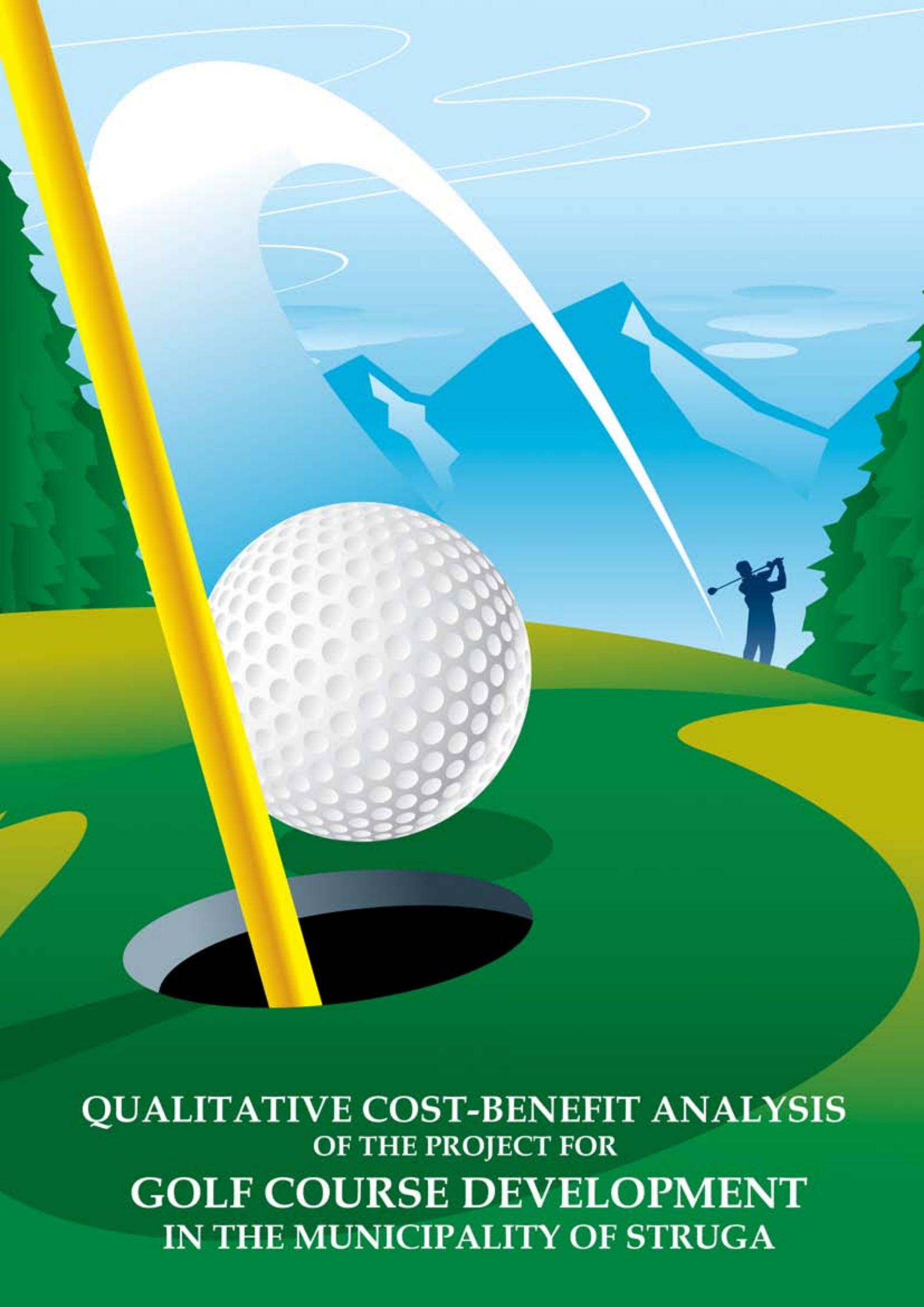

QUALITATIVE COST-BENEFIT ANALYSIS
OF THE PROJECT FOR
GOLF COURSE DEVELOPMENT
IN THE MUNICIPALITY OF STRUGA

QUALITATIVE COST-BENEFIT ANALYSIS OF THE PROJECT FOR GOLF COURSE DEVELOPMENT IN THE MUNICIPALITY OF STRUGA

T A B L E O F C O N T E N T S

B) IDENTIFICATION OF THE WIDER SOCIAL IMPACTS OF A GOLF COURSE PROJECT

C) COSTS AND BENEFITS FROM THE PROJECT UNDER BOTH SCENARIOS

Scenario 1: Private investor - A survey of costs and benefits

Scenario 2: The municipality as investor – A survey of costs and benefits

5. TYPES OF CO-OPERATION BETWEEN THE PUBLIC AND THE PRIVATE SECTOR – PUBLIC-PRIVATE PARTNERSHIPS (PPP)

CONCLUSIONS AND RECOMMENDATIONS

Foreword

The preparation of this study was initiated and financed by the UNDP Project "Local Governance for Sustainable Human and Economic Development". In accordance with the issued Terms of Reference, the preparation of the study was entrusted to Saso Arsov, Ph.D. Prof. Metodija Nestorovski, Ph..D. was also included in the preparation of the study as a team member.

We would like to use this occasion to express our gratitude to the employees of the UNDP's Local Development Agencies in Struga and Gevgelija for their co-operation and support during the implementation of the study, but also to express our thankfulness to all the people who helped us collect the information necessary for the realisation of the study.

The authors

INTRODUCTION

Description, objective and scope of the study

The contracted project task that we, as analysts, are challenged with encompasses the preparation of a qualitative cost-benefit analysis of a potential golf course to be built in the municipality of Struga.[1] Therefore, at the very beginning, we find it appropriate to define the basic components of the formulated task:

1) The study will consider a hypothetical golf course, i.e. one for which only the location as a municipality where it should be settled has been determined and not a specified and defined project;
2) In accordance with the requirements of the initiator of the study, a qualitative cost-benefit analysis will be prepared, a distinctive feature of which is the descriptive identification of the wider implications of a project of this kind in the aforementioned municipality.

The objective of the project is:

- to provide an initial information regarding the social acceptability of the project;
- having in mind the conclusions of the analysis, to provide recommendations for the local authorities regarding the possible future actions, mainly in the form of different types of partnership between the relevant stakeholders, with the purpose of generating maximum net-benefit for the community.

In order to fulfill the established objective, the study will encompass the following steps:

- Preparation of a provisional feasibility study for a model golf course in the municipality of Struga;
- Analysis/description of the development potentials of the golf-course project in the respective region;
- Assessment of the expected broader social and environmental impact, as well as other potential effects (qualitative cost-benefit analysis);
- Analysis of the risk factors.

Resources for the analysis

Taking into account both the limited mandate and the budget, the analysis will make use of the following resources:

[1] At the same time, a study of a project of the same kind for the Municipality of Gevgelija is being prepared. It is published separately.

- the existing literature and knowledge available to the analysts;
- information achieved through consultations with experts in relevant areas;
- data, studies and other sources of information obtained through the Internet;
- information gathered through direct contacts with the stakeholders and collected during the site visits in the targeted municipalities;
- information obtained through UNDP's Local Development Agencies;
- other available sources.

Limitations of the analysis

During the work on the study, it is expected that the analyst will inevitably face certain important limitations that will directly influence the possibility to obtain more specific and more precise results from the analysis. The more important limitations include:

- no particular project site (micro-location) has been selected, but only the wider project location has been determined, thus leaving open a number of questions that will impact the technical and financial aspects of the analysis;
- there is still no specific investor and technical documentation of the project, including the project architectural design;
- accordingly, there is no definite feasibility study for the project, which represents the basis for the preparation of a cost-benefit study and for making the final decision on the project feasibility;
- there are no similar projects in the country, as well as no golf practice that would provide empirical and comparative data.

Due to the abovementioned limitations, the conclusions of the analysis can in no way be considered definitive, but they will have to be justified by additional comprehensive technical analysis. On the other hand, it has put us in a more fortunate position of analysts being able to take a more objective, less partisan approach, i.e. instead of advocating certain solution, to carry out a rigorous analytical procedure.

This document is therefore a study for a generic or model project. It is not a detailed plan, major questions remain to be answered regarding specific sites.

Geographical framework of the project

Republic of Macedonia

Republic of Macedonia is the planned host country for the project. The country covers an area of 25.713 km^2, and according to the last census from 2002, the total population is about 2.022.000 people. The total number of households in the country is 564.237. The GDP, measured by the PPP is US$ 6.850. The rate of unemployment is very high and reaches the level of 38%.

The location of the country in the region has both strengths and weaknesses in terms of the realisation of such a project. On one hand, the number of golf courses in the neibourghing countries is quite small, but, on the other hand, the standard of living in the region is quite low,

which is an impediment for the implementation of this sport. Another fact is that in the Balkans, there is almost no popularity of golf as a sport.

Municipality of Struga – basic characteristics

The municipality of Struga is situated on the coast of the Ohrid Lake, under the mountain of Jablanica. Struga is located about 14km away from the town of Ohrid, at the altitude of 698m above sea level. The river Crn Drim which flows out of the Ohrid Lake divides the municipality is in two parts. Struga covers an area of about 50.703 ha. Struga is a part of the beautiful Ohrid-Struga region, famous by its natural beauty, as well as its numerous cultural and historical monuments.

The total population of the municipality of Struga amounts to 63.376 people, with 35.509 of them living in the town of Struga. The number of households is about 14.485. The rate of unemployment in the municipality is almost equal to the state level and is about 38%. Most of the population is employed in the services sector – 56,2%, than in manufacturing – 34,2% and agriculture – 5,5%. 12,6% of the total population is older than 60 years.

Tourism is the major priority for the regional development in Struga, followed by textile industry, agriculture, cattle breeding and forestry, but the municipality is also interested in the development of the SME sector and the environmental protection of the lake.

1. PRELIMINARY ANALYSIS OF THE FACTORS RELEVANT FOR THE FEASIBILITY OF THE PROJECT

A) MARKET ANALYSIS

Naturally, the first step in the feasibility analysis of a project is the analysis of the market, i.e. the demand for the product or service in question, being an issue of crucial importance for the further work on the project. At the same time, this is the most difficult question, while, in our case, considering the limited mandate and budget, it is not possible to carry out the necessary market survey which could result in a satisfactorily sustained conclusion. Therefore, we are only going to point out some of the key elements of the analysis, thus living the level of the needed demand as one of the outcomes of the break-even analysis.

Before proceeding toward the specific elements of the market analysis, it would be necessary to define that the **public access golf-course** will be the type of golf-course considered in the analysis, believed it to be the more realistic option for a new market unlike the private or semi-private courses (with membership privileges), although the possibility of introducing annual membership as a modality is not excluded. In addition, it should be noted that the demand for golf is usually expressed as a number of rounds demanded by golf players, which is also the unit of measurement for the payment of the user fees (called a green fee).[2]

Within this framework, we have analysed the market through the following issues:

- Market segments
- Parameters for preliminary quantification of the demand for golf
- Supply of golf-courses in the region

Market segments

The following segments could be differentiated on the market for golf:

- Local population. This segment is characterised by the following: predominantly rural population that cannot be expected to show affinity for golf, coupled with the fact that it consists mostly of low-income population, which is unfavourable for this rather expensive sport.
- Domestic visitors. This group includes:
    - Periodical visitors of the Ohrid and Struga region and the people spending their vacation in the area, which could be occasionally attracted by the additional recreational offer.
    - People possessing weekend-houses in the region, a part of who might become interested in practicing golf.

[2] The green fees are usually paid by each participant, regardless of the players playing together in the course.

- The newly created entrepreneurial and proprietary class in the country which is the most promising generator for creation of the domestic demand for golf, taking into account that it is an expensive sport, with distinguished features of prestige.

- Foreign tourists. This category could be further segmented:
  - Tourists – occasional golfers, as a part of the foreign tourists visiting the region during weekends or as a part of their summer vacation.
  - Tourists- frequent golfers, as people who travel with the primary purpose of playing on new courses. This category could be expected only in the case of having a higher quality course, requiring larger investments, but, in our case, there is no indication for this.
  - Occasional short-stay visitors from Northern Greece, Bulgaria and Albania, being increasingly present in the region.

The size of the entire segment – foreign tourists is very difficult to estimate. This is due to the fact that their real interest in the region as tourist destination is still very uncertain, although it has been intensely announced by the local tourism workers. It will also depend on the efficiency of the other measures to be undertaken in this regard. The declared foreign investments in the hotel business (Radisson) would have an undoubtedly strong impact.

- Members of the diplomatic corps, as well as representatives of the foreign companies in Macedonia. This segment promises a lot, especially having in mind the prestigious character of the sport, as well as the tradition in the countries that they come from.
- Macedonian returnees from abroad, as well as other users.

