Jelena Tomićević

Towards Participatory Management:

Linking People, Resources and Management.

A Socio-Economic Study of Tara National Park.

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Jelena Tomićević

Summary

Tara National Park (TNP) represents one of the main centres of biodiversity in the Balkan region. Tara Mountain was established as a national park in 1981, and from the time of its inception the local communities were antagonistic towards it. In 2003 a Serbian Institute for Nature Protection proposed Tara National Park for designation as a Biosphere Reserve. This additional protected area designation poses further difficult questions in relation to the role of the local communities in the national park. In theory, there has been increasing recognition that local communities must become actively involved in the management of protected areas, and that their needs and aspirations must be taken into consideration if biodiversity is to be conserved successfully.

This thesis examines the attitudes of local people towards the management of natural resources in Tara National Park based on 102 household interviews carried out in two local communities in 2003. Two of the most isolated rural villages in the Tara region, namely Jagoštica and Rastište, were selected as case studies. Additionally, this thesis examines the attitudes of stakeholders (local people, management authorities, a nature conservation agency and government ministries) towards Tara National Park. An understanding of the stakeholders' attitudes towards conservation and existing policies are critical to the elaboration of successful new policies and sustainable conservation strategies. Although attitudinal surveys can provide guidance for policy and management decisions, as well as baseline data to assess the efficacy of new policies, they have been few and far between in Serbia to date.

The aim of this study was, therefore, to investigate the attitudes and perceptions of the main stakeholders towards the National Park in particular, and the current nature conservation policy in general. In this study, two types of stakeholder were interviewed. They were divided into resource users (local people) and resource managers (for example the managers of the national park, forestry authorities, the

agricultural and environmental ministries) and a nature conservationist from the Institute for Nature Conservation of Serbia). The first group of stakeholders consisted of people from two local communities, Jagoštica and Rastište. The other interviewees were resource managers in charge of Tara National Park selected on the basis of their key roles or expertise.

The analysis presented in this thesis shows that the demographic and socio-economic conditions, which have changed in Tara National Park in recent years, have influenced people's attitudes towards the national park and conservation as well as their attitudes regarding the future of their lives in Tara National Park. The findings identify which demographic and socio-economic variables (education, age, employment) explain why some respondents hold more positive attitudes towards conservation and the future for life in Tara National Park than others.

Local people's attitudes towards Tara National Park were found to be positive, despite experiencing serious economic losses and deprivation since its establishment. This can partly be explained by the local population's recognition of the intrinsic value of Tara's natural resources, and also by the receipt of certain benefits from the Tara National Park enterprise. The population of Jagoštica village expressed a more positive attitude towards the national park than respondents from Rastište, which suggests that people's attitudes towards Tara National Park are site-dependent.

The results of this study indicate that conservation attitudes are influenced mainly by education. Education and awareness programmes should focus on local people in order to increase participation in conservation and management activities and to improve people's attitudes towards conservation and local environmental issues. The findings of the study show that the level of education influences the attitudes of the local population with respect to their perception of the future in the Tara area in the case of the both villages. Education has been cited elsewhere as an important reason for positive attitudes towards protected areas. Education is just one variable, but can have a powerful effect on attitudes towards conservation,

usually for the better. Positive attitudes towards Tara National Park and conservation were also significantly influenced in both villages by the age of the respondents and whether or not they worked for the national park. The employment in the National Park variable was found to have a significant influence on attitudes towards conservation, possibly the result of benefits received from the Tara National Park enterprise. The findings suggest that benefits are an incentive for people to perceive conservation positively. Despite having positive attitudes towards Tara National Park, the population's perceptions of the future for life in the Tara area reflect in general the influence of the poor socio-economic circumstances in the country and the very turbulent process of transition. The primary reasons, however, are the demographic changes influenced by the migration of local people.

The findings of this study indicate that the other stakeholders in the region have positive expectations in relation to the future for life in the Tara area. Most of the experts agree that the nomination of the Tara area as a Biosphere Reserve is positive. It was also observed, however, that the conservation policy was not clear to the different stakeholders. The findings of this study indicate the need to strengthen the current nature conservation policy, promote the involvement of local people and empower the national park management, in terms of resource use, but also in terms of the skills required for interaction with local people. It is necessary to promote communication and collaboration between the stakeholders on an appropriate level. The policy must ensure that real power and authority are devolved to local people and to existing and appropriate local institutions. An environmental education programme is recommended to encourage the sustainable use of natural resources in the area. Park management enterprises must be explicitly trained in working with local people and must be made to realise through experience that local participation is a slow and long-term process of social change. The implementation of participatory management or co-management is proposed, as a means of promoting sustainable resource use and helping to ensure the ongoing involvement of local people in conservation. The key to successful

implementation of co-management strategies is in actively addressing relevant factors in cooperation with local people who have so far been ignored, but who are increasingly being recognised as key stakeholders in the process. The study shows a need to promote community development and education in order to assure participation of local people if the state wants to win over the support of local communities for long-term biodiversity conservation goals.

In this regard, environmental education programmes could be usefully combined with the future participatory management goals. Overall, the developing relationships between the communities, the Tara National Park management authorities, the nature conservation agency and the environmental authorities need to be grounded in a clearly-defined framework, particularly in the context of the nomination of Tara as a Biosphere Reserve. This demands institutional links which ensure, and are perceived to ensure, the transparency and accountability of project implementation at and between the various levels involved. In the absence of such effective institutional structures, providing local people access to natural resource-related benefits, a strong foundation for the achievement of conservation with development objectives, which is the main goal of a Biosphere Reserve, is unlikely.

Zusammenfasung

Der Nationalpark Tara gehört zu den artenreichsten Regionen des Balkans. Die Bergregion Tara wurde 1981 zum Nationalpark ernannt, worauf die örtlichen Gemeinden unterschiedlich reagierten. Im Jahr 2003 schlug das serbische Institut für Naturschutz vor, den Nationalpark Tara als Biosphärenreservat auszuweisen. Dieser zusätzliche Schutzstatus wirft jedoch weitere schwierige Fragen bezüglich der im Nationalpark ansässigen Gemeinden auf.

Auf theoretischer Ebene wurde zunehmend deutlicher, dass die örtlichen Gemeinden aktiv in die Bewirtschaftung und Pflege der Schutzgebiete einbezogen werden müssen. Außerdem müssen deren Bedürfnisse und Wünsche berücksichtigt werden, wenn die vorhandene Artenvielfalt erfolgreich geschützt werden soll.

Zunächst untersucht die vorliegende Dissertation die Einstellungen der ortsansässigen Bevölkerung im Hinblick auf die Bewirtschaftung der natürlichen Ressourcen des Nationalparks Tara. Zu diesem Zweck wurden im Jahr 2003 insgesamt 102 Haushalte in zwei Ortschaften befragt. Als Fallbeispiele wurden zwei der abgelegensten Dörfer in der Region Tara, die Orte Jagoštica und Rastište, ausgewählt.

Darüber hinaus werden die Standpunkte der diversen Interessensgruppen (lokale Bevölkerung, Verwaltungen, Naturschutzbehörde und Ministerien der Regierung) gegenüber dem Nationalpark Tara erörtert. Es ist wichtig die Ansichten der Interessensgruppen in Bezug auf Naturschutz und bestehende Regelungen zu verstehen, um erfolgreich neue politische Regelungen und nachhaltige Bewirtschaftungsstrategien entwickeln zu können. Obwohl Meinungsumfragen lenkenden Einfluss auf politische sowie verwaltungstechnische Fragen nehmen können und ebenso als Grundlageninformation zur Ermittlung der Effizienz neuer Regelungen dienen können, werden sie in Serbien bis dato kaum eingesetzt. Ziel dieser Untersuchung war es demnach die Einstellungen und Wahrnehmungen der Hauptinteressensgruppen zu ermitteln, einerseits speziell was den Nationalpark

Tara betrift, aber andererseits auch allgemein im Hinblick auf die gegenwärtige Naturschutzpolitik. Im Rahmen der Forschungsarbeit wurden zwei Kategorien von Interessensgruppen befragt: die Nutzer der Ressourcen (lokale Bevölkerung) und die Verwalter der Ressourcen (z.B. Nationalparkverwaltung, Forstbehörden, für die Landwirtschaft und Umwelt zuständige Ministerien und Naturschützer des serbischen Instituts für Naturschutz). Zur ersten Gruppe gehörten Einwohner der Orte Jagoštica und Rastište. Die anderen Gesprächspartner waren für den Nationalpark Tara verantwortliche Ressourcenverwalter, welche auf Grund Ihrer Schlüsselpositionen oder Ihres Fachwissens ausgewählt wurden.

Fasst man die Ergebnisse zusammen, so wird deutlich, dass demografische und sozioökonomische Bedingungen, welche sich in den letzten Jahren im Nationalpark Tara verändert haben, die Einstellungen der Befragten gegenüber dem Nationalpark und dem Schutz sowie deren Ausblicke zum zukünftigen Leben im Nationalpark beeinflussen. Die Ergebnisse weisen darauf hin, welche demografischen und sozioökonomischen Variablen dabei helfen zu erklären, warum manche Gesprächspartner eher positiv gegenüber Schutz und Zukunftsaussichten im Nationalpark Tara eingestellt waren als andere.

Die ortsansässige Bevölkerung äußerte positive Ansichten, obwohl fühlbare wirtschaftliche Verluste und Entbehrungen mit der Errichtung des Nationalparks einhergingen. Dies kann teilweise damit begründet werden, dass die Bewohner den Eigenwert der natürlichen Ressourcen in der Region Tara erkannt haben und auch gewisse Vorteile aus dem Geschäft mit dem Nationalpark ziehen. Die Bevölkerung des Dorfes Jagoštica äußerte sich insgesamt positiver als Befragte aus Rastište, was vermuten lässt, dass die Einstellungen vom Standort abhängen.

Die Forschungsergebnisse zeigen auf, dass die Meinungen zum Schutzstatus besonders durch den Bildungsgrad beeinflusst werden. Bildung und bewusstseinsfördernde Programme sollten sich verstärkt an die örtliche Bevölkerung wenden, um die Einstellungen der Menschen gegenüber Naturschutz und lokalen Umweltthemen zu verbessern und sie zu mehr Partizipation in der

Bewirtschaftung sowie beim Schutz zu animieren. In beiden untersuchten Ortschaften besteht zudem ein Zusammenhang zwischen dem Bildungsgrad und den Zukunftsaussichten der Anwohner. Andere Studien bestätigen, dass Bildung Einstellungen gegenüber Schutzgebieten positiv beeinflusst. Bildung ist nur eine Variable, kann jedoch sehr starken Einfluss auf Ansichten zu Schutzmaßnahmen ausüben, üblicherweise im positiven Sinne. Positive Grundeinstellungen gegenüber dem Nationalpark Tara und Umweltschutz allgemein waren in beiden Dörfern eng mit dem Alter der Befragten verknüpft und damit, ob sie für die Nationalparkverwaltung arbeiteten oder nicht. Es stellte sich heraus, dass die Variable „Arbeit im Nationalpark" einen bedeutenden Einfluss auf die Grundeinstellung hat, da wahrscheinlich vom Nationalparkgeschäft profitiert wird. Dies zeigt, dass wirtschaftliche Vorteile der lokalen Bevölkerung als Anreiz dienen können, um Naturschutz positiv zu bewerten.

Im Gegensatz zu den positiven Einstellungen der ansässigen Bevölkerung gegenüber dem Nationalpark Tara reflektieren die weniger optimistischen Zukunftsaussichten der Befragten eher die schwachen sozioökonomischen Bedingungen sowie die chaotischen Konditionen auf Grund der politischen Transformation. Der wichtigste Grund sind jedoch die demografischen Veränderungen, die vor allem durch die Abwanderung der örtlichen Bevölkerung geprägt sind. Laut Befragung äußerten andere Interessensvertreter optimistischere Zukunftsaussichten in Bezug auf die Region Tara. Die meisten Experten sind sich einig, dass die Nominierung der Region Tara als Biosphärenreservat positiv zu bewerten ist. Es wurde dennoch beobachtet, dass die verschiedenen Interessensgruppen nicht mit der gegenwärtigen Naturschutzpolitik vertraut sind. Die Untersuchungsergebnisse zeigen, dass die derzeitige Naturschutzpolitik ebenso wie die Partizipation der ortsansässigen Bevölkerung verstärkt unterstützt werden muss. Außerdem muss die Nationalparkverwaltung einerseits mehr Vollmachten in Bezug auf die Nutzung der Ressourcen erhalten und andererseits auch im Umgang mit der lokalen Bevölkerung geschult werden. Es besteht die Notwendigkeit, Kommunikation und Zusammenarbeit zwischen den Interessensgruppen in

vernünftigem Maße zu unterstützen. Die Politik muss sicherstellen, dass wahre Machtbefugnisse sowohl auf die lokale Bevölkerung als auch auf geeignete, bereits bestehende lokale Institutionen übertragen werden. Ein Umweltbildungsprogramm ist empfehlenswert, um die nachhaltige Nutzung der natürlichen Ressourcen in der Gegend zu fördern. Parkverwaltungsorgane müssen ausdrücklich im Umgang mit der örtlichen Bevölkerung geschult werden und sollten durch eigene Erfahrungen zu der Erkenntnis gelangen, dass Partizipation ein langsamer und langwieriger Prozess sozialen Wandels ist. Die Umsetzung des partizipativen Ansatzes wird als Instrument zur Förderung nachhaltiger Ressourcennutzung und kontinuierlichen Engagements der Bevölkerung im Naturschutz verstanden.

Ausschlaggebend für eine erfolgreiche Umsetzung von Mitbestimmungsstrategien ist die Einbeziehung der zuvor ausgeschlossenen Bevölkerung, da dieser Interessensgruppe zunehmend eine Schlüsselrolle zukommt. Die Untersuchung verdeutlicht, dass die Förderung der Kommunalentwicklung und der Bildung notwendig ist, um Partizipation zu gewährleisten und die Unterstützung von langfristigen Artenschutzzielen durch die Bevölkerung zu erreichen.

In dieser Hinsicht könnten Umweltbildungsprogramme sinnvoll mit den Zielen zukünftiger Partizipationsansätze kombiniert werden. Die Entwicklung der Beziehungen zwischen den Ortschaften, der Nationalparkverwaltung, den Naturschutzorganisationen und den Umweltbehörden muss innerhalb eines klar definierten Rahmens vollzogen werden, insbesondere im Falle der Nominierung Taras als Biosphärenreservat. Hierfür ist institutionelle Zusammenarbeit notwendig, um Transparenz und Verantwortung für die Umsetzung sicherzustellen und nach außen zu transportieren.

Ohne effektive institutionelle Strukturen, welche der örtlichen Bevölkerung Zugang zu wirtschaftlichen Vorteilen auf Grundlage der natürlichen Ressourcen ermöglichen, ist es unwahrscheinlich ein stabiles Fundament für die Erreichung der Entwicklungsziele, welche oberstes Ziel eines Biosphärenreservats sind, zu schaffen.

List of Acronyms

BR	Biosphere Reserve
CBD	Convention on Biological Diversity
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
IUCN	International Union for Conservation of Nature and Natural Resources
M.U.	Management Unit
MAB Programme	Man and Biosphere Programme
MoAFW	Ministry for Agriculture, Forestry and Water
MoPNRE	Ministry of the Protection of Natural Resources and Environment
NP	National Park
PE	Public Enterprises
TNP	Tara National Park
UN	United Nations
UNEP	United Nations Environmental Programme
UNESCO	United Nations Educational, Scientific, and Cultural Organisation
WCED	World Commission on Environmental Development
WCPA	World Commission on Protected Areas
WHC	World Heritage Convention
WOCAT	World Overview of Conservation Approaches and Technologies
WWF	World Wide Fund for Nature

Contents

1 Introduction

International experience in the management of protected areas over the last decade highlights the danger of excluding local people and shows that participation is fundamental to the successful management of protected areas with a residential population (GOVAN *et al.* 1998). Conservation usually reflects the priorities of regional, national and, above all, international interests over local subsistence needs. The design, management and infrastructure of protected habitat areas all too often reinforce the interests of global conservation, the international leisure industry and other commercial groups (PIMBERT & PRETTY, 1997b). Local people often express their sense of deep frustration with these externally imposed priorities in the expression, "people should be considered before animals" (HACKEL, 1993). They often view "wildlife conservation as alien, hypocritical, and as favouring foreigners" (MUNTHALI, 1993).

The problems facing most European protected areas nowadays are especially serious in the south eastern region. The Balkan Peninsula is one of the richest regions in Europe in terms of biodiversity, but is suffering as a consequence of a decade of conflict followed by political and economic crisis. The fact that most of the protected areas are situated in isolated and poor rural regions makes the situation even worse. Problems are especially noticeable in Serbia, where political, social and economic conflicts combined with conflicts of interests over the use of natural resources by different groups and individuals have resulted in a people moving from rural villages to cities in order to survive.

1.1 Problem statement

Protected areas are the cornerstones of biodiversity and species conservation (KRAMER *et al.*, 1997; BRUNER *et al.*, 2001). For most species, protected areas will be the single most important way to ensure their long term survival (MACKINNON, 2001). Although they have usually been set aside from human exploitation, there is

a growing recognition of the fact that protected areas should play a role in sustaining the local communities adjacent to them (IUCN, 1980; MCNEELY, 1993; GHIMIRE & PIMBERT, 1997).

Up to the end of the 1970s, centralised regulatory control and separation of local people and their forest-based subsistence activities from conservation areas were widely advocated in the name of biodiversity conservation (COLCHESTER, 1996; MEHTA & KELLERT, 1998). The creation of parks has indeed helped save some endangered wildlife from extinction (HARMON, 1987; MCNEELY, 1989; HEINEN & YONZON, 1994).

Thus, while this exclusion policy protected some endangered species from extinction, local people suffered economic hardships as a result of the deprivation of access to wildlife and resources (PARRY & CAMPBELL, 1992; GURUNG, 1995; VEDELD, 2002; WELADJI & TCHAMBA, 2003). As a result, biodiversity was often inadequately conserved through such an exclusion approach.

Exacerbating the problem of protection was that local people with subsistence-level agricultural-based livelihoods were alienated from access to park resources upon which they depended to meet basic needs (HOUGH, 1988; SHARMA, 1990; GHIMIRE & PIMBERT, 1997). Local agricultural production is frequently damaged by wildlife depredation without due compensation, and usually local people cannot legally kill wild animals causing the damage because of conservation rules enacted by their governments (MISHRA, 1984; SABERWAL *et al.*, 1994). On the other hand, park officials, often experience the wrath of local people in the form of encroachment, poaching, and wildlife habitat alteration caused by agricultural expansion and excessive collection of forest products (THACHER 1984; HOUGH & SHERPA 1989). All these factors have led to park-people conflicts that can undermine long-term biodiversity conservation efforts.

The policies employed through the 1970s failed to secure biodiversity. Local people were left deprived of access and hostile to government and local politicians. As a result, there were increasing external pressures for change that prompted policy reforms (WELADJI *et al.* 2003). During the 1980s, a more participatory approach

emerged and shifted the focus from preservation to sustainable resource use (ANDERSON & GROVE, 1987). There was an increasing recognition that local communities must be actively involved in conservation and that their needs and aspirations have to be considered, if biodiversity is to be conserved (WEST, 1991; MCNEELY, 1993; LEWIS, 1996).

The UNESCO Man and Biosphere Programme in 1974 (BATISSE, 1986), the World Conservation Strategy in 1980 (IUCN, 1980), the 3rd (1982) the 4th (1992) World National Parks Congresses (MCNEELY, 1993), the Wildlands and Human Needs Programme of the World Wide Fund for Nature in 1985 (WELLS *et al.,* 1992), the World Commission on Environmental Development in 1987 (WCED, 1987) and the emergence of 'ecosystem–based management' (GRUMBINE, 1994) all emphasised the importance of integrating the human dimension into biodiversity conservation policies and programmes.

The recognition of local community involvement has in turn led to the initiation of several development programmes based upon an understanding of the relationship between protected areas and various stakeholders (NEWMARK *et al.*, 1993; FIALLO & JACOBSON, 1995; ITE, 1996; INFIELD & NAMARA, 2001; SAH & HEINEN,, 2001; OBIRI & LAWES, 2002).

Following these development programmes, new policies have emerged, seeking to promote public participation in planning, decision-making and the management of protected areas. The success of individual policies typically depends on whether the various stakeholders are positively or negatively affected by conservation programmes and policies (WALPOLE & GOODWIN, 2001).

Therefore, the perceptions of the stakeholders and their attitudes towards a conservation area as well as the conservation policies are an important element for achieving sustainable conservation (KAUS, 1993; WELADJI *et al.*, 2003).

Many studies in developing countries reveal that people receiving benefits from conservation projects are more likely to express positive attitudes towards conservation (SAHARIA, 1982; LEWIS *et al.*, 1990; STUDSROD & WEGGE, 1995). However, if the benefits are not equally distributed, negative attitudes are

frequently expressed in spite of the benefits (PARRY & CAMPBELL, 1992). In such cases, the lack of participation in decision-making may be an intervening factor, as participation is considered important to successful conservation strategies (e.g. COHN, 1989; DURBIN & RALAMBO, 1994; HAPPOLD, 1995; ALPERT, 1996; ALEXANDER, 2000).

Programmes that strive to integrate local people with development also require detailed information on the relationship between resource use and attitudes (SAH & HEINEN, 2001). The exploitation of certain resources within protected areas on a sustainable basis may contribute to higher living standards for rural people, especially in underdeveloped countries, and decrease conflicts between the population and the park authorities (DE BOER & BAQUETE, 1998). The socio-economic background of the affected households also plays a role in resource utilisation, as poorer families depend more on natural products (INFIELD, 1988; NEWMARK *ET AL.*, 1993; MCGREGOR, 1995).

Social factors such as ethnic group, religion and education have been shown to be important in determining whether people have positive or negative attitudes towards protected areas (INFIELD, 1988; HEINEN, 1993; STUDSROD & WEGGE, 1995). Infield's (1988) study of protected areas in Natal, South Africa, showed that higher levels of education and affluence are associated with more positive attitudes towards conservation efforts. Negative attitudes toward protected areas often arise from poor relationships between local residents and staff, problems with the distribution of benefits to local populations, and a lack of local involvement in the establishment and/or management of protected areas (FIALLO & JACOBSON, 1995).

Both community participation in and recognition of the role of traditional values are consistently recognised as fundamental to the success of development projects (ALEXANDER, 2000). Amboseli National Park in Kenya provides an example of one of the first projects to share revenues with resident populations (DURBIN & RALAMBO, 1994).

In general, the attitudes of residents towards the conservation of resources and the protection of natural resources can be improved by increasing the benefits these

populations receive as a result of supporting protection measures, and by involving these communities directly in decision-making processes (PARRY & CAMPBELL, 1992).

Despite an acknowledgment of the need for local community participation and cooperation, there is a long history of a centralised approach to the planning and management of protected areas. In Serbia, in particular, national park planning and management has typically been characterised by a top-down approach. Considering the importance of local community cooperation for conservation within parks, how effective is the public participation process in creating cooperative relationships with local communities in Serbian protected areas?

1.2 Thesis goal and objectives

The general purpose of this study was to provide the first detailed analysis of protected area-people relationships in Tara National Park in Serbia. In order to understand the relationship of the local population with a Tara National Park, this study describes the socio-economic conditions of local people, their relationships with resource use, their participation in management, and their attitudes about National Park conservation. We hypothesised that age, education, economic status, types resource uses, and participation (collaboration) activities would influence attitudes. We further hypothesised that certain variables would have direct implications for national park management. The prime feature in the context of the socio-economic conditions of the population is the widespread poverty[1], caused by a combination of restrictions over natural resource use, economic problems and population dynamics. The emphasis on poverty should not obscure the fact that political decisions may also contribute to environmental destruction. Therefore, it is

[1] Poverty can be thought of as the outcome of an 'inadequate' livelihood. It may be the result of the household having inadequate access to assets such as land, water, credit or social support. It may be caused by living in an acutely vulnerable area, prone to war, drought or other climatic extremes. It may also be caused by policy, institutions and processes that are not conducive to the generation of an adequate livelihood. In some cases, the strategy employed by the household to combine the different livelihood elements at their disposal may be at fault, resulting in failure to provide an adequate livelihood (MESSER & TOWNSLEY, 2003, p. 8).

important to address the problems relating to the issues of local livelihoods and the impoverished conditions of the communities within conservation areas, as well as political and institutional factors affecting resource conservation.

The aim of this study was, therefore, to investigate the attitudes and perceptions of the main stakeholders[2] (local people, National Park managers, a nature conservation agency and politicians) towards the National Park in particular, as well as current nature conservation policy in general. In this study, two types of stakeholders were interviewed. They were divided into resource users (local people) and resource managers (for example, managers of the national park, forestry authorities, the agricultural and environment ministry and a nature conservationist from the Institute for Nature Conservation of Serbia). The first group of stakeholders consisted of local people from two selected villages, Jagoštica and Rastište. The resource managers were selected on the basis of their key roles or expertise on Tara National Park. The following questions were addressed:

(1) What are the attitudes of local people, park administrators, nature conservation agency officials, and politicians with respect to the future of the national park?

(2) Do these diverse stakeholders reveal differences in their attitudes towards the national park and the conservation policy? Since different stakeholders have various needs and constraints, do their attitudes towards conservation also differ? Are local people generally more negative towards national parks and conservation? We hypothesized that stakeholders' attitudes towards the nature conservation policy would vary with their interests.

[2] Stakeholders were defined in accordance with BORRINI-FEYERABEND (1996), namely as social actors who (1) have a direct, significant and specific interest in an area's natural resources, (2) are aware of their own interest in the management of the resources, (3) possess specific capabilities (skills, knowledge) and comparative advantages (proximity, mandate) for such management, and (4) are usually willing to invest specific resources (i.e. money, time, authority) in some form of management.

(3) What factors (for example perceived benefit, employment for a national park enterprise, etc.) influence the attitudes of local people's towards the national park?

(4) What form should the future management strategy for Tara National Park take?

In order to explore these questions in Serbia, Tara National Park was selected as a research site and two villages within the park were chosen as case studies. Like most protected areas in Serbia, Tara has extraordinary biological value, but at the same time the local people living within its boundaries suffer from economic hardship partly due to restrictions of natural resources utilization. We have chosen two of the most isolated rural villages in Tara to understand their current livelihoods, to explore their potential future livelihoods (e.g. tourism), and to identify impediments to their survival. Furthermore, Tara was selected as the study site because decisions regarding its status need to be made. Thus, understanding the current and projected future of the rural people living within the park, can assist Park managers who focus more on forestry and nature conservation than on rural development. More detailed information on Tara National Park will be provided in chapter 3 and on the two villages in chapter 5.

1.3 Structure of the thesis

The thesis is divided into seven chapters. The purpose of this introductory chapter is to present the problems facing protected areas, and the goals and objectives of Tara National Park, as well the research questions posed and the assumptions made in the thesis.

Chapter 2 represents an analysis of various fields of literature and provides a broader societal and conservation context for the increased participation of local communities in the management of protected areas and how these trends have encouraged the development of a new conservation paradigm, 'community-based conservation'. Chapter 3 provides an overview of the research area, Tara National

Park., as well as institutional and legislative background to national parks in Serbia. Chapter 4 discusses the methods employed in this thesis. A detailed description of the two village case studies follows in chapter 5.

Chapter 6 contains a discussion of the results of the research with conclusions made in relation to the research questions posed initially. The final chapter seven presents our results which indicate which social economic variables influenced positive attitudes towards conservation, as well offers some further reflections upon and recommendations for the effective management of Tara National Park.

1.4 Summary

The traditional approaches to protected areas management are currently being challenged. Indeed, protected areas are undergoing a shift from a preservationist paradigm towards an integrated approach. This process is reflective of social changes.

One of these social changes is an increasing recognition that local communities must be actively involved in conservation and that their needs and aspirations have to be considered, if biodiversity is to be conserved. Thus, these social changes increased interest in, and demand for, participation in decision-making processes. New policies have emerged, seeking to promote public participation in planning, decision-making and the management of protected areas. The success of individual policies typically depends on whether the various stakeholders are positively or negatively affected by conservation. Therefore, the perceptions of the stakeholders and their attitude towards a conservation area and the policies being implemented are an important element for achieving sustainable conservation.

In general, the attitudes of residents towards the conservation of resources and the protection of natural resources can be improved by increasing the benefits these populations receive as a result of supporting protection measures, and by involving these communities directly in decision-making processes. Furthermore, we found

that social factors, such as higher levels of education and affluence are associated with more positive attitudes towards conservation efforts.

Considering the importance of local community cooperation for conservation within parks, we will try to found in case of Serbian protected areas, namely Tara National Park how important is the involvement of local people in protected area management as well we will try to give the answer what kind of variables influence people's attitudes towards Tara National Park and what are the key elements for improvement of relationship between different stakeholders.

2 Theoretical framework

2.1 Understanding the conditions for participatory management: theory and conceptual model

In order to clarify the understanding the relationships between the local people, protected area and socioeconomic and political system, we have drawn from a general framework (fig. 2.1-1) that we believe provides a useful policy framework for the management of protected areas, such as Tara National Park. The resource (physical and biological) is necessarily the focus for conservation. People are the reason for conservation and the system, political, social and economic provides the context for conservation.

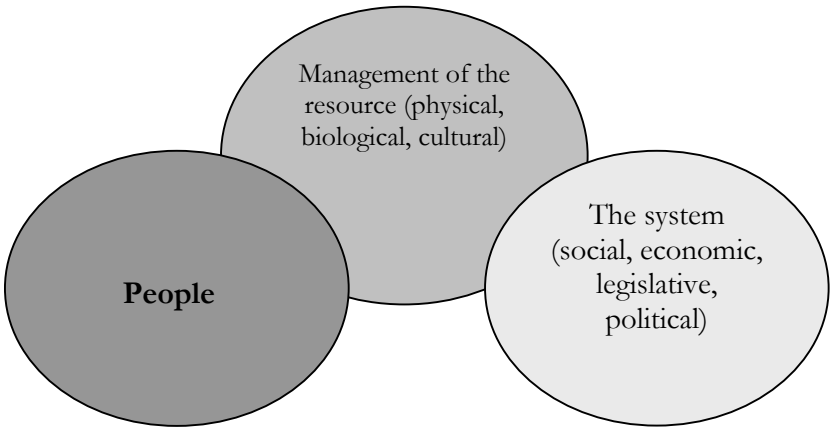

Fig. 2.1-1: Resource, People and the System

This thesis will focus on the needs of local communities and the problems they face, the economic potentials of the area and wider political dimensions of establishing of a protected area. Moreover, in this thesis we are trying to identify what the key factors are for a community-based approach to resource management. We have developed in figure 2.1-2. a new framework for a community-based

approach to resource management. The social capital, knowledge, access variables are directly from the literature based on other studies.

For the purpose of this research, we specified these variables in our empirical study (see chapter 4.4). In the analysis of our data from the village questionnaires we will try to:

1. Support and add to the factors identified in the literature.
2. Clearly specify these variables based upon the correlations in our study.

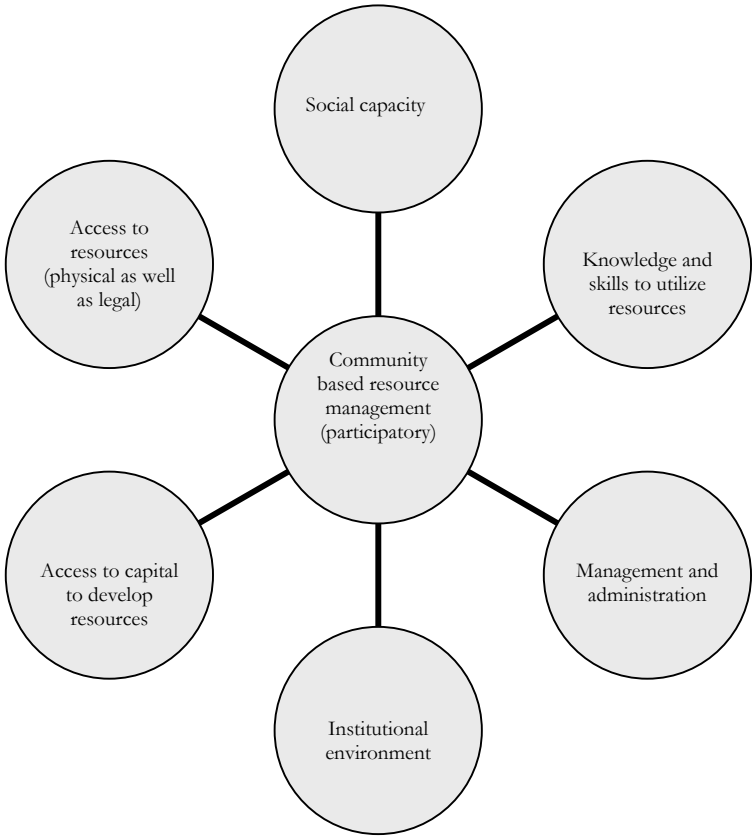

Fig. 2.1-2: Framework for community based approach to resource management

Such information might help policy makers to understand local peoples' attitudes and behaviour and to determine what kind of programs would be needed and the necessary elements for increasing participation in resource management and developing community based management capacity. Our core assumption is that a conservation policy that considers the underlying perceptions of local people is a key feature for integrating conservation with development.

In order to study the complexity between local people and protected area, selected fields of literature included parks and protected areas, people and parks, public participation, sustainable development, conservation and co-management.
Thus, there are a number of points that need to be understood well, namely: protected areas and management objectives, the role of the local people in management of protected areas, sustainable livelihoods, participation, as well as participatory forest management and rural development.

2.2 Status of protected areas and management objectives

Around the world, protected areas are seen 'as a key to conserving natural resources on land and at sea' (HOCKINGS & PHILLIPS, 1999, p.5). According to the World Commission on Protected Areas (WCPA, 2003) News, 100 000 areas now meet the International Union for Conservation of Nature and Natural Resources (IUCN) definition of a protected area, namely:

"*An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of associated cultural and natural resources, and managed through legal or other effective means*" (IUCN, 1994).

The number and extent of the global network of protected areas has grown steadily throughout the 20th century most notably, as shown in figure 2.2-1, since 1970 (GREEN & PAINE, 1997). This indicates that governments are continuing to make efforts to establish new protected areas (GREEN & PAINE, 1997).

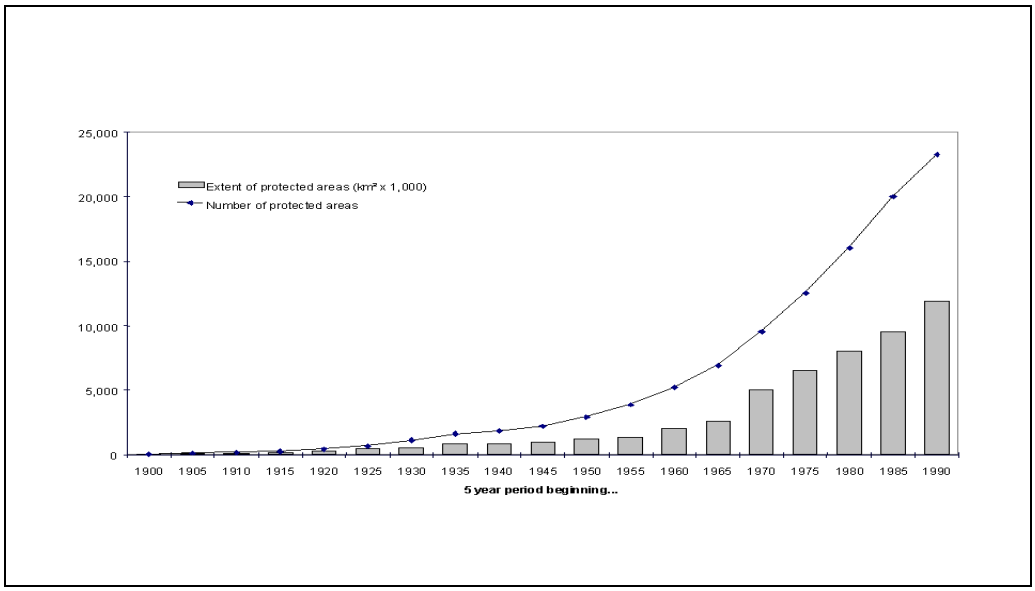

Fig. 2.2-1: Cumulative growth in the number and extent of protected areas from 1900-1994 (GREEN & PAINE, 1997, p.7)

Within this broad IUCN definition, protected areas are in fact managed for many different purposes. To help improve understanding and to promote awareness of the functions of protected areas, the IUCN has developed a six category system of protected areas identified by their primary management objective (IUCN, 1994), as shown in table 2.2-1.

Tab. 2.2-1: IUCN management categories of protected areas (IUCN, 1994)

Category	Description
I	Strict Nature Reserve/Wilderness Area: Protected area managed mainly for science or wilderness protection
Ia	Strict Nature Reserve: Protected area managed mainly for science
Ib	Wilderness Area: Protected area managed mainly for wilderness protection
II	National Park: Protected area managed mainly for ecosystem protection and recreation
III	Natural Monument: Protected area managed mainly for conservation of specific natural features
IV	Habitat/Species Management Area: Protected area managed mainly for conservation through management intervention
V	Protected Landscape/Seascape: Protected area managed mainly for landscape/seascape conservation and recreation
VI	Managed Resource Protected Area: Protected area managed mainly for the sustainable use of natural ecosystems

The IUCN protected area management categories system is based upon the primary objective of management. Tab. 2.2-2. shows how an analysis of management objectives can be used to identify the most appropriate category.

Tab. 2.2-2: Matrix of management objectives and IUCN protected area management categories (IUCN, 1994)

Management objective	Ia	Ib	II	III	IV	V	VI
Scientific research	1	3	2	2	2	2	3
Wilderness protection	2	1	2	3	3	-	2
Preservation of species and genetic diversity (biodiversity)	1	2	1	1	1	2	1
Maintenance of environmental services	2	1	1	-	1	2	1
Protection of specific natural/cultural features	-	-	2	1	3	1	3
Tourism and recreation	-	2	1	1	3	1	3
Education	-	-	2	2	2	2	3
Sustainable use of resources from natural ecosystems	-	3	3	-	2	2	1
Maintenance of cultural/traditional attributes	-	-	-	-	-	1	2

Key: 1 = Primary objective; 2 = Secondary objective; 3 = Potentially applicable objective; – = not applicable

The data in table 2.2.2. shows that some recreation and tourism is likely to occur as a management objective in every category of protected area, with the exception of Category Ia (the strict nature reserve). Protected areas are established primarily to preserve some type of biophysical process or condition, such as a wildlife population, habitat, natural landscape, or cultural heritage, for example, a community's cultural tradition (tab. 2.2.2) (EAGLES *et al.* 2002)

The data also shows that biodiversity protection, though a critically important function of many protected areas is far from the sole purpose, and is frequently not the primary purpose of a protected area (EAGLES *et al.* 2002). It is, though, a requirement of the IUCN definition that any protected area should always have a special policy to protect and maintain biodiversity.

Protected areas are primarily viewed in biological or ecological terms, but DIXON & SHERMAN (1990) emphasised the economic importance of land managed for

conservation objectives. However, protected areas are important at many levels, from local and national to global levels, and they carry out numerous functions beneficial to humans, and even essential to human welfare. Ten important functions of protected areas are listed in table 2.2-3 (MCNEELY, 2001). The manner in which these functions are transformed into benefits for the affected populations will depend on the management objectives of the protected area and how effectively these objectives are converted into actions. Table 2.2.3 presents a model of the various scales at which benefits are delivered by these functions, ranging from local to global. The range of possible benefits at each scale indicates the importance of defining objectives for individual protected areas; different management approaches will provide different mixes of benefits at different levels[3] (MCNEELY, 2001).

Tab. 2.2-3: The scale at which benefits are delivered by protected area functions (MCNEELY, 2001, p.33)

	Scale at which benefits are delivered		
Key functions	**Local**	**National**	**Global**
1. Biodiversity	0-4	2-4	4
2. Watershed protection	4	2-4	1-3
3. Storm protection	4	2-4	1-3
4. Tourism	0-4	4	2
5. Local amenity	2-4	1-2	0-1
6. Forest products	0-4	1-2	1-2
7. Soil	0-4	1-2	1-2
8. Carbon	0-1	1-2	2-3
9. Research	0-3	2-4	2-3
10. Cultural values	0-4	2-4	1-2

[3] Protected areas provide benefits to people at all levels. Using the ten critical functions listed in the text, this table provides a model of the scale at which benefits can be derived, from 0 (= no benefit) to 4 (= maximum benefit). More precise determinations can be made for individual protected areas or for national protected area systems.

The Strategic Plan for 2002-2012 of the World Commission on Protected Areas (WCPA)[4] stated, *"that society fully recognises and supports the importance of protected areas in the 21st century by: securing key places for biological and cultural diversity, promoting equity and justice, maintaining the quality of the environment, and ensuring the sustainable use of the natural resources for poverty reduction, food and water security, and the prevention of conflicts"* (WCPA 2002, p.2). The importance of protected areas is emphasised by international conventions and programmes such as the Convention on Biodiversity (CBD), the World Heritage Convention (WHC), the Ramsar Convention on Wetlands, the UN Law of the Sea Convention, UNESCO's Man and the Biosphere (MAB) Programme of the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and the global programme of the WCPA. Together these agreements and programmes are the backbone of international policy on the establishment and management of protected areas for biodiversity conservation and the sustainable use of natural and cultural resources (PHILIPS, 1998).

The Convention on Biological Diversity marked a significant shift in the perception of protected areas by governments. It linked protected areas to larger issues of public concern, such as sustainable development, traditional knowledge, access to genetic resources, national sovereignty, equitable sharing of benefits, and intellectual property rights. Furthermore, since the adoption of the Convention on Biological Diversity (hereafter CBD), and because of Article 8a in particular, much greater emphasis has been placed upon the idea of developing national *systems* of protected areas as a means of conserving biodiversity *in situ* and for other purposes (DAVEY, 1998). Indeed, many protected areas now form part of international networks, both global systems, notably World Heritage sites, Ramsar sites and

[4] The World Commission on Protected Areas (WCPA) is one of the six IUCN commissions, i.e. volunteer networks of individual experts that contribute to the IUCN Mission 1. IUCN commissions are an important part of the IUCN structure, often described as one of the pillars of the Union's work. Protected areas are one of the major programmatic areas of the IUCN. The IUCN Programme on Protected Areas works closely with the WCPA in achieving its objectives. This strategic plan is a tool to broaden the constituency for protected areas by demonstrating the key role that protected areas can and must play in sustainable development (for more information see the WCPA Strategic Plan 2002-2012).

Biosphere Reserves; and regional systems, such as Natura 2000 network of nature conservation sites in Europe. There are calls to recognise fully the role of indigenous peoples with respect to protected areas (BELTRÁN, 2000).

Protected areas contribute to a country's social and economic objectives through supporting ecosystem services, promoting the sustainable use of renewable resources, as well as providing places for tourism and recreation (IUCN, 1993). The constituency for protected areas is therefore broad and diverse. However, protected areas can only deliver their environmental, social and economic benefits if they are effectively managed (HOCKINGS & PHILLIPS, 1999).

The key questions of interest at the global level are whether the responsible authorities have the capacity to manage their protected areas effectively, and whether desired outcomes are being achieved on the ground. Capacity to manage has many components and cannot be summarised in a single measure. The principal dimensions are the system of governance, level of resources, and community support (figure 2.2-2). The measurement of these dimensions is contextual. What is effective legislation in one country may be entirely inappropriate in another with different legal and social systems. Similarly, it is only possible to assess the adequacy of resources for management in the context of some estimation of management needs (HOCKINGS & PHILLIPS, 1999).

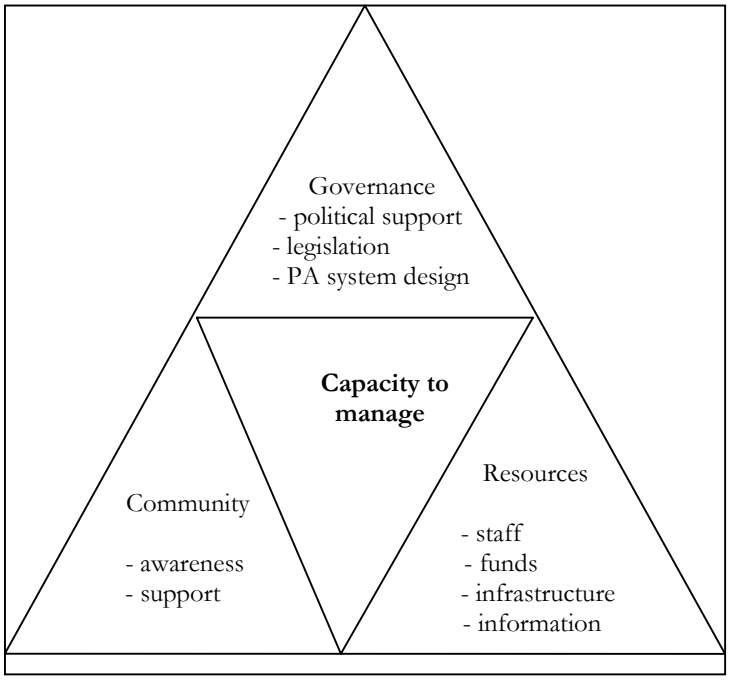

Fig. 2.2-2: The dimensions of 'capacity to manage' (Adapted from HOCKINGS & PHILLIPS, 1999)

Beyond such questions relating to the way in which protected areas are managed, the international community is even more interested in the outcomes of such management, i.e. the impact 'on the ground'. Issues such as the impact of protected areas on the conservation of biodiversity, and on other natural and cultural heritage resources, are of great concern. In this study, however, the focus is on the role of local communities in the management of protected areas with the expectation that without the cooperation and assistance of local communities, achieving biodiversity conservation in places where the land and resources are fundamental to supporting people's livelihoods will be less successful than if the local people actively support this goal.

2.3 New approach to protected area management – the role of the local people

Historically, the creation of most protected area involved the exclusion of local people from almost any kind of access or use of the area (GHIMIRE AND PIMBERT, 1997). In the United Kingdom, for example, the tradition of exclusory Royal Forests meant that the leading conservationists were foresters from the Imperial Institute of Forestry at Oxford as well as

biologists, zoologists and other natural science disciplines and their management philosophy emphasized that 'the public good was best served through the protection of forests and water resources, even if this meant the displacement of local communities' (MCCRACKEN, 1987). People were not allowed to live inside the protected area or to use the area for extractive purposes (KEMF, 1993). This exclusionary approach continues today, as or example, in a very large area earmarked for conservation in Costa Rica that is under a strictly protected regime that excludes local communities (BRÜGGERMANN, 1997).

Denying local people the right to use these resources severely reduces their inclination to support conservation and often undermines local livelihood security (PIMBERT & PRETTY, 1997b). At the root of the relationship between indigenous groups and local communities with national governments and their conservation policies lies a combination of historical, cultural and socio-political factors (see figure 2.3-1). The important issue is the *"willingness of governments to recognise that local communities are vital actors in the delivery of conservation objectives. Governments that have not already done so, need to move from an implicit assumption that they manage against local communities to one where they recognise that protected areas should be managed for, with and often by local communities"* (BORRINI-FEYERABEND, 2002, p.7).

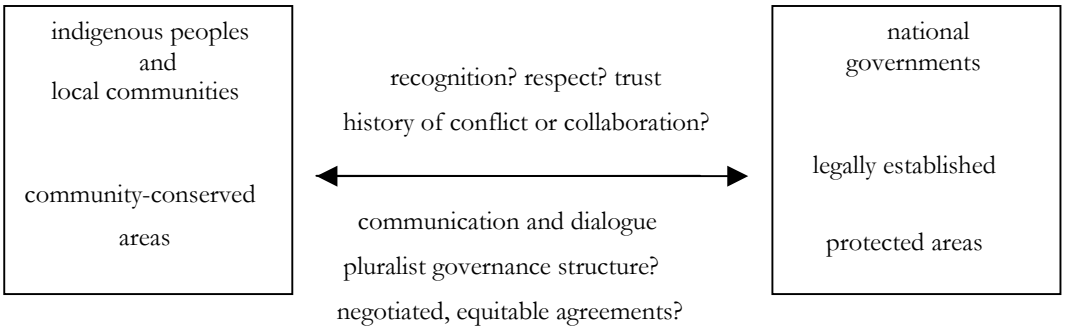

Fig. 2.3-1: Key issues in the community-government conservation relationship (BORRINI-FEYERABEND 2002, p.6)

Property rights are a key social institution for allocating human access to land and natural resources. All societies have systems of land tenure – who has access to what, when, where, and sometimes, how – that allocate rights to public and private purposes. One defining characteristic of an indigenous culture is a traditional tenure system that defines the rules and responsibilities for relationships between people and the natural world (MCNEELY, 1995). Tenure systems – upon which responsibility is built – are based on legitimacy drawn from the community in which they operate, rather than from the nation or state in which they are located (LYNCHE & ALCORN, 1994). Indigenous systems of resource tenure are extremely variable, complex mixtures of individual and community rights, enforced by the local culture. However, the variation in resource management is part of an ongoing process to which the different interests and struggles of the various participants contribute (MCNEELY, 1995).

In many European countries, including Germany (BRÜGGEMANN, 1997) and France (FINGER-STICH AND GHIMIRE, 1997), the long established order of land tenure and rights of access to resources has generally been respected in recent decades. In Britain conservationists accepted the vision of nature as part of a process of 'continuity and gradual change, with man at the centre and integral to rural landscape' (Blacksell, cited in HARMON, 1991, p.34). British National parks thus recognized existing rights and sought to maintain the established patter of farming and land use by rural communities (GHIMIRE & PIMBERT, 1997).

Recalling that protected areas have grown in number in the last decades, this necessarily means that many protected areas have been established in areas traditionally inhabited by humans (ORLOVE & BRUSH 1996; WELLS & BRANDON 1993). In Latin America 86% of the existing protected areas have been established in areas currently inhabited by people; world-wide the figure is approximately 70% (GHIMIRE & PIMBERT, 1997). In this situation, the question of local people's position *versus* protected areas has become a highly relevant and widely discussed issue (GHIMIRE & PIMBERT, 1997). Already in 1976 UNESCO, through its

Programme on Man and Biosphere (MAB)*, proposed the creation of a biogeographically representative network of Biosphere Reserves in the sites of worldwide significance. In this case, the inhabitants of protected areas were for the first time taken into account, as the MAB-programme emphasized human beings as 'an integral part of the ecosystem and recognized the necessity of involving local inhabitants in conservation activities' (KOTHARI *et al.* 1997, p.276). This perception was strongly emphasized some 15 years later, when the IV IUCN World Congress on National Parks and Protected Areas pointed out that the view of protected areas as islands apart from the surrounding areas and neighboring human communities should finally be left aside (MCNEELY, 1993). Consequently, the Congress took the phrase "Parks for Life" as its slogan, and urged the governments to recognize 'the needs and aspirations of the people living in and around the protected areas, as well as to take appropriate measures in order to ensure that the local communities were not disadvantaged by protected areas ' (IUCN, 1993, p. 35-36.). This human dimension of biosphere reserves makes them special, since the management of a biosphere reserve essentially becomes a 'pact between the local community and society as a whole' (UNESCO, 2000, p.6).

In recent years several researchers have stressed the role of the local people in the successful management of protected areas. According to WELLS & BRANDON (1993), there is a growing recognition that the sustainable management of protected areas ultimately depends on the co-operation and support of the local people. Similarly, KOTHARI *et al.* (1995) argue that a protection strategy that alienates local communities from conservation is not only unjust to human rights but also harmful

* The UNESCO-MAB World Network of Biosphere Reserves is one way of involving people in biodiversity conservation. The biosphere