** 5 years</p>	<p>- National Training Center</p> <p>- NGOs</p> <p>- MEDIA</p> <p>- Min. of Transports</p> <p>- Min. of Environment</p> <p>- Min of Agriculture</p>	10	<p>- effective law enforcement</p> <p>- enhancement of aesthetic values</p> <p>- sustainable development of tourism</p> <p>- quality of life improved</p> <p>- respect for natural values</p>
12. Urban waste is collected in open space beyond control; waste is not sorted out and not processed; deposit places are in short distance from populated zones	<p>12.1. it is urgent to designate a point to deposit waste in accordance with prevailing standards and criteria</p> <p>12.2 . Design a study on the designation of a point for the collection and processing of waste for a certain region.</p>	<p>*** Short term (1 year)</p>	<p>R.C of Lezha</p> <p>M.TRT</p> <p>Commune of Shengjin</p> <p>Municipality of Lezha</p> <p>CTRRA</p>	<p>12.1) 2</p> <p>12.2). 80</p>	<p>a. Area protected from the negative consequences of waste</p> <p>b. This negative phenomenon placed under control</p> <p>-Tourist influx in the zone increased</p> <p>- Investors attracted</p> <p>- Economic growth for the inhabitants of the zone</p>

13. Pollution caused as a result of damage or absence of sewage pipes	13.1. Urgent design of projects for the systematization and disposal of sewage waters; implement these projects on priority basis 13.2. Build awareness of the public on the situation, consequences and measures that need to be taken	*** Short term (1 year)	R.C of Lezha Commune of Shengjin Donors D.H.E Lezha	13.1). 150 13.2). 1	- Tangible improvement in the living conditions of the inhabitants - Elimination of infectious diseases - Economic growth of the area
14. Technologies waste from fish processing	14.1. Installation of modern technological works for cleaning technological waters 14.2. Design a plan for the disposal of solid technological waste	*** Short term (1 year)	R.C of Lezha Fish processing enterprises Commune DHE Lezha	14.1). 8 14.2). 10	- Elimination of sea pollution - Elimination of infection incidence among visitors - Increased number of tourists - Improved economic status of the population.
15. Degradation of the protected zone of Kune Vain; impoverishment of biodiversity, increased pressure	15.1. Banning hunting for five years in the protected zone of Kune-Vain. 15.2. Upgrade the capacities of management personnel of Kune-Vain for pro action 15.3. Implement investment works to keep the mouth of Matkeqe open. 15.4. Demolish extra legal constructions in Kune - Vain 15.5. Launch awareness campaign in the villages for the protection of Kune-Vain. 15.6. Design action plans for globally endangered species	*** Short term and medium term	Directorate for Nature's Conservation (Ministry of Environment, Forests and Water Administration)  Staff of Kune – Vain,  Construction Police  Commune of Shengjin  REA Lezha,  Institutes and Private undertakings	Not estimated	Growth of populations especially of birds in general; the colony of birds in Kune-Vain; increase fauna variety; increase protection of endangered species.

16. Damage and increased risk for alteration of the terrain and impoverishment of biodiversity in the zone of Knalla	16.1. Study on biodiversity in the zone in the pipeline 16.2. Proclaim Knalla a protected zone of category IV (in accordance with the law on protected zones and IUCN)	*** Short term	Directorate for Nature's Conservation Commune of Shengjin REA Lezha,	Not estimated	The zone is put under protection for a better management of natural resources.
17. Damage to the plantations of forest trees and worsening of the habitats of Kun and Vain and of the pine forest in the coastal slope of the mountain in the direction of Rera e Hedhur	17.1. Improve the habitat with new forests in the protected zone of Kune Vain. 17.2. Ban new extra legal constructions in the pine zone above the port in the direction of Rera e Hedhur. 17.3. Place under control grazing in the Mountain of Renc and in the vicinity of the urban zone	*** medium term	Ministry of Environment, Forests and Water Administration (MEFWA) (Directorate of Forests and Directorate of Nature's Conservation) Directorate of Forest Service of Lezha Commune of Shengjin REA Lezha	3	<ul style="list-style-type: none"> <li>- Vegetation rejuvenation</li> <li>- improvement of habitats</li> <li>- creation of forest belts as a basis for strengthening biodiversity</li> <li>- Improvement of landscape</li> </ul>
18. Damage to and decline of productivity of medicinal plants below their natural capacity for growing in the zone	18.1. Exercise control over collecting entities. 18.2. Assess the quantity of plants per growth plots and ban harvesting for a certain period of time if necessary on a case by case basis 18.3. Inventorying the stock of plants and instituting respective measures	** medium term	MEFWA (Forest Directorate and Directorate of Nature's Conservation), Directorate of Forest Service in Lezha Commune of Shengjin REA Lezha Collecting entities	Not estimated	<ul style="list-style-type: none"> <li>- Enhancement and improvement of the stock of plant</li> <li>- Increase of economic profit from the rational use of this fund</li> </ul>

19. Low management capacities and inadequate administration of the protected zones	19.1. Carrying out studies on the existing situation; determine steps on a case by case basis; design and endorse a management plan (establishment of a permanent administration authority)	*** Short term	MEFWA Directorate of Forest Service Commune of Shengjin REA Lezha	Not estimated	Increased income for the community of the Commune; integral conservative management and various ecotouristic activities
20. Coastal erosion	20.1 Carrying out studies and implementing projects to stall erosion in the coast of Kune Vain	*** Short term	MEFWA Directorate of Forest Service of Lezha Directorate of Waters Lezha Commune of Shengjin REA Lezha	Not estimated	Protection of coastal land in order to be able to reap all possible fruit from activities to be carried out in this important environmental asset
21. Lack of a regional and local strategy for water management	21.1 Design a strategy for the hydric system; 21.2 Regional and local coordination of the inspectorates charged with the protection of certain aspects of the water wealth; 21.3 Law enforcement in the utilization of waters; 21.4 Controlled connection of the Lezha Drin with streams flowing into the Buna River	* * Mid term 2006-2016	-MEFWA. -Water Enterprise of Lezha -Commune of Shengjin -Regional Council of Lezha and Shkodra	1	- Familiarization with the reality and design of realistic projects -Increase of investment affectivity. -Positive impact on the ecosystems

22. Annual Floods in the fields of Ishull Shengjin and Ishull Lezhe	22.1 Place the drainage system in efficiency 22.2 Increase the holding capacity of the River Drin 22.3 Increase resistance of the dam 22.4 Place the pumping stations in full capacity	* * * Short term 2006-2010	-Water Enterprise Lezhe.  -Commune of Shengjin  - Farmers' Community	1.2	-Elimination of floods -Protection of the land -Growth of agricultural productivity -Infrastructure protection
23. Uncontrollable fishing and poor levels of the fishing technology	23.1 Upgrade qualification levels of the fishermen 23.2 Increase access to credit towards introducing advanced fishing technologies 23.3 Implementation of legislation in all aspects of the aquaculture	* * Mid term 2006-2010	-Fishing Directorate  - Credit banks.  - Fishing Associations	20	- Increase of productivity - Increased employment opportunities - Increased revenue from fishing -Higher levels of tourism.
24. Lack of drainage and irrigation facilities	24.1 Build irrigation canals in conformity with technical projects. 24.2 Rehabilitate drainage canals	* * * Medium term	Waters Directorate	Not estimated	Increase of productivity, paving the path for farmers cooperation
	24.3 Create the obligation for farmers to clean and maintain third fire canals.	* * * Medium term	Waters directorate plus Local Government	Not estimated	Increased demand for creating the necessary infrastructure for collection of products
	24.1 Deepening second and third tire canals and blocking streams to about 50 ml close to the canals of drainage	* * * Medium term	Local Government	Not estimated	Increase of agricultural productivity leads to development of live stock
25. Dysfunctional existing drainages.		* * * Medium term	Waters enterprise in collaboration with the local government	Not estimated	Cultivating about 80 ha of arable land and guaranteeing high and sustainable productivity.

26. Reduction of the water holding capacities of the River Drin	26.1 Widen the Drin River in no less than 60 m in order to increase flow to 40 m <sup>2</sup> water/sec through controlling the cascade flow and deepening the river	*** Medium term	Ministry of Agriculture Waters Enterprise	Not estimated	Increase the water collecting capacity of the streams; eliminate the floods. Increase the amount of gravel and other inert materials carried by the river to the ground
27. Damages to the drainage and irrigation system	27.1 Deepen and widen irrigation and drainage canals to the required quotas	*** Medium term	Waters Enterprise Local Government	Not estimated	Providing irrigation and drainage facilities in over 110 ha.
28. Uncontrollable utilization of chemicals and pesticides in open fields and in protected areas and green houses.	28.1 Increase the efficiency of agricultural farms. Identify sources of pesticide supply	** Medium term	Agricultural Directorate Local Government	Not estimated	Producing ECO products Fauna protection
29. The various kinds of tourism not developed	28.2 Law enforcement with regard to plant services and plant protection. 29.1 Implement the principle of sustainable tourism	*** Medium term	Agricultural Directorate Local Government	Not estimated	Place under control the use of chemicals and pesticides
30. Lack of policies for the management of tourist values	30.1 Combination of sea tourism with the opportunities for the development of ecotourism and special interest tourism	*** Medium term	Local government and Ministry of Tourism Local government and Ministry of Tourism	Not estimated	Economic growth, rehabilitation of the environment's natural values, improvement of the environment Induce economic growth and improve the quality of life, develop tourism.



31. Lack of variety in the tourist services	31.1 Improvement of the quality of products and services, apply competitive prices. Create a positive image for attraction of tourists.	* * Medium term	Local Government and the Ministry of Tourism	Not estimated	Increase range of services and increase the number of tourists.
32. Environmental pollution for sewage and waste	32.1 Implementation of projects and increase of funding to responds to the new demands for development of tourism	* * * Short term	Local Government and Ministry of Tourism	Not estimated	Reduction of pollution, reduction of cost for the rehabilitation of environment; development of tourism
33. Lack of infrastructure (Road, Energy, Drinking Water)	33.1 Investment increase and management of existing funds for rational use in infrastructure development	* * * Short term	Local Government and MTRT	Not estimated	Increase of the number of tourists
34. Absence of information offices	34.1 Establish citizen information offices at the local government units; promotion of Tourist Guides; production of promotional materials on tourism, etc.	* * Short term	Local Government and the Ministry of Tourism	Not estimated	Timely spread of information increases the number if tourists
35. Few activities by the NOG-s	35.1 Increase cooperation with the NGO-s for the development of projects to reduce pollution levels and improve health and biodiversity conditions	* * Short term	Local Government and the Ministry of Tourism	Not estimated	Implementation of Joint Projects increases the number of investment works in tourism

36. Damage to the flora and fauna	36.1 Design of projects and their implementation for the growth of these resources; increase of allocations	*** Short term	Local Government and the Ministry of the Environment	Not estimated	Increases the number of tourists and improves diversity of flora and fauna
37. Pre-school education in low levels	37.1 Invest to create additional space and equip classes with the necessary didactic and teaching materials	*** Short term	Local Government and the Ministry of Education and Science	Not estimated	Increase quality of pre school education
38. Non inclusion of environmental education in schools curricula	38.1 Include environmental education in the school curricula at all levels of education.	*** Short term	Ministry of Education and Science	Not estimated	Create awareness on the need to introduce knowledge on protection and conservation of the environment.





# **Local Environmental Action Plan**

*Commune of Shengjin*

*for a healthy community  
in a healthy environment*