Parameters for preliminary estimate of the demand

It has already been noted that according to the scope of the project task, there is no possibility to quantitatively determine the demand for golf. However, some of the possible techniques and approaches to this problem will be mentioned below, in order to have them in mind in the case of a future deeper analysis.

Normally, the most accurate estimate should be based on a market survey of the potential users of such recreational amenities. In absence of existing courses, the survey would have to be done by interviewing a sufficient number of respondents, selected from all of the abovementioned segments, after which, by an appropriate econometric technique, the demand model could be derived, treating the demand as a variable dependent on the level of income, the educational level, the profession, the geographical distance, etc.

Another possibility is to estimate the number of potential golf course visitors by using a proxy category, such as the number of tennis players or skiers and an appropriate ratio, which, in any case, would have to be determined on the basis of experiences from other countries.

Both mentioned approaches could give an indication of the domestic demand, but the information regarding the demand from abroad would still be missing, due to the high degree of uncertainty associated with these segments. This portion of the demand, as we have already seen, could be a very important element for the financial feasibility of the project.

Some statistical facts could provide an illustration for this issue. The number of amateur golf-players in Europe is estimated to be about 8 million. Out of this, 67% of the total number consists of players from UK, France, Germany and Sweden. (Having golf in mind, these countries could be targeted as markets for foreign tourists in the region). The number of players increases by 7% annually, with Norway being the country with the highest increase.

The number of registered players in Greece is relatively small and is about 1.350. In Serbia and Montenegro the number is 190, in Croatia it is about 170 and in Bulgaria about 100.

The supply of golf courses in the region

Although the number of potential users of the course cannot be estimated with higher certainty, additional information regarding the size of the market could be obtained by observing the competition in the region, i.e. the existing facilities of the same kind in the region. The analysis in this part has shown that in the neighbouring countries, there are golf courses in Greece (5), Bulgaria (3) and Serbia and Montenegro (1). Apart from these figures, the analysis shows that the golf courses in Greece are located mostly on the islands (Corfu, Crete and Rhodes), one of the courses is located near the city of Athens and one is located on the Halkidiki peninsula (Porto Carras). Having in mind that apart from the tourists from distant countries, the golf players are dominantly oriented toward courses located nearby (the 70km distance in USA is considered the furthest limit), it is obvious that the absence of courses in Northern Greece could greatly contribute toward the creation of demand for this location. . In Bulgaria, on the other hand, the courses are located near Sofija, Ihtiman (about 50km from Sofija) and the town of Sliven. This information also shows that the regional supply is very small and there is a lot unsatisfied demand.

In Albania and Bosnia and Herzegovina there are no such facilities, while the only 9-hole golf course in Serbia and Montenegro has been opened recently. In the Republic of Croatia, there is one course, located between Zagreb and Karlovac, and there is an old one, 9-hole course, on the island of Brioni. In Croatia, there is a ready project for developing a luxurious golf course in Istria, for which foreign partners are being intensively sought. There are several courses in Slovenia (6), in Hungary (8), while in Romania there is one outdoor and one indoor course.

The total number of courses in Europe is about 6.500. It is interesting to note that the development of golf courses has been included as one of the key elements in the tourism development strategy of Greece, while the estimate is that this country should have no less than 46 golf courses by the year 2010.

B) LOCATION AND SITE

Considering the specificity of the project, the issue of proper selection of its location and site bears considerable importance for the project's success. In terms of its location, it has already been predetermined with the project task, as formulated. Below, some of the basic features of the selected location for the project will be elaborated.

Location

1. Climate

The municipality of Struga is located in the Field of Struga (Strusko Pole), i.e. in the Ohrid Valley. The altitude of the valley is between 695 and 760 meters. This altitude, the Lake of Ohrid and the influence of the Adriatic Sea determine the climate of this region. The average annual temperature is 10^{o} C. The lake serves a very favourable thermal regulatory function, because of which, the summer is less hot and the spring and fall are milder than the rest of the country. The period with an average daily temperature higher than 10^{o} begins in April and lasts until October, but the average daily temperature of $5,6^{o}$ in March and $7,7^{o}$ in November, makes these months also relatively convenient for playing golf. A conclusion can be drawn that the favourable weather conditions for playing golf last for about 8 months continuously, but it should be noted that the fall is usually warmer than the spring.

The average number of sunny hours amounts to about 2.233 hours per year or more than 6,1 hours a day, which is 130 hours per year more than the one in the region of Skopje, the capital. The average number of clear days is 88 (in Skopje – less than 70).

An advantage of this climate area is the fact that the average temperatures in the months of July and August are about 21^{o}, while the number of days with temperatures higher than 30^{o} amounts to only 13. The days with temperatures higher than 35^{o} are extremely rare, which also adds to the number of days favourable for playing.

2. Transport routes

The municipality of Struga is marked with very good traffic connections with the surrounding regions and the rest of the world. The distance from the capital Skopje is 170km. A very positive impact for attracting foreign tourists can be expected from the Ohrid Airport, located about 7km far from the town. Struga is located on the international route to Albania (12 km), while via Bitola and the border crossing Medzitlija (90 km), it is connected with Republic of Greece.

3. Geographic location in relation to the neighbouring countries, tourist centers, etc.

With regards to the geographic location, it has already been stated that the proximity of the town with Greece, but also Albania should be considered an advantage. Therefore, the population of northern Greece and the bordering areas of Albania are considered an important segment of the demand

In terms of the closeness with the tourist centers, Struga is a part of the famous Ohrid-Struga region. The declared activities aimed at attracting back the foreign tourists present in the region in the past, make space for optimism that a base of golf-players could be created.

Determinants of site selection

The selection of the site, i.e. the exact place where the course is to be built is an issue to be decided upon by the investor her/himself. Here, we are going to discuss some of the basic parameters influencing the site selection decision and which we need as inputs in the preliminary study.

1. Size and structure of the course

Finding land with the appropriate size and characteristics for development of a golf-course is, on one hand, a necessary condition for the implementation of the project, but, on the other hand, it is a very significant determinant of the cost of the project, as well as of its successful operation.

Before proceeding toward searching for the appropriate site, it is necessary to define the type of the golf-course (9- or 18-hole). (This will be discussed further below, in the section dealing with the architectural design.) Almost all sources reveal that the total length of the 18-hole course is usually 5-5,5km (standard, regulation course), up to 6 km (professional course). At the same time, the course covers an area between 45 and 60 ha for an 18-hole course or a half of it for a 9-hole course.[3] The variations are usually a result of the topographical features of the land (water areas, trees/forests, width of the fairways, sand traps, and so forth). For the purposes of the analysis, we will consider an 18-hole golf course covering an area of 50 ha.

In addition to the size, it is extremely important to find a site with a relatively plane terrain, in order to avoid the high cost of construction. Namely, although the golf course includes certain hills and traps, high steepness should be avoided, since it becomes a source of tiredness and inconvenience for the players. Another recommended feature of the land is the fast drainage ability in cases of heavy rainfalls. The experiences show that the construction of a golf course usually involves digging and removal of 200.000 to 1.000.000m^3 of land.

A floodplain area along a creek or river is an ideal location and provides the opportunity to include wetlands and water features into the course design. The ideal location, from the private developers perspective, is a site just beyond municipal utilities where land cost are low and private development can easily be attracted.

The remaining requirements concerning the land involve the administrative rules for acquisition or leasing of land, as well as the absence of any legal, ecological, historical and archeological constraints for the use of the land for this purpose.

2. Availability of water

The availability of irrigation water is fundamental to golf course development. Depending on the climate and the level of annual precipitation, each course requires a certain quantity of additional irrigation in order to provide the needed level of quality of the turf. In addition, the level of the additional irrigation needed will depend on the type of the soil and the turf, as well as the amount of turfed area.

The average annual rainfall in the Struga region is about 811mm, thus being one of the rainiest areas in the country.[4] For similar and even dryer regions, the estimate is that between 7,5

[3] There are also variations from this standard. The course in Porto Carras, Greece covers an area of 77 ha.
[4] Lazarevski, Angel, "Klimata vo Makedonija (The Climate in Macedonia)", Kultura, Skopje, 1993

and 10 thousand m^3 of water per hectare is needed for irrigation. We will use the estimate of 8.000 tones per hectare, so that a course covering 50ha would require annually about 400.000 tones of water. For the 9-hole course, the annual requirement would be 200.000 tones. Another problem is caused by the uneven seasonal and monthly distribution of the rainfalls, so that the highest amount is recorded in the months of November through January, while the summer months are driest, just when the water supply system is overburdened.

The region of Struga is abundant with water resources. However, at the moment, it is not possible to provide water from the existing systems for the purposes of the golf course irrigation. The "Proakva" company supplies the town of Struga as well as 16 surrounding settlements with water for household use. Its total capacity is about 370 liters per second. In the last few years the total annual consumption of water in Struga was between 1.600.000 and 2.200.000 m^3 of water, with the system being barely able to meet the demand during the peak summer period. It is believed that the system would not be able to satisfy the golf course's demand of 400.000m^3, thus adding 20-25% to the current annual consumption.

The managing company of the irrigation system is currently undergoing a bankruptcy procedure and the system has been out of operation during the last few years, so that it provides no certainty regarding the supply of water.

Perhaps the most favourable opportunity is related to the use of the water from the river Crn Drim, centrally positioned within the municipality, so that the course would inevitably be located in the vicinity of the river. The river is abundant with water (currently 30m^3 per second, with the biological minimum at 5m^3/s), so that the utilization of the water from the river should not be a problem. In this case, a pump station would have to be built, containing two 70-80KW pumps, as well as a pipeline or a system of channels to transfer the water to the course.

Another alternative, having in mind the available underground water, is the possibility to use own wells, which, if the project is realized within the Field of Struga (Strusko Pole), should go between 50 and 70m in depth.

However, before bringing a final project decision, we recommend a more detailed analysis of the water requirements to be made, by months, taking into account all the relevant factors (monthly rainfall, soil and turf conditions).

3. Availability of land

Our investigation whether there was an appropriate site for such a project was concentrated on the state-owned land for two reasons. First, if the land is owned by the state, there is an opportunity for the state or the municipality to provide certain privileges for the investor, in order to stimulate the project implementation. Second, the privately-owned land in this municipality consists of a numerous small parcels, so that the attempt to create a piece with the required size would involve the potential investor into lengthy and expensive negotiations with the owners of the land.

The visit to the municipality of Struga and the talks to the relevant civil servants have assured us that there was at least one suitable state-owned area, with the minimal appropriate size (30 ha). The area is located nearby the town, so that there is a road to the site, as well as a source of water (a river) that can be used for irrigation and thus decrease the cost of water supply. The land is almost flat, which indicates a possibility to easily adapt the land to the requirements of

this sport, and thus reduce the cost of course development. There is still a need to explore the features of the location in more detail, with regards to the appropriateness of the land and the soil, but also there is a need to explore the other existing alternatives.

C) ARCHITECTURAL DESIGN

The architectural design of the golf course has serious implications on both the amount of initial investment and the attractiveness of the golf course, which, on the other hand, impacts the ability of the course to achieve the desired level of revenues. The architectural design is an issue requiring higher level of expertise, so that it should be assigned to an architect of appropriate specialization.[5] In absence of a construction project for the golf course, we will define the basic elements of the course, in order to obtain a rough estimate of the needed initial investment.

Types of golf courses

In order to define the type of the golf course, it is necessary to have in mind what is the basic idea of the investor, i.e. what is the final purpose that the course is supposed to serve. Basically, one can distinguish two options in terms of the number of holes on the course – 9-hole and 18-hole courses (sometimes 27-hole courses are found). The provisional feasibility study will explore both options, by concentrating on the 18-hole course and than taking the investment and operating costs of the 9-hole variant as a half of the estimate for the large course, with the appropriate corrections. The experience shows that it is economically irrational building a 9-hole facility, since they are far less attractive than the 18-hole ones. In a situation when there are no competing courses around, it is unreasonable to enter the entire venture and obtain a smaller course as a result, thus loosing the opportunity of earning the whole potential profit and the effect of the first facility of that kind. Smaller courses are unattractive for tourists – passionate players. Finally, in periods of highest demand, the 18-hole facility can absorb twice as many players as the smaller one. Therefore, our analysis will concentrate mostly on the 18-hole course, with different green tees (for men, women, and eventually, juniors).

In addition, the courses differ with respect to the level of complexity (the international *par* label). We are considering a course with an average par, which will not be suitable for international tournaments, at least, in the early years. Naturally, if one considers such a variant, he will have to consider also a higher amount of investments and higher revenues, as well.

As additional content of golf courses, accompanying courses can often be found, such as practice ranges, female and children courses, etc., but without having any indication about this, we will not consider them in the analysis.

Buildings

[5] In absence of appropriate experts in the domestic economy, the services of prominent architects from USA and the western European countries are used.

The number and the type of objects to be constructed on the golf course will, again, depend on the type of the course to be developed, the available financing and the investor's intentions. However, there are some objects that are considered inevitable and which are deemed a necessary condition for the very operation of the golf course.

1. Club-building. The club-building is the central object of any such facility. It includes:
- a reception desk and a counter (a cash desk);
- administrative premises, for the management and the staff;
- dressing-rooms;
- usually, a bar or a club for short breaks and stays during bad weather;
- warehouse (for the golf-equipment, flags, benches, etc.)

Sometimes, the club-house includes:
- multipurpose rooms to be used as classrooms, leased as meeting rooms, etc.
- pro shop (for sale of golf equipment).

2. Maintenance building. This building serves as a storage house for the equipment and the materials used for maintenance of the course. If a specialised maintenance company is employed, such a building might not be needed, but additional space will have to be reserved in the club-house, as a storage space for some inevitable tools and equipment. This buildings usually include:
- equipment storage area;
- fertilizers storage area;
- eventually, rooms for the maintenance workers, if such space is not included in the club-house building.

In this case, we will take into account a club-house building with 600m^2 in size, including the basement and a maintenance building with 200m^2 in size. Additionally, a parking-space for about 30 vehicles will have to be considered.

3. Apart from the elementary structures, the golf courses sometimes include a range of additional objects, the purpose of which is to provide additional attractiveness of the facility, but also to increase the operating revenues from the course. Quite often, instead of or apart from the bar, a larger restaurant is built, providing the owner with additional revenues from the leasing or the operation of the restaurant.

Sometimes, the golf courses include entire golf villages, hotels or bungalows.

Again, without any indications on their possible inclusion, the accompanying objects and businesses will not be considered in the analysis.

Vegetation and additional elements

Turf. Turf (grass) is the basic foundation for playing golf. The choice of the appropriate turf will have to be done in consultation with experts in the respective field, although its acquisition and planting is not considered a major issue. The most frequently used turfs are the Buffalograss (excellent in terms of drought resistance and tolerance/recoverability), the

Bermudagrass (drought resistance and recoverability), while two hybrid Bermudagrasses – Tifway and Tifgreen receive very high marks for their disease resistance, water conservation, high tolerance to heat and heavy traffic durability.

In order to make savings in the investment and in the irrigation costs, the parts of the course where it is not necessary (fairways) are either planted with cheaper turfs or covered with some other material.

Since most of these turfs are easily available and having in mind the existing experience in building football playgrounds, we assume that the provision of the appropriate foundation will not be a problem. Finally, there is also the alternative of using synthetic turf which is more expensive, but its maintenance is much cheaper, so that this option should also be considered.

Trees. It is usual that trees and other plants are planted on the golf courses. This serves a multiple purpose. First, the scenic beauty of the course is improved. Also, the game becomes more interesting by introducing traps and barriers of this kind. Finally, which is of special importance during hot days, shades are created for brief refreshments of the players.

Sand traps (sand bunkers). The sand traps are a compulsory element of any golf course. Their number, shape and size can vary, and their creation is planned as a part of the integral architectural design of the project. Also, it is very important to instruct the staff about the methods of their proper maintenance.

Water areas. The water areas, small ponds, are an inevitable part of any golf course. Their role is at the same time aesthetic and refreshing, but they are also a part of the game.

Other elements. As a part of the architectural design of the course, additional decorative elements might be projected, mostly with the purpose of providing for better architectural adjustment of the course with the surrounding space. Additionally, some other elements are often added, such as fountains, benches, shades, etc., the purpose of which is to provide space for rest and refreshment for the players.

D) PERSONELL

The analysis of the personnel needed for the operational stage, shows that such projects do not engage a lot of staff. According to our estimates and the relevant experience, taking into account a two-shift work, including the weekends, we have arrived at the following number and structure of employees:

- Manager (CEO) of the golf-course
- Assistant manager or manager for golf
- Administrative person – a secretary
- Receptionists – 2
- Employees in the cafeteria – 3
- Maintenance of the premises – 2 emp.
- Security – 4
- Course maintenance (superintendent and workers) – 3-4

- Caddies - 3

Therefore, the total number of employees would be about 20.

The relatively higher number of people engaged as security workers is due to the need to protect the course 24hours/day from intrusion and damages, since this is a sport requiring quiet and high level of tidiness of the playing fields. Alternatively, the services of a security agency could be used.

It was already mentioned that the number of employees in the maintenance of the course will depend on whether the services of a specialised companies will be used or the maintenance will be done by the golf course operators themselves. As in the security case, here we also apply the assumption that the level of cost would be identical for both alternatives.

Usually, a golf course would employ at least one instructor, but because of the lack of such a category in our country, we are intentionally omitting it from the analysis.

It is also important to note that, due to the lower level of activity during the winter, there is an opportunity to engage some of the staff on a seasonal basis.

Another important issue is the need to provide instruction for a part of the personnel, especially for those whose work is related to the specificity of the sport and the playing field, so that an additional investment for this purpose should be included in the projections.

E) EQUIPMENT

In order to make the course functional, it is necessary to provide the needed equipment, which is specific in many ways. Most of the equipment will have to be imported specially for this purpose. The equipment (except for the part for the premises) includes sports equipment as well as maintenance equipment.

The sports equipment unconditionally includes:

- golf clubs (in most of the golf courses the clubs are rented by the players from the course);
- flags;
- golf balls;
- balls washing machine;
- electric golf cars;
- manual golf trolleys, etc.

The maintenance equipment includes lawn mowing machines, tractors, maintenance workers' carts (the same from above may be used), chemical fertilizers, etc. All these elements should be included in the projection of the investments.

2. PROVISIONAL FEASIBILITY STUDY

A) PROJECTION OF THE INITIAL INVESTMENTS

The estimate of the amount of initial investments for the project was based on the predetermined structure of the fixed assets needed (buildings and equipment), the available information regarding the amount of investment for similar projects, the information regarding the prices of certain parts of the equipment and appropriate adjustments of the values in accordance with the economic reality on our country. The total amount of initial investments will be divided into the following categories:

1) Acquisition of land, preparation and golf course development
2) Buildings
3) Sports and golf course equipment
4) Maintenance equipment
5) Start-up expenses

1) Acquisition of land, preparation and golf course development

The land acquisition cost has not been included.

The cost of construction of the playing field will depend on the character and the quality of the land. These costs include:

- excavation and removal of the land;
- erosion control;
- shaping and fine grading;
- greens formation, tie and gravel;
- sand bunkers construction;
- cart path;
- curbing;
- tee construction;
- pre-plant preparation;
- lake lining;
- seeds and seeding;
- pipes, drainage and irrigation;
- grow-in;
- on-site rest rooms, etc.

In addition to this, the architect, engineering and project-management fees should be included.

According to the comparable information obtained, the investment for the development of the golf-course, cost of land excluded, would amount between 1,5 and 2 million EUR. In spite of the relatively cheaper construction costs in our country, certain elements of the field will have to be assigned to specialized foreign companies, thus increasing the cost of construction

significantly. Therefore, we will base our projections on the more conservative variant of 2 million EUR.

2) Buildings

This group includes the cost of construction of the buildings (club-building, maintenance building, parking lot). According to the estimated size of the objects (in m^2), the cost of their construction is projected to be about 500.000 EUR. The equipment for the premises (office equipment and cafeteria) is estimated to cost about 50.000 EUR. The parking lot is estimated to cost about 30.000 EUR.

3) Sports and golf-course equipment

This category includes the various elements of the equipment which is inevitable for the proper functioning of the course. It encompasses different items, such as the signing of the course, balls, flags, golf carts, etc. The table below contains the necessary items, their estimated quantity and cost.

	Equipment item	**Estimated quantity**	**Unit price including transportation and customs fees (EUR)**	**Total value (EUR)**
1.	Golf carts (electric)	20	4.000	80.000
2.	Trolleys (manual)	40	150	6.000
3.	Golf clubs (sets)	60	300	18.000
4.	Balls (sets)	300	20	6.000
5.	Flags	50	12	600
6.	Hole digger	5	120	600
7.	Other equipment (estimate)			15.000
	TOTAL			**126.200**

4) Maintenance equipment

The maintenance equipment consists of tools and supplies necessary to keep the playing field in a good condition. It includes various tools used in the agriculture, lawnmowers, water sprinklers, carts, pumps, as well as an initial supply of chemicals (fertilizers and pesticides). Without detailed specification, we estimate the value of this equipment as 10.000 EUR.

5) Start-up expenses

This category includes the expenditures needed for a successful start of the project's operation, but have not been included in any of the previously mentioned categories. In the table below, the items of this group and the corresponding amounts are given:

	Item	Value (EUR)
1.	Staff training	12.000
2. A.	Marketing and promotion (in the country and abroad)	10.000
3.	Cost of the project studies and reports (feasibility studies, construction projects, various permits, etc.)	25.000
	TOTAL	**47.000**

Our opinion is that, due to the specificity of the business, several people from the top management will have to spend a certain period of time (a month) being instructed on a golf-course in a western country, to obtain some practical skills in their field of work. We estimate that the cost for three persons, travel, accommodation and training fee, should total about 12.000 EUR.

Total investments

The total amount of initial investments is obtained as sum of all of the abovementioned items. Their total amount is 2.863.200 EUR. We add 50.000 EUR as initial working capital, and then, on the new total, we add 20% for contingencies, so that the total amount of initial investment becomes 3.495.000 EUR for the 18-hole course, cost of land excluded. We use this value and certain variations in our calculation of the project's financial feasibility and the sensitivity analysis. Again, we stress that these are rough estimates for a model project and for a specific project, before making the final decision, it would be necessary to make more accurate analyses and estimates, especially in the part of the course construction.

For the 9-hole course, we estimate a total amount of investments of 2.190.000 EUR, as a result of the presence of certain fixed costs (parking lot, staff training, buildings).

B) OPERATING EXPENSE PROJECTIONS

The operating costs consist of the expenses made to provide normal operation of the golf course. They include the following categories:

- Golf course maintenance
- Golf operations
- Restaurant operations
- Other expenses

The estimate of these costs is given in Table 1 for the 18-hole and in Table 5 for the 9-hole course.

These estimates are based on several assumptions:

- having in mind the impossibility to use the water from the existing systems, the projections are based on the assumption that an investment will be needed in a pump station, consisting of two 70-80 KW pumps and a building, as well as an investment in a pipeline. Also, an investment in an electrical connection will be needed. The total value of this investment is estimated to be about 100.000 EUR. In addition, the annual operating costs (electricity, maintenance, etc.) of the pump station are estimated to be about 10.000 EUR.
- the cart maintenance expense is based on the empirical data regarding the cost of maintenance per cart and that amount is multiplied by 20 carts;
- the cost per drink in the restaurant is calculated as a simple mean between the assumed costs of the cheapest drink, the tea, as 5 denars per cup and the most expensive drink, about 55 denars for a bottle of the imported beers, again with the assumption that one drink is consumed per each round played (each player takes one drink in the bar). Obviously, this is a conservative scenario, according to which, only the players are assumed to be guests in the cafeteria, excluding the occasional visitors. However, this is the only realistic approach at the moment, because the final concept of the cafeteria (food to be served, etc.) should be given by the potential investor himself;
- the other expenses: chemicals and fertilizers, equipment maintenance, seeds, golf course maintenance, aesthetic improvements and the other costs in each category are calculated in a proportion with the total revenues, taken from empirical data;
- the projected rate of inflation is 3%, which we consider objective having in mind the initiated process of accession to the EU and the need to fulfill its requirements.

C) REVENUE PROJECTION

The projection of the revenues is given in Table 2 for the 18-hole and in Table 6 for the 9-hole course.

The projection of the revenues requires an estimate of the demand, which, as explained, was out of the scope of our task. Therefore, several scenarios in terms of the expected levels of demand have been analysed, in order to obtain the break-even point, i.e. the level of demand at which the project turns profitable. In other words, instead of the profit as a final outcome of our analysis, we have assumed the level of demand, measured as a minimum number of rounds played, at which the project becomes financially attractive from the investor's point of view.

In order to simplify the calculation, we have made several assumptions. First, we need to estimate the assumed green fee (the price per round played). In absence of information from our country, we have made a comparative analysis of the golf courses nearest to us, which, although quite distant from us, represent the best comparable due to the most similar social and economic conditions with those in our country.

	Golf course (18 holes)	Fees (in euro)					
		Per round			Rentals		
		Mon-Thurs	Friday	Weekend	Cart	Trolley	Clubs
1.	Old Lake, Hungary	36	36	58	36	4	1,6-16
2.	Birdland, Hungary	34	54	54	24	6	4,4-26,4
3.	Kings Golf Course, Slovenia	51	51	62	30	4	15
4.	Lakdeverde, Romania	30	30	30	-	-	-
5.	Rhodes, Greece	35	35	35	35	-	20
6.	Cardinals Valley, Croatia	40	40	48	-	6,8	4-20

	Golf course (9 holes)	Fees (in euro)					
		Per round			Per round		
		Mon-Thurs	Mon-Thurs	Mon-Thurs	Mon-Thurs	Mon-Thurs	Mon-Thurs
1.	Old Lake, Hungary	28	28	40	36	4	1,6-16
2.	Birdland, Hungary	22	38	38	20	6	4,4-26,4
3.	Kings Golf Course, Slovenia	35	35	44	-	-	-
4.	Lakdeverde, Romania	20	20	20	-	-	-
5.	Rhodes, Greece	-	-	-	20	-	-
6.	Ada Ciganlija, SerbiaMonten.	30	30	40	30	3,6	8,5
7.	Cardinals Valley, Croatia	25	25	30	-	-	4-20

In line with the available information, for the 18-hole course, we have taken the green fee of 30 euros as the most suitable in our case for the period Monday to Friday and the fee of 35 euros during weekends and national holidays, while the corresponding fees for the 9-hole facility would be 20 and 25 euros, respectively. We have purportedly used comparatively lower fees than the ones charged in the region, but, at the same time, one must consider the fact that too low fees create an impression of a low quality course, especially at passionate players.

The given fee structure was only made for the purposes of revenue calculation, but one should note that the golf courses, especially the municipal ones, usually apply a more complex fee scheme, which offers lower fees to the local residents. Furthermore, different fees are determined depending on the season, the time period of the day, etc. All these variants are offered in order to provide for a more even utilization of the course during the day and through the seasons.

The assumed fees for cart rentals are 25 euros for the 18-hole and 15 euros for the 9-hole course. The manual trolleys would be rented for 4 euros each and a set of golf clubs for 10 euros for the large course or 3 and 8 euros respectively for the small course. The assumptions are rather conservative (pessimistic), but they try to reflect the lower standard of living of the domicile population and the need to attract more visitors, at least in the first years of operation.

The remaining assumptions refer to the degree of capacity utilization. It is assumed that 40% of the rounds played will occur in the period Monday to Friday, and the residual 60% during the weekends.

Regarding the use of electric golf cars, the assumption is slightly more complex. We assume that 20% of the rounds played will include the use of a cart, with more persons (2-4) using the same cart, by paying only one rental fee (this encompasses about 50% of all players)[6]. Concerning this, a rule will have to be defined about the method of renting carts, i.e. whether all the players pay for the cart or only one of them.

Regarding the manual trolleys, we would assume that 40% of the rounds played would take advantage of them, while the caddies would be used by no more than 10% of the players, having in mind the mentality of the population. The caddies' fee would be about 10 euros per round. This totals to a 100% of the rounds using certain means of equipment carrying.

The rental fee of the set of clubs, consisting of several clubs, is assumed to be 8 euros, with each player being required to play with her/his own set (a rule most often applied).

An additional assumption is that the number of rounds played will grow by 5% per year in the first 3 years, and by 3% annually in the remaining years of the projected period

The revenues from beverages sold are calculated at the price of 1,3 euros for a drink, being the mean value between the price of the tea (40 denars) and the imported beers (150 denars). The assumption already applied in the projection of the expenses, that each round played means a drink sold at the restaurant, is accepted here, as well.

D) BREAK-EVEN ANALYSIS BASED ON THE DISCOUNTED CASH-FLOW

The analysis shows that on the basis of the assumptions given and a required rate of return of 12% (the cost of land excluded), the project reaches a zero Net-Present Value, or the break-even point in terms of financial feasibility, at the level of 12.200 rounds played in the first year and the above given assumed rates of growth of the demand. The required rate of return is taken as a reasonable expected return in a period when the yield to maturity on government bonds is about 9%, adding a certain percentage as a risk premium.

The reality of achieving this target is subject to estimate by the prospective investor. We will only mention several factors to illustrate this. The table regarding the potential number of rounds played annually shows that even in the worst variant (2 players per round), the maximum possible number of rounds is 46.000. If 90 winter days and 30 days in the most active period are removed from the calculation (due to possible bad weather), again, the maximum potential number of rounds played is 33.000 to 66.000. Therefore, there is no physical constraint on achieving the desired level.

On the other hand, according to certain data, in Israel (one of the countries with lowest interest for golf in Europe), 0,006 rounds per capita are played. Lowered by 30%, in the case of Macedonia, it would correspond to 8.000 rounds played by the domicile population. It is very likely the maximum that can be expected from this population in medium-term perspective. The remaining rounds would have to be expected by the diplomatic and business representatives in our country, as well as by the tourists from the neighbouring and more distant countries.

[6] In many courses it is required that each player using the same cart pays a rental fee.

Taking the same assumptions, for the 9-hole course, a slightly lower break-even point is obtained as a result. Namely, in order to become profitable, the smaller course would be expected to realize almost 11.800 rounds played in the first year, which is mostly a result of the assumed proportion between the fixed and variable costs. However, one should keep in mind that the 9-hole courses are considerably less attractive than the 18-hole facilities, so that the attainability of this break-even point is disputable.

SUPPLEMENT:

FINANCIAL PROJECTIONS FOR THE VARIANTS CONSIDERED

TABLE 1: EXPENSE PROJECTIONS – 18-HOLE FACILITY

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Golf Course Maintenance	**92.013**	**95.663**	**99.468**	**103.433**	**106.536**	**109.732**	**113.024**	**116.415**	**119.908**	**123.505**
Gross Salaries	36.000	37.080	38.192	39.338	40.518	41.734	42.986	44.275	45.604	46.972
Fertilizers and chemicals	18.362	19.280	20.244	21.257	21.894	22.551	23.228	23.924	24.642	25.381
Water	10.000	10.300	10.609	10.927	11.255	11.593	11.941	12.299	12.668	13.048
Equipment repair and maintenance	7.155	7.513	7.888	8.283	8.531	8.787	9.051	9.322	9.602	9.890
Fuel	1.500	1.545	1.591	1.639	1.688	1.739	1.791	1.845	1.900	1.957
Seed and sod	5.129	5.385	5.654	5.937	6.115	6.299	6.488	6.682	6.883	7.089
Course and irrigation repair	1.900	1.995	2.094	2.199	2.265	2.333	2.403	2.475	2.549	2.626
Course landscaping	1.203	1.263	1.326	1.393	1.434	1.477	1.522	1.567	1.614	1.663
Other	10.764	11.302	11.867	12.461	12.835	13.220	13.616	14.025	14.445	14.879
Golf Operations	**46.487**	**48.151**	**49.879**	**51.673**	**53.223**	**54.819**	**56.464**	**58.158**	**59.903**	**61.700**
Gross salaries	28.500	29.355	30.236	31.143	32.077	33.039	34.030	35.051	36.103	37.186
Cart repair and maintenance	4.500	4.635	4.774	4.917	5.065	5.217	5.373	5.534	5.700	5.871
Other	13.487	14.161	14.869	15.613	16.081	16.563	17.060	17.572	18.099	18.642
Cafeteria Operations	**15.700**	**16.293**	**16.910**	**17.552**	**18.078**	**18.621**	**19.179**	**19.755**	**20.347**	**20.958**
Gross salaries	9.600	9.888	10.185	10.490	10.805	11.129	11.463	11.807	12.161	12.526
Restaurant supplies	6.100	6.405	6.725	7.062	7.273	7.492	7.716	7.948	8.186	8.432
Other Expenses	**179.420**	**181.430**	**183.500**	**185.633**	**187.829**	**190.091**	**192.422**	**194.822**	**197.294**	**199.840**
Gross salaries	30.000	30.900	31.827	32.782	33.765	34.778	35.822	36.896	38.003	39.143
Marketing	15.000	15.450	15.914	16.391	16.883	17.389	17.911	18.448	19.002	19.572
Depreciation	112.420	112.420	112.420	112.420	112.420	112.420	112.420	112.420	112.420	112.420
Insurance	20.000	20.600	21.218	21.855	22.510	23.185	23.881	24.597	25.335	26.095
Building maintenance	2.000	2.060	2.122	2.185	2.251	2.319	2.388	2.460	2.534	2.610
TOTAL EXPENSES	**333.619**	**341.537**	**349.757**	**358.290**	**365.666**	**373.264**	**381.089**	**389.149**	**397.451**	**406.002**

TABLE 2: REVENUE PROJECTIONS– 18-HOLE FACILITY

	Number of rounds played per year									
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
No. of rounds - total	12.200	12.810	13.451	14.123	14.547	14.983	15.433	15.896	16.372	16.864
No. of rounds - Mon-Fri	4.880	5.124	5.380	5.649	5.819	5.993	6.173	6.358	6.549	6.745
No. of rounds - Weekends	7.320	7.686	8.070	8.474	8.728	8.990	9.260	9.537	9.823	10.118

Revenues:

	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Green fee revenues	402.600	422.730	443.867	466.060	480.042	494.443	509.276	524.554	540.291	556.500
Cart rentals	61.000	64.050	67.253	70.615	72.734	74.916	77.163	79.478	81.862	84.318
Trolley rentals	19.520	20.496	21.521	22.597	23.275	23.973	24.692	25.433	26.196	26.982
Equipment rentals	122.000	128.100	134.505	141.230	145.467	149.831	154.326	158.956	163.725	168.636
Caddy rentals	12.200	12.810	13.451	14.123	14.547	14.983	15.433	15.896	16.372	16.864
Cafeteria revenues	15.860	16.653	17.486	18.360	18.911	19.478	20.062	20.664	21.284	21.923
TOTAL REVENUES	**633.180**	**664.839**	**698.081**	**732.985**	**754.975**	**777.624**	**800.952**	**824.981**	**849.731**	**875.222**

TABLE 3: PROJECTED INCOME STATEMENT – 18-HOLE FACILITY

ITEMS	Projected operation period									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1. Total revenues	**633.180**	**664.839**	**698.081**	**732.985**	**754.975**	**777.624**	**800.952**	**824.981**	**849.731**	**875.222**
Green fee revenues	402.600	422.730	443.867	466.060	480.042	494.443	509.276	524.554	540.291	556.500
Cart rentals	61.000	64.050	67.253	70.615	72.734	74.916	77.163	79.478	81.862	84.318
Trolley rentals	19.520	20.496	21.521	22.597	23.275	23.973	24.692	25.433	26.196	26.982
Equipment rentals	122.000	128.100	134.505	141.230	145.467	149.831	154.326	158.956	163.725	168.636
Caddie rentals	12.200	12.810	13.451	14.123	14.547	14.983	15.433	15.896	16.372	16.864
Cafeteria revenues	15.860	16.653	17.486	18.360	18.911	19.478	20.062	20.664	21.284	21.923
2. Less expenses	**333.619**	**341.537**	**349.757**	**358.290**	**365.666**	**373.264**	**381.089**	**389.149**	**397.451**	**406.002**
Golf course maintenance	92.013	95.663	99.468	103.433	106.536	109.732	113.024	116.415	119.908	123.505
Golf course operations	46.487	48.151	49.879	51.673	53.223	54.819	56.464	58.158	59.903	61.700
Cafeteria expenses	15.700	16.293	16.910	17.552	18.078	18.621	19.179	19.755	20.347	20.958
Other expenses	32.000	32.960	33.949	34.967	36.016	37.097	38.210	39.356	40.537	41.753
GROSS PROFIT MARGIN	**299.561**	**323.302**	**348.324**	**374.695**	**389.308**	**404.360**	**419.863**	**435.832**	**452.279**	**469.220**
3. Less fixed expenses										
Depreciation	112.420	112.420	112.420	112.420	112.420	112.420	112.420	112.420	112.420	112.420
Marketing	15.000	15.450	15.914	16.391	16.883	17.389	17.911	18.448	19.002	19.572
Insurance	20.000	20.600	21.218	21.855	22.510	23.185	23.881	24.597	25.335	26.095
EARNINGS BEFORE INTEREST AND TAXES	**152.141**	**174.832**	**198.773**	**224.029**	**237.495**	**251.365**	**265.651**	**280.366**	**295.522**	**311.133**
4. Less financial expenses (interest)										
GROS PROFIT	**152.141**	**174.832**	**198.773**	**224.029**	**237.495**	**251.365**	**265.651**	**280.366**	**295.522**	**311.133**
5. Profit tax	22.821	26.225	29.816	33.604	35.624	37.705	39.848	42.055	44.328	46.670
NET INCOME	**129.320**	**148.607**	**168.957**	**190.425**	**201.871**	**213.661**	**225.804**	**238.311**	**251.194**	**264.463**

TABLE 4: DISCOUNTED CASH FLOW STATEMENT – 18-HOLE FACILITY

Discount rate **= 12%** No. of rounds in the 1st year **= 12.200**

ITEMS	Construction period		Operations period									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
I. Total cash inflows	**0**	**0**	**633.180**	**664.839**	**698.081**	**732.985**	**754.975**	**777.624**	**800.952**	**824.981**	**849.731**	**5.049.765**
1. Sales revenues			402.600	422.730	443.867	466.060	480.042	494.443	509.276	524.554	540.291	556.500
2. Other revenues			230.580	242.109	254.214	266.925	274.933	283.181	291.676	300.427	309.439	318.723
3. Residual value												4.174.543
II. Total cash outflows	**2.000.000**	**1.495.840**	**268.422**	**280.876**	**293.868**	**307.422**	**317.758**	**328.404**	**339.369**	**350.663**	**362.295**	**374.277**
4. Fixed investments												
- Fixed assets	2.000.000	816.200										
- Start-up expenses		47.000										
5. Working capital investments		50.000										
6. Contingencies (20%)		582.640										
7. Operational expenses:												
Golf course maintenance			92.013	95.663	99.468	103.433	106.536	109.732	113.024	116.415	119.908	123.505
Golf course operations			46.487	48.151	49.879	51.673	53.223	54.819	56.464	58.158	59.903	61.700
Cafeteria expenses			15.700	16.293	16.910	17.552	18.078	18.621	19.179	19.755	20.347	20.958
Other expenses			67.000	69.010	71.080	73.213	75.409	77.671	80.002	82.402	84.874	87.420
8. Profit tax			22.821	26.225	29.816	33.604	35.624	37.705	39.848	42.055	44.328	46.670
9. Contingencies (10%)			24.402	25.534	26.715	27.947	28.887	29.855	30.852	31.878	32.936	34.025
III. Surplus or deficit (I-II)	**-2.000.000**	**-1.495.840**	**364.758**	**383.963**	**404.213**	**425.563**	**437.217**	**449.220**	**461.584**	**474.318**	**487.435**	**4.675.488**

Basic investment criteria:

NPV = 10.083

IRR = 12,05%

TABLE 5: EXPENSE PROJECTIONS – 9-HOLE FACILITY

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Golf Course Maintenance	**60.042**	**62.462**	**64.986**	**67.617**	**69.646**	**71.735**	**73.887**	**76.104**	**78.387**	**80.739**
Gross Salaries	21.600	22.248	22.915	23.603	24.311	25.040	25.792	26.565	27.362	28.183
Fertilizers and chemicals	12.764	13.402	14.072	14.776	15.219	15.676	16.146	16.631	17.129	17.643
Water	6.000	6.180	6.365	6.556	6.753	6.956	7.164	7.379	7.601	7.829
Equipment repair and maintenance	4.974	5.222	5.483	5.758	5.930	6.108	6.291	6.480	6.675	6.875
Fuel	1.500	1.545	1.591	1.639	1.688	1.739	1.791	1.845	1.900	1.957
Seed and sod	3.565	3.743	3.931	4.127	4.251	4.378	4.510	4.645	4.784	4.928
Course and irrigation repair	1.320	1.386	1.456	1.529	1.574	1.622	1.670	1.720	1.772	1.825
Course landscaping	836	878	922	968	997	1.027	1.058	1.090	1.122	1.156
Other	7.482	7.856	8.249	8.662	8.922	9.189	9.465	9.749	10.041	10.343
Golf Operations	**40.875**	**42.289**	**43.754**	**45.274**	**46.632**	**48.031**	**49.472**	**50.956**	**52.485**	**54.059**
Gross salaries	27.000	27.810	28.644	29.504	30.389	31.300	32.239	33.207	34.203	35.229
Cart repair and maintenance	4.500	4.635	4.774	4.917	5.065	5.217	5.373	5.534	5.700	5.871
Other	9.375	9.844	10.336	10.853	11.178	11.514	11.859	12.215	12.581	12.959
Cafeteria Operations	**15.500**	**16.083**	**16.689**	**17.320**	**17.840**	**18.375**	**18.926**	**19.494**	**20.079**	**20.681**
Gross salaries	9.600	9.888	10.185	10.490	10.805	11.129	11.463	11.807	12.161	12.526
Restaurant supplies	5.900	6.195	6.505	6.830	7.035	7.246	7.463	7.687	7.918	8.155
Other Expenses	**139.800**	**141.810**	**143.880**	**146.013**	**148.209**	**150.471**	**152.802**	**155.202**	**157.674**	**160.220**
Gross salaries	30.000	30.900	31.827	32.782	33.765	34.778	35.822	36.896	38.003	39.143
Marketing	15.000	15.450	15.914	16.391	16.883	17.389	17.911	18.448	19.002	19.572
Depreciation	72.800	72.800	72.800	72.800	72.800	72.800	72.800	72.800	72.800	72.800
Insurance	20.000	20.600	21.218	21.855	22.510	23.185	23.881	24.597	25.335	26.095
Building maintenance	2.000	2.060	2.122	2.185	2.251	2.319	2.388	2.460	2.534	2.610
TOTAL EXPENSES	**256.217**	**262.644**	**269.310**	**276.224**	**282.327**	**288.612**	**295.087**	**301.755**	**308.624**	**315.699**

TABLE 6: REVENUE PROJECTIONS – 9-HOLE FACILITY

	Number of rounds played per year									
	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
No. of rounds - total	11.800	12.390	13.010	13.660	14.070	14.492	14.927	15.374	15.836	16.311
No. of rounds - Mon-Fri	4.720	4.956	5.204	5.464	5.628	5.797	5.971	6.150	6.334	6.524
No. of rounds - Weekends	7.080	7.434	7.806	8.196	8.442	8.695	8.956	9.225	9.501	9.786

Revenues:

	2008	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Green fee revenues	271.400	284.970	299.219	314.179	323.605	333.313	343.312	353.612	364.220	375.147
Cart rentals	35.400	37.170	39.029	40.980	42.209	43.476	44.780	46.123	47.507	48.932
Trolley rentals	14.160	14.868	15.611	16.392	16.884	17.390	17.912	18.449	19.003	19.573
Equipment rentals	94.400	99.120	104.076	109.280	112.558	115.935	119.413	122.995	126.685	130.486
Caddy rentals	9.440	9.912	10.408	10.928	11.256	11.593	11.941	12.300	12.669	13.049
Cafeteria revenues	15.340	16.107	16.912	17.758	18.291	18.839	19.405	19.987	20.586	21.204
TOTAL REVENUES	**440.140**	**462.147**	**485.254**	**509.517**	**524.803**	**540.547**	**556.763**	**573.466**	**590.670**	**608.390**

TABLE 7: PROJECTED INCOME STATEMENT – 9-HOLE FACILITY

ITEMS	Projected operation period									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1. Total revenues	**440.140**	**462.147**	**485.254**	**509.517**	**524.803**	**540.547**	**556.763**	**573.466**	**590.670**	**608.390**
Green fee revenues	271.400	284.970	299.219	314.179	323.605	333.313	343.312	353.612	364.220	375.147
Cart rentals	35.400	37.170	39.029	40.980	42.209	43.476	44.780	46.123	47.507	48.932
Trolley rentals	14.160	14.868	15.611	16.392	16.884	17.390	17.912	18.449	19.003	19.573
Equipment rentals	94.400	99.120	104.076	109.280	112.558	115.935	119.413	122.995	126.685	130.486
Caddie rentals	9.440	9.912	10.408	10.928	11.256	11.593	11.941	12.300	12.669	13.049
Cafeteria revenues	15.340	16.107	16.912	17.758	18.291	18.839	19.405	19.987	20.586	21.204
2. Less expenses	**256.217**	**262.644**	**269.310**	**276.224**	**282.327**	**288.612**	**295.087**	**301.755**	**308.624**	**315.699**
Golf course maintenance	60.042	62.462	64.986	67.617	69.646	71.735	73.887	76.104	78.387	80.739
Golf course operations	40.875	42.289	43.754	45.274	46.632	48.031	49.472	50.956	52.485	54.059
Cafeteria expenses	15.500	16.083	16.689	17.320	17.840	18.375	18.926	19.494	20.079	20.681
Other expenses	32.000	32.960	33.949	34.967	36.016	37.097	38.210	39.356	40.537	41.753
GROSS PROFIT MARGIN	**183.923**	**199.503**	**215.945**	**233.293**	**242.476**	**251.934**	**261.676**	**271.711**	**282.046**	**292.691**
3. Less fixed expenses										
Depreciation	72.800	72.800	72.800	72.800	72.800	72.800	72.800	72.800	72.800	72.800
Marketing	15.000	15.450	15.914	16.391	16.883	17.389	17.911	18.448	19.002	19.572
Insurance	20.000	20.600	21.218	21.855	22.510	23.185	23.881	24.597	25.335	26.095
EARNINGS BEFORE INTEREST AND TAXES	**76.123**	**90.653**	**106.013**	**122.248**	**130.283**	**138.560**	**147.084**	**155.865**	**164.909**	**174.224**
4. Less financial expenses (interest)										
GROS PROFIT	**76.123**	**90.653**	**106.013**	**122.248**	**130.283**	**138.560**	**147.084**	**155.865**	**164.909**	**174.224**
5. Profit tax	11.418	13.598	15.902	18.337	19.542	20.784	22.063	23.380	24.736	26.134
NET INCOME	**64.705**	**77.055**	**90.111**	**103.911**	**110.741**	**117.776**	**125.022**	**132.485**	**140.173**	**148.091**

TABLE 8: DISCOUNTED CASH FLOW STATEMENT – 9-HOLE FACILITY

Discount rate **= 12%** No. of rounds in the 1st year = **12.100**

ITEMS	Construction period		Operations period									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
I. Total cash inflows	**0**	**0**	**440.140**	**462.147**	**485.254**	**509.517**	**524.803**	**540.547**	**556.763**	**573.466**	**590.670**	**3.212.177**
1. Sales revenues			271.400	284.970	299.219	314.179	323.605	333.313	343.312	353.612	364.220	375.147
2. Other revenues			168.740	177.177	186.036	195.338	201.198	207.234	213.451	219.854	226.450	233.243
3. Residual value												2.603.787
II. Total cash outflows	**1.000.000**	**1.190.000**	**214.319**	**223.786**	**233.653**	**243.937**	**251.976**	**260.256**	**268.784**	**277.569**	**286.616**	**295.936**
4. Fixed investments												
- Fixed assets	1.000.000	750.000										
- Start-up expenses		25.000										
5. Working capital investments		50.000										
6. Contingencies (20%)		365.000										
7. Operational expenses:												
Golf course maintenance			60.042	62.462	64.986	67.617	69.646	71.735	73.887	76.104	78.387	80.739
Golf course operations			40.875	42.289	43.754	45.274	46.632	48.031	49.472	50.956	52.485	54.059
Cafeteria expenses			15.500	16.083	16.689	17.320	17.840	18.375	18.926	19.494	20.079	20.681
Other expenses			67.000	69.010	71.080	73.213	75.409	77.671	80.002	82.402	84.874	87.420
8. Profit tax			11.418	13.598	15.902	18.337	19.542	20.784	22.063	23.380	24.736	26.134
9. Contingencies (10%)			19.484	20.344	21.241	22.176	22.907	23.660	24.435	25.234	26.056	26.903
III. Surplus or deficit (I-II)	**-1.000.000**	**-1.190.000**	**225.821**	**238.361**	**251.602**	**265.580**	**272.827**	**280.291**	**287.979**	**295.897**	**304.054**	**2.916.241**

Basic investment criteria:

NPV = 13.808

IRR = 12,10%

TABLE 9: TOTAL POSSIBLE NUMBER OF ROUNDS

		In season (21/03 - 15/11)			Out-of-season (16/11 - 20/03)			TOTAL
		Mon-Fri	Weekend		Mon-Fri	Weekend		
Number of days		140	68			36		244
Tee time intervals (in minutes)		10	10		10	10		
Tee times per hour		6	6		6	6		
Hours per day		12	12	(8-20)	8	8	(10-18)	
Tee times available per day		72	72		48	48		
Players per tee time	**2**							
Course capacity: number of daily players		144	144		96	96		
Total annual players		20160	9792		0	3456		33408
Players per tee time	**3**							
Course capacity: number of daily players		216	216		144	144		
Total annual players		30240	14688		0	5184		50112
Players per tee time	**4**							
Course capacity: number of daily players		288	288		192	192		
Total annual players		40320	19584		0	6912		66816

3. RISK ANALYSIS

The risk analysis is necessary in order to obtain a clearer picture of the possible efficiency of the project under the unpredictable future conditions. Namely, the financial feasibility analysis of the project, regardless of the quality of the applied methodology, is performed in a present situation, while its projections spread 5, 10 or more years into the future. Since nobody is able to predict the future conditions with certainty, nor to guarantee for the accuracy of the initial assumptions, risk analysis becomes an inevitable step in the process of project appraisal, i.e. the uncertainty of the future events takes its appropriate place in the process of making the final decision about the future of the project.

To that end, we have used the technique known as sensitivity analysis, which serves the purpose of analysing the impact that a certain change in any of the key variables of the project will have on the project's financial outcome, measured by the net-present value or the internal rate of return of the project. Taking into account the specific approach we have taken in the analysis, based on the minimal number of rounds played as a measure of the project's feasibility, only this variable is analysed in the classical way, while all other analysed variables are analysed with respect to their impact on the break-even point. In doing this, we have concentrated ourselves on the following variables:

- the number of rounds played (in the first year);
- the impact of including the value of land;
- the discount rate (required rate of return);
- the amount of initial investment.

Almost all other elements and assumptions are either linked to the level of revenues or they are empirically based parameters, internationally accepted, so, we assume that their possible divergence from their base values could not be of such extent to have a crucial impact on the feasibility of the project.

The results of the sensitivity analysis are given below:

Number of rounds played in the first year	9 holes		18 holes	
	NPV (12%)	IRR	NPV (12%)	IRR
10.000	-432.250	8,48%	-766.208	8,16%
11.000	-179.861	10,60%	-413.349	10,01%
12.000	72.528	12,54%	-60.489	11,72%
13.000	324.917	14,34%	292.370	13,31%
14.000	577.306	16,02%	645.230	14,80%

Value of land (EUR)	Minimal number of rounds (in the 1st year) required to break-even	
	9 holes	18 holes
0	*11.800*	*12.200*
250.000	12.700	12.900
500.000	13.600	13.500
1.000.000	15.500	14.900
1.500.000	17.300	16.200
2.000.000	19.200	17.500

Rate of discount	Minimal number of rounds (in the 1st year) required to break-even	
	9 holes	18 holes
8%	8.800	8.800
10%	10.200	10.400
12%	*11.800*	*12.200*
14%	13.300	14.000
16%	14.900	15.900

Initial investment (% change compared to estimated amount)	Minimal number of rounds (in the 1st year) required to break-even	
	9 holes	18 holes
-20%	10.100	10.300
-10%	10.900	11.300
0	*11.800*	*12.200*
+10%	12.600	13.200
+20%	13.400	14.100

The sensitivity analysis confirms the great importance of demand, i.e. the number of rounds played for the project's success. Therefore, the prospective investor is supposed to pay lot of attention to explore the attainability of this magnitude. The level of the rate of discount (the required rate of return) and the amount of initial investments also reflect the expected relationship with the Net-Present Value as a criterion and the required minimal number of rounds, but no explicit conclusions can be drawn in absence of a particular investor and an architectural design of the project.

The most valuable conclusion from the sensitivity analysis concerns the value of land. It is obvious that the inclusion of the value of land is a determinant with an extremely high impact on the total feasibility of the project, so that our attention in defining the possible forms of partnership between the public and the private sector will concentrate on this variable.

Another crucial factor, not being mentioned here is the availability and the cost of irrigation water. The analysis has shown that the issue of providing irrigation water in Struga will have to be dealt with on an individual basis. It means that the cost of water is, in fact, determined by the value of the investment and the annual cost of electricity for the operation of the pump station and/or the wells. The sensitivity analysis has shown a negligible impact of this variable on the feasibility of the project, so that this segment is not given here.

Certainly, before making the final decision regarding the project, the investor and the municipality, as well, have the possibility of analysing the influence of other project variables, individually or grouped in scenarios, which is very simple today by using appropriate software.

4. QUALITATIVE COST-BENEFIT ANALYSIS

Introduction

Cost-benefit analysis is an approach to the analysis of investment projects which is aimed at assessing their acceptability from a special, social point of view. Namely, unlike the traditional financial project appraisal, embodied in the feasibility study of the project and incorporating the financial inflows and outflows as felt by the investor himself, the cost-benefit analysis or the economic analysis analyses the proposed project from a wider, social perspective. The objective of this approach is to analyse all the social impacts of the project, i.e. the total social costs and benefits of its implementation, regardless of the bearer and the beneficiary, and on the basis of the estimated net-impact, to make the decision on the acceptability of the project from the social point of view. This approach is supposed to provide the public policy-makers with an understanding of the extent to which the project contributes to the achievement of the goals of the society. Cost-benefit analysis is most often implemented in the public sector projects and programs, as well as in the projects which, by their very nature, are subject to special permits by the state or the local authorities.

A) DESCRIPTION AND SCOPE OF THE ANALYSIS

The cost-benefit analysis as an approach has several modifications. As a project team, we were asked to prepare a qualitative cost-benefit analysis, which is the simplest, descriptive method of incorporating the project's social implications, without valuation of the impacts and without being able to result in an aggregate monetary measure of the social acceptability of the project. The objective of the task formulated in this manner is to provide the municipal authorities with additional information regarding the significance of the project for the municipality as a whole and thus serve as a basis for decision-making about the possible support by the authorities or about providing the necessary permits.

Namely, when deciding about projects with more significant social implications, it is necessary to have this additional information available, since the financial net-impact from the project can differ considerably from its social net-impact. If the social net-impact of the project is positive and the individual net-benefit is negative from the investor's point of view, the project could be made more attractive for the private investor by offering him some kind of privileges. On the other hand, if the case is opposite, the analysis would provide the decision-makers with a signal that they should be cautious in delivering the necessary permits, since the social net-benefit from the project is negative.

Because of the qualitative method of the study, in this case no such explicit assessment will be made of the differences in the net-impacts between the two approaches of the appraisal. However, through the identification of the potential positive and negative social impacts, we expect the study to result in a much more useful basis needed for decision-making at local level than what it would be possible to have without it.

A two-scenario analysis. Throughout the world, the development of golf courses is realized through projects implemented by private investors, municipal authorities, as a partnership between the private and the public sector, as well as in other types of ownership (military courses, hotel resort courses, private membership clubs, etc.).

For the purposes of the analysis it will be necessary to define the investor, although this issue is still open, because the identification of the positive and negative impacts largely depends on the subject investing the money and receiving the project revenues. In this case, we will analyse two scenarios: first, a private investor scenario and second, the municipality as an investor. The remaining part of the study will illustrate the differences in the outcomes between the two scenarios.

Definition of the standing of the analysis. It has already been mentioned that cost-benefit analysis is an approach which takes into consideration the impacts of the projects and programs from social point of view. The practical application of this approach begins with the question: how do we define society? In other words, what serves as a represent of the society in the given situation, i.e. what is the geographical boundary of the project's expected impacts? It could be the municipality, the state, but also the wider region.

In this case, we consider it most appropriate to take the standing of the local authorities, meaning that the analysis will incorporate the positive and the negative impacts of the project within the municipality. This approach is supported by the following arguments:

- the significance of the analysed project is mostly at the local level from the point of view of its positive and negative impacts, further to be identified;
- this is a kind of project which is most often supported by the local authorities;
- the initiator of the study – LGSHED unit of UNDP is mostly concerned with local development.

However, a serious problem is posed by the relatively small territory of the municipality as a territorial unit and the high level of impact spillover in the neighbouring municipalities and even countries. As shown below, for a great deal of the impacts, it will be impossible to determine their local component, since by their very nature, their significance is statewide. Because of this, the preparation of a parallel study from the national standpoint could be a useful alternative (which is not a double effort, since some activities are overlapping), but it would inevitably increase the cost of the analysis.

Accordingly, in order to define the scope of the project task, we can summarize that a qualitative cost-benefit analysis will be prepared, without trying to put monetary values on the various projects impacts, taking the standpoint of the municipality and analyzing the impacts within its boundaries through the analysis of two scenarios: a private and a public investment in the golf course.

B) IDENTIFICATION OF THE WIDER SOCIAL IMPACTS OF A GOLF COURSE PROJECT

The analysis has shown that the most significant social impacts that such a project can generate are as follows:

- **increased employment**, either directly, in the project, or indirectly, as employment in the related sectors;
- **multiplicating economic impacts**;
- **recreational opportunity**;
- **environmental impacts**;
- **fiscal impacts**;

- **foreign currency impacts**;
- **attraction of new investors and entrepreneurs**;
- **changes in the property prices**, etc.

Apart from the above, very important impacts that such a project may generate could come as a result of the **vast consumption of water** and the **use of very large land parcels**. The last two impacts are not treated a separate items in cost-benefit analysis, since they have already been included in the feasibility study, as a use of resources. Their incorporation in cost-benefit analysis is performed through a specific valuation, which is supposed to reflect their through social value as resources. Therefore, these two impacts will be considered in the analysis of the two abovementioned scenarios, as well as in the part concerned with the analysis of project's risk and the risk factors.

The aforementioned impacts will be elaborated in more detail below.

The **increased employment** is an impact represented by the number of people employed directly by the golf course, or indirectly, in the related business sectors, but being undoubtedly induced by the golf course operations. Although in periods of considerable unemployment this impact becomes increasingly significant, in this case it will not have a dramatic impact on the reduction of the unemployment in the municipality, since the course itself is not expected to engage more than 20 people. However, this impact may be increased to a certain extent by the employment induced in the businesses related to the golf course, such as tourism, catering, homemade handicraft products, transportation of passengers, etc. Of course, the size of this induced employment will depend on the successful operation of the golf course. Besides, the extent of the additional employment is difficult to estimate.

Nevertheless, in a quantified appraisal, the inclusion of this impact may considerably affect the social acceptability of the project, since the amount of the projected salaries in the feasibility study is about 100.000 EUR annually.

The **multiplicating economic impacts** are a result of the links existing among different economic sectors, both upstream and downstream. These impacts refer to additional financial inflows in various business sectors, induced by the golf course development, and not requiring additional investments in these sectors. They include the impacts in the sectors already mentioned, such as tourism, catering, trade, homemade handicraft products, production and sale of souvenirs and golf apparel, transportation of passengers, etc. The impacts are called multiplicating because the initial expenditures made by the tourists result in a higher level of revenues than the initial expense. Namely, if a certain amount is expended by the tourists in, for instance, catering, a part of that amount will enter the trading cycle again, such as in the form of new supplies for the catering companies or in the form of personal consumption of their owners and employees (the increased incomes will generate additional consumption). Afterwards, the economic agents receiving these inflows will bring them back into the trade and so forth, thus multiplying the initial impact. As an illustration, according to the empirical data, the so-called golf-tourists spend 40% more than the average tourists.

Two business sectors deserve special attention with respect to the extent of their multiplicating impacts: tourism and civil engineering. The impacts on tourism are a result of the increased attractiveness of the municipality for the visitors, but also they might arise as a result of the more beautiful site which becomes attractive as a location for building weekend houses. On the other hand, the area of civil engineering is another example of a strong multiplication of the initial amount expensed. Unlike the other multiplicating impacts that occur throughout the project's operating

period, the impact from civil engineering will occur in the two years of the construction period and shortly afterwards (and possibly in the following period if an intensified developmental activity is initiated as a result of the golf course). These impacts are, however, very important due to the high value of the initial investment. It is important to note that this impact refers to the value of the domestic component of the construction works, i.e. the portion of the investment outlay that remains in the country (construction workers' wages and salaries, the value of the domestically produced building materials, the leased domestic equipment, etc., but not the salaries of prospective foreign engineers, procured equipment and materials from abroad, etc.). The multiplication occurs, again, as a result of the aforementioned principle of induced spending of the newly created income, going through multiple stages. If the local construction companies are assumed to get the job, the calculation of these impacts would be much easier than if other domestic companies are engaged, due to the spillover of impacts.

The multiplicating impacts will inevitably spread over the neighbouring municipalities, thus making it more difficult to estimate their amount in the municipality of Struga. However, since the other municipalities belong to the same country, sharing the same broader social objectives, this spillover should not be regarded as a problem and its internalization will be discussed in the section devoted to the opportunities for partnership between the public and the private sector.

The recreational opportunities are always considered a positive social impact resulting from the development of sport facilities, parks, etc. The idea is that the new project will satisfy the specific needs of a particular segment of the population, having been unsatisfied so far. The analysis from the point of view of the municipality would include the amount of this impact felt by the local population, while the analysis from the standing point of the country as a whole would incorporate the aggregate impact on the entire population. The methods of its eventual valuation will be discussed below.

The environmental impacts are among the most important impacts resulting from the development of recreational amenities. In the case of a golf course, the experience says that there are both positive and negative environmental impacts. However, today golf courses are increasingly perceived as providers of environmental protection and are being designed to provide an important habitat for wildlife and plant life. Even more important, today's maintenance practices minimize any potential for environmental harm. Today's golf courses provide environmental benefits such as making use of otherwise undesirable land, such as landfills and flood plains.

Among the more important environmental benefits resulting from the existence of a golf course are the following:

1. Scenic beauty (ambiental improvement). A golf course including the usual components (turf, plants, water areas) significantly contributes to the scenic beauty of the landscape in a previously ignored area. The scenic beauty itself is an environmental benefit with an appropriate value.
2. Horticultural arrangement. Golf courses, usually, apart from the turf, are being planted with different kinds of trees, plants and flowers, which, considering the permanent irrigation provides an opportunity for breeding some rear plant species. Taking into account the favourable climate in Struga, this seems to be completely feasible.
3. Noise reduction. The estimates show that the grass can reduce undesirable noise levels by 20 to 30 percent.
4. Air purification. Turfgrass and the plants on the golf course absorb hundreds of tons of sulfur dioxide, carbon dioxide, ozone, hydrogen fluoride and return pure oxygen. The use of electric golf carts additionally contributes to the air purification.
5. Oxygen generation. A 1,3m^2 patch of turfgrass will produce enough oxygen for one person for an entire year.

6. Soil building. Grass is the most effective plant for conditioning the soil as turfgrass roots are continually developing, dying, decomposing and redeveloping.
7. Erosion control. Grass roots help hold the soil in place while the leaves help protect the soil from blowing away.
8. Entrapment of particles. Grassed area lower atmospheric dust significantly, as turfgrass leaves trap the dust and dirt.
9. Temperature modification. Green, growing turfgrass absorbs some of the solar radiation, thus cooling itself and its surroundings and maintaining cooler temperature than the brown grass could.
10. Glare reduction. Glare from artificial surfaces can be a contributor to stress. Turfgrass significantly reduce sunglare.
11. Water purification and conservation. The biology of turfgrass soil makes them a nearly ideal medium for biodegradation of all types of environmental contamination. Water is purified as it leaches through the root zone. Furthermore, soil microbes help break down chemicals, including turf pesticides, into harmless materials. This is especially important for the region of Struga for its contribution to the protection of the Ohrid Lake.
12. Golf course turfgrass, trees, shrubs and water features create and enhance wildlife habitats, thus supporting diverse wildlife, especially insects and birds.

As mentioned, apart from the positive, golf courses are also considered as being a cause of some unfavourable environmental impacts. The most often cited impacts include:

1. Modifications caused to the functioning of local ecosystems and the possible endangering of the habitat of certain animal and plant life. This is especially the case when a forest is supposed to be removed for the purposes of course construction, as well as when huge land excavation and removal is needed for the same purpose.
2. The hydrological effects on surrounding habitats.
3. The potential contamination by fertilizers and pesticides.

The potential water and soil contamination caused by the fertilizers and pesticides is one of the most often cited negative often cited negative environmental effects. A three-year study performed by the Penn State University in USA proves that this fear is not justified, since the chemicals applied to turfgrass are trapped within the rootzones and do not contaminate water supplies.[7] On the contrary, as mentioned above, golf courses purify some of the atmospheric water, thus being net-generators of water in spite of their high consumption of the same resource. On the other hand, new types of pesticides have been created with minimized or totally avoided harmful impact on the environment.

In order to avoid the negative impact on the environment and thus provide the social acceptability of the project, it is necessary to implement certain environmental mitigation measures before proceeding with the realization of the project. The Environmental Strategy for Golf in Europe issued in 1995 by the European Golf Association notes that "Environmental gains are not an automatic consequence of golf development and in all cases there is a need for rigorous, professional investigation of environmental factors to ensure there are no significant deleterious effects".[8] On the other hand, the local authorities are supposed to adopt regulation according to which, the approval of the implementation of large scale projects and projects with more complex environmental effects would be conditioned by the preparation of environmental impact assessment studies.

[7] *Feasibility Study for a Proposed Golf Course Project in Cary, N.C.*, NGF Consulting, June 2002

[8] *An Environmental Strategy for Golf in Europe* (1995), EGA Ecology Unit.

The fiscal impacts of the project appear in the form of new sources of tax revenues for the municipality, being a direct result of the project and which would not occur without the project. This includes the percentage of the personal income tax which, according to the law, remains in the municipality, the appropriate proportion of the value added tax, as well as the property tax if the project is realized on a newly privatised estate. In the private investor scenario, the communal taxes paid for the construction of the project also become fiscal revenue for the municipality. If the land is leased to the investor, the annual rent becomes municipal revenue. Apart from these, some minor revenue sources will arise, such as the tourist tax, etc, but their inclusion is irrelevant.

It is important to note that the treatment of this group of impacts in the study will depend on who is the investor in the project, which will be elaborated in more detail below, in the two-scenario analysis.

The foreign currency effects of a project receive a special attention in countries in which foreign currency is considered a scarce resource, as the case is with Macedonia with its tremendous balance of payment deficit. The foreign currency effects can be both positive and negative. The negative effects arise because of the import of equipment and the use of foreign consultants' services, since no domestic substitute exists for both goods. The positive impacts are due to the increased foreign currency inflows from tourism.

It is much more usual when these impacts are incorporated in analyses made at national level, since their consideration in studies at local level raises at least two problems. The first problem concerns the quantification of the proportion of foreign currency inflows or outflows from the project that belongs to the municipality itself. For instance, if the investor is a resident of another part of the country, the foreign currency outflow should be attributed to that particular region and not to the municipality analysed. Our opinion is that this issue should not be perceived as a problem and that it would be much more realistic if the analysis included the entire amount of the foreign exchange impacts, regardless of their regional distribution, because of the fact that the influence from these impacts is note felt directly within the municipality, but mostly indirectly, through the country's macroeconomic parameters (changes in the exchange rate). Having in mind that one of the objectives at local level is the contribution to the economic development of the country as a whole and the foreign exchange effects of the project are one of the components of this contribution, we believe that its entire amount should be included in the calculations.

The second problem concerns the quantification of these impacts. Although it is a component of other, quantified types of cost-benefit analysis, we find it appropriate to mention here that the total foreign currency effect is not a sum of the total foreign currency inflows and outflows. Namely, the cost of the equipment has already been included and the revenues from tourism have been included as multiplicating impacts. Therefore, their repeated inclusion would create the problem of so-called double counting. Their correct inclusion in the quantification requires quantification of the amount by which the current exchange rate deviates from the level assumed to correspond to what is called objective exchange rate, if such a discrepancy exists at all.[9] However, since this is not a part of our project task, we will not go any deeper into this, but we consider this remark useful in order to avoid the inappropriate impression of the size of this impact.

One of the remaining indirect impacts that such a project might have is its **influence on the value of the property in its surroundings**. Namely, it is realistic to assume the project's influence on the initiation of certain additional activities, such as the abovementioned tourism and catering, but it can also increase the attractiveness of the region as a place to live in or to spend the leisure time, it can stimulate the initiation of accompanying recreational amenities, such as swimming pools, horse

[9] This "objective" level is called a shadow exchange rate.

riding clubs, etc. Because of this, an increased real estate demand may be expected which would inevitably lead to the increase in their values.

Also, in Europe a trend is evident toward increased buying of residential properties and houses in the southern parts of the continent by retired and wealthier persons from the western and the northern European countries. It is very likely that this trend will also reach our country especially if the process of EU accession continues as planned. In the region of Struga this would be mostly influenced by the favourable climate conditions, the natural beauty of the region, the cultural amenities and the airport.

Although the character of these impacts is not certain, basically, it is considered to be positive, since it might lead to increased foreign currency inflows, especially if property owned by the municipality or its residents is sold to people from other regions or countries. The negative side of it is the fact that the higher property prices will lower the ability of the local population to buy property, especially for residential purposes, but the net-impact is expected to be positive. If there is available property in other locations, the problem could be solved by certain movements away from the traditionally popular residential quarters.

Considering the prestigious character of golf as a sport, the existence of a golf course might **attract new investors and a new class of entrepreneurs in the area.** It is well known that there is a connection between the investment locations and the livelihood and leisure conditions, especially among investors and entrepreneurs striving to adjust their way of life to their position in the society. Certainly, although it is not the most important determinant, it might lead to increased investments in the region, especially by those investors willing to move alone or together with their families in the places where they run their businesses.

C) COSTS AND BENEFITS FROM THE PROJECT UNDER BOTH SCENARIOS

The text bellow refers to the costs and benefits of the projects specified by the two abovementioned scenarios: the first, in which the project is implemented by a private investor, and the second, where the municipality itself is the investor. It becomes obvious that the main differences arise in the part of the direct financial inflows and outflows, such as the amount of investments and the operating revenues and expenses, as well as in the project's fiscal impact. The wider social effects are almost the same under both scenarios. It should be noted that the analysis is based on the assumption that the efficiency of the management is the same under both scenarios and the financial efficiency is the same, which is very unlikely to happen in practice.

Scenario 1: Private investor - A survey of costs and benefits

This scenario encompasses the social costs and benefits in a situation when a private company or a person undertakes the role of the investor in the project. Apart from the categorization of the effects, a further step in the analysis is added, by noting the methods of their eventual valuation, which is done in order to obtain an initial idea of the size of these impacts.

Scenario 2: The municipality as investor – A survey of costs and benefits

The table referring to the second scenario depicts the social costs and benefits of the project when it is implemented by the municipality as an investor. It can be observed that, compared to the first scenario, certain differences exist because in this case, the inflows and the outflows from the project's cash flows are included, with the appropriate modifications.

Scenario 1: Private investor - A survey of costs and benefits

Benefits	Quantification and Valuation
1. Recreational benefits	This is a very specific kind of a non-pecuniary benefit, which necessitates the application of specific techniques of valuation. Another problem is the need to separate the proportion of these benefits accruing to the municipality, since the local population creates only a portion of the course users, while most of the remaining users will come from around the country. Anyway, the inclusion of these people in the estimate of this benefit does no harm to the analysis, since the importance of recreation as a contribution to the improved health condition is countrywide. However, the valuation of this benefit could be done through the use of some of the techniques for implicit derivation of the demand curve, due to the nonexistence of a similar facility in the country. The most appropriate method in this regard is the *contingent valuation* method, based on surveying the prospective users of the course. On the basis of this method, the demand curve could be derived and the consumers' surplus could be calculated as the area bellow the curve, being the most appropriate measure of the recreational benefit for the course users.
2. Employment	The impact on increased employment is incorporated in the analysis by using the so-called shadow wage rates, i.e. the shadow price of labour. This is a specific method of valuation of the items in the cost-benefit analysis, which, in the case of labour, reduces to the calculation of the opportunity cost of the labour used in the project. To simplify, we can say that in conditions of high unemployment (being the case in Struga), the opportunity cost of the labour force is minimal, because, otherwise, these people would have remained unemployed. This mostly refers to the low-qualified workers, but not to the management with specific expertise. Therefore, by lowering the cost of labour in the calculations, we are actually emphasizing the positive impact of the project on the community.
3. Multiplicating and complementary impacts	Since these impacts appear in many different economic sectors, their valuation is done through the use of the investment multiplicator and its multiplication with the local component of the amount of investments and other expenses.
4. Positive environmental impacts: - ambiental improvement - horticultural arrangement - air purification - noise reduction - oxygen generation - erosion control, etc.	The environmental impacts are also non-pecuniary by nature. However, the economic science has developed methods of their valuation for the purposes of the project appraisal. For example, the ambiental improvements could be valued by the contingent valuation method, which includes surveys of the local population and the visitors. The air purification, on the other hand, should be first quantified and then, valued through its impact on people's health. The benefits that are either impossible or irrational to value should only be described.
5. Fiscal revenues	The municipal fiscal revenues should be included in their total amount, under the assumption that they would not occur in absence of the project.

5.a. Revenues from the sale (leasing) of land	If the project is implemented by a private investor and the land is sold (leased) to the investor, the proceeds from the sale (leasing), less the amount currently charged as rent, if such, become a specific type of fiscal revenue for the municipality.
6. Foreign currency inflows	In case the foreign currency inflows resulting from the project could be localized (increased number of tourists, eventual additional foreign investments); they would be included in the analysis in the amount by which these inflows differ from their value calculated by using the shadow exchange rate (see footnote 9). This difference, actually, represents the social value of an additional unit of foreign currency.
7. Attracting new investors	This is a group of impacts, the valuation of which is almost impossible, so, they should only be given descriptively in the study.
8. Impact on property values	
9. Enhancing the image and prestige of the community	

Costs	Quantification and Valuation
1. Negative environmental impacts: - modification of the local ecosystems (the need to cut trees, removal of land, etc.) - unfavourable hydrological impacts - soil and land contamination with pesticides	Again, due to the non-pecuniary character of the impacts, they should be valued by the use of specific methods. As soon as it is possible to scientifically estimate the scale of the impacts, it should be done using an interdisciplinary approach. The remaining negative impacts should be given qualitatively.
2. Foreign currency outflows	The foreign currency outflows are a result of the import of foreign equipment in the construction phase. Their valuation should follow the principles explained above in the case of the currency inflows.
3. Use of land for the course	This is a counter-item to the revenues from the sale of land. Since the land used for the course is a specific resource, its use in the project has to be appropriately valued. Regardless of its market value, its value from the social point of view is its opportunity cost, i.e. the benefit from its best alternative use. In the most likely case, if the land is arable, the social value of the land would equal the present value of the projected future revenues from its agricultural usage.
4. Use of irrigation water	The value of the water as a resource needs to be included. Since the capacity of the available water supply systems is insufficient to provide irrigation water for the golf course, an additional investment in a pump station or course's own wells will be needed. The water would be valued according to the cost of the pump station or the wells. This amount will consist of two parts: the value of investment and the annual operating costs. Both parts will have to be valued according to their economic values (e.g. the cost of electricity is not a market category and thus, it does not equal its economic value as a resource).

Scenario 2: The municipality as investor – A survey of costs and benefits

Benefits	Quantification and Valuation
1. Revenues from the project and recreational benefits	These two effects are here integrated because of their specific valuation. Namely, regarding the local users, the revenues from the course should be valued as the difference between the amount they pay and the economic value of the revenues, which is approximately equal to the consumers' surplus. (One must have in mind that municipal courses usually charge the local residents a discounted fee). The revenues from the remaining users should be recorded at their total amount.
2. Employment	The impact on increased employment is incorporated in the analysis by using the so-called shadow wage rates, i.e. the shadow price of labour. This is a specific method of valuation of the items in the cost-benefit analysis, which, in the case of labour, reduces to the calculation of the opportunity cost of the labour used in the project. To simplify, we can say that in conditions of high unemployment (being the case in Struga), the opportunity cost of the labour force is minimal, because, otherwise, these people would have remained unemployed. This mostly refers to the low-qualified workers, but not to the management with specific expertise. Therefore, by lowering the cost of labour in the calculations, we are actually emphasizing the positive impact of the project on the community.
3. Multiplicating and complementary impacts	Since these impacts appear in many different economic sectors, their valuation is done through the use of the investment multiplicator and its multiplication with the local component of the amount of investments and other expenses.
4. Positive environmental impacts: - ambiental improvement - horticultural arrangement - air purification - noise reduction - oxygen generation - erosion control, etc.	The environmental impacts are also non-pecuniary by nature. However, the economic science has developed methods of their valuation for the purposes of the project appraisal. For example, the ambiental improvements could be valued by the contingent valuation method, which includes surveys of the local population and the visitors. The air purification, on the other hand, should be first quantified and then, valued through its impact on people's health. The benefits that are either impossible or irrational to value, should only be described.
5. Foreign currency inflows	In case the foreign currency inflows resulting from the project could be localized (increased number of tourists, eventual additional foreign investments), they would be included in the analysis in the amount by which these inflows differ from their value calculated by using the shadow exchange rate (see footnote 9). This difference, actually, represents the social value of an additional unit of foreign currency.
6. Attracting new investors	This is a group of impacts, the valuation of which is almost impossible, so, they should only be given descriptively in the study.
7. Impact on property values	

8. Enhancing the image and prestige of the community	

Costs	Quantification and Valuation
1. Investments	The amount of the investment outlays is a cost to the municipality and it should be included in the analysis at its economic value.
2. Operating expenses	All the operating expenses of the cash flow now need to be included, since the municipality is the investor who bears them. In this case, they should be revalued, according to their economic value or shadow price. These costs include the cost of labour, as well as the cost of water, elaborated elsewhere in this survey.
3. Negative environmental impacts: - modification of the local ecosystems (the need to cut trees, removal of land, etc.) - unfavourable hydrological impacts - soil and land contamination with pesticides	Again, due to the non-pecuniary character of the impacts, they should be valued by the use of specific methods. As soon as it is possible to scientifically estimate the scale of the impacts, it should be done using an interdisciplinary approach. The remaining negative impacts should be given qualitatively.
4. Foreign currency outflows	The foreign currency outflows are a result of the import of foreign equipment in the construction phase. Their valuation should follow the principles explained above in the case of the currency inflows.
5. Use of land for the course	Since the land used for the course is a specific resource, its use in the project has to be appropriately valued. Regardless of its market value, its value from the social point of view is its opportunity cost, i.e. the benefit from its best alternative use. In the most likely case, if the land is arable, the social value of the land would equal the present value of the projected future revenues from its best alternative, but likely, use in agriculture.
6. Use of irrigation water	The value of the water as a resource needs to be included. Since the capacity of the available water supply systems is insufficient to provide irrigation water for the golf course, an additional investment in a pump station or course's own wells will be needed. The water would be valued according to the cost of the pump station or the wells. This amount will consist of two parts: the value of investment and the annual operating costs. Both parts will have to be valued according to their economic values (e.g. the cost of electricity is not a market category and thus, it does not equal its economic value as a resource).

5. TYPES OF CO-OPERATION BETWEEN THE PUBLIC AND THE PRIVATE SECTOR – PUBLIC-PRIVATE PARTNERSHIPS (PPP)

Public private partnerships (PPPs) are arrangements between government and private sector entities for the purpose of providing public infrastructure, community facilities and related services. Such partnerships are characterized by the sharing of investment, risk, responsibility and reward between the partners. The reasons for establishing such partnerships vary but generally involve the financing, design, construction, operation and maintenance of public infrastructure and services.

The underlying logic for establishing partnerships is that both the public and the private sector have unique characteristics that provide them with advantages in specific aspects of service or project delivery, and the ability to establish complementary relationships based on these strengths.

The roles and responsibilities of the partners may vary from project to project. For example, in some projects, the private sector partner will have significant involvement in all aspects of service delivery, in others, only a minor role.

Public-private partnerships are increasingly being applied in all the areas of public services. If the municipality (the state) considers that there is a need or a public interest in the realisation of a certain project, while some of the vital elements of its efficient implementation are missing, it addresses the private sector in the search for a partner-company that will undertake the implementation of the project, certainly being appropriately awarded for that. The recent worldwide experience shows that the number of types these partnerships can take is almost unlimited. In Table 10, only a selection of the types of PPP considered most appropriate for new ventures in the field of sport and recreation is given.

Type of PPP		Features
1.	**Operations and Maintenance**	The local government contracts with a private partner to operate and maintain a publicly owned facility.
2.	**Design-Build**	The local government contracts with a private partner to design and build a facility that conforms to the standards and performance requirements of the local government. Once the facility has been built, the local government takes ownership and is responsible for the operation of the facility.
3.	**Turnkey Operation**	The local government provides the financing for the project but engages a private partner to design, construct and operate the facility for a specified period of time. Performance objectives are established by the public sector and the public partner maintains ownership of the facility.
4.	**Lease Agreement**	The local government provides the financing for the projects and builds the facility. In order to provide better management, the

		municipality leases the course to a private company, which takes the entire responsibility for all aspects of operating the course, including its maintenance.
5.	**Lease-Purchase**	The local government contracts with the private partner to design, finance and build a facility to provide a public service. The private partner then leases the facility to the local government for a specified period after which ownership vests with the local government. This approach can be taken where local government requires a new facility or service but may not be in a position to provide financing.
6.	**Management Contract (Personal Services Contract)**	In this scenario, the municipality retains ownership and has ultimate authority over the golf course. However, a management company (or a person) is hired, in order to provide efficient management over the course. The management company is usually compensated through a combination of flat fee and a percentage of revenue. This option is very similar to the lease, although the municipality has more financial risk, but stands to gain more in revenue.
7.	**Build-Transfer-Operate**	The local government contracts with a private partner to finance and build a facility. Once completed, the private partner transfers ownership of the facility to the local government. The local government then leases the facility back to the private partner under a long-term lease during which the private partner has an opportunity to recover its investment and a reasonable rate of return.
8.	**Build-Own- Operate-Transfer**	The private developer obtains exclusive franchise to finance, build, operate, maintain, manage and collect user fees for a fixed period to amortize investment. At the end of the franchise, title reverts to a public authority.
9.	**Build-Own-Operate**	The local government contracts with a private partner to build, own and operate a new facility in perpetuity. The private partner generally provides the financing.

Table 10: Types of Public-Private Partnerships

All of the aforementioned types have its own strengths and weaknesses and certain degree of applicability in a given situation. Being acquainted with them is necessary in order to select the most appropriate type.

For instance, in the cases where the municipality retains ownership over the course, its financial outlays increase due to the need to provide financing for the initial investment, to pay the salaries of the employees of the course, as well as other expenses, than, the interest of the private contractor is limited in time which might affect the quality of maintenance, etc. Among the disadvantages of the transfer of ownership into private hands, on the other hand, are the possible loss of identification of the town with the golf course to a certain extent, the

complicated process of negotiation with the private partners and the problems arising if a contract is to be canceled, the limited financial power of private contractors in some cases, etc.

Apart from the abovementioned variants, in practice, it is possible to combine elements from the different types of PPP, as well as to combine other possible methods of co-operation between the public and the private sector. In order to provide an efficient partnership, the following requirements must be met:

1. The public sector, i.e. the local authorities should have a clear picture of the social benefit from the realisation of the proposed project.
2. A clear indication is needed that the implementation or the management of the project by the private sector is the more efficient, or the only available option, due to financial, technical, political or other reasons.
3. The financial profitability of the project for the private investor is either too low or uncertain without appropriate support by the public sector.
4. A defined legal framework for such partnership exists.
5. In the partnership agreement all the elements should be precisely defined, in order to avoid possible departures from the established framework for co-operation.

CONCLUSIONS AND RECOMMENDATIONS

The qualitative cost-benefit analysis and the incorporated provisional feasibility study, although having been done for a model instead of a specified golf course, still provide the opportunity to draw some relevant conclusions. We must emphasize that, as analysts, we want to maintain a neutral position regarding the eventual forthcoming solutions and the further steps to be initiated by this study, so that, we would like the conclusions presented below to be understood more as a kind of a summary of the study, rather than as our recommendations. Most of all, they represent an attempt to emphasize certain findings that we as analysts have come to, but that could not be included in the study or we assume that they have not been accentuated enough therein. As always, the final decisions and the further steps remain an exclusive right of the initiator and the users of the study.

1. The provisional feasibility study provides information regarding the approximate amount of investments needed under both variants of golf courses (exclusive of the cost of land), as well as regarding the minimal required number of rounds to be played for the project to break even. There still remains a need to explore if there is a potential investor ready to invest the estimated amount, as well as to assess if the required number of rounds is attainable.

2. The qualitative cost-benefit analysis provides a specification of the expected wider impacts that such a project might have on the entire community. It is obvious that the positive impacts are numerous and they very likely exceed the corresponding negative impacts. However, there is still an opportunity a more detailed cost-benefit study to be made in which most of the impacts would be valued and an aggregate value of the social net-benefit from the project would be derived.

3. Regarding the opportunities for partnership between the private and the public sector, it is necessary to define first the type of ownership over the prospective golf course. The two most realistic options are the public and the private ownership. In both cases, there is a scope for partnership. However, there are several reasons because of which the public (municipal) ownership is deemed hardly feasible and economically irrational:

- the initial investment requires a considerable financial outlay that could hardly be provided and justified as a priority by the municipality;
- the municipality lacks any experience in running such a facility;
- the past experience with public ownership in our country gives little reason to believe that successful operation of the project could be provided in this case.

Because of these and other reasons, we consider it most appropriate if the golf course could be realised as a private venture, with an appropriate participation by the municipality.

4. The sensitivity analysis has shown the extent of the influence of the cost of land on the project's feasibility. For instance, in the case of the 18-hole course, the inclusion of the land costing 1.000.000 EUR increases the minimal required number of rounds in the first year by 20%. This level of risk indicates that a possible option for a partnership between the private and the public sector would be a contract by which, the municipality (the state) would provide the

investor the right to use the lend free of charge or with a minimal lease fee in a longer term, thus making the project more acceptable and less risky. Certainly, a firm contract defining the obligations and the limitations of the investor regarding the use of the land would be required.

5.Another option for the municipality to stimulate the implementation of the project is to provide financing for a part of the project's infrastructure needs up to the project's boundaries, such as the electricity connection, water connection, access road, eventually to provide him with a concession for use of water under favourable terms, etc.

6. Since, as mentioned, a part of the favourable external impacts will spill over in the neighbouring municipalities, it is reasonable to consider the opportunity for their mutual co-operation in the PPP. This way, each of them could contribute to the project's implementation.

7. One of the common incentives provided to developers of golf courses is to award them with a building permit for a residential complex or a hotel (near the golf course, but not necessarily). This type of incentives must be used with a caution that the developer might abuse the building permit and disregard the golf course development (Israeli experience).

At the end, again we would emphasize that the study and its conclusions still provide no sufficient basis for making final decisions. The municipality, as well as the prospective investor, is supposed to perform additional research in order to obtain a more complete and a more precise picture of the individual and the social acceptability of the project. We believe that this study will enlighten certain aspects for all the stakeholders in this project proposal and will contribute toward making correct decisions, mostly in the best interest of the local community, for whom it was primarily intended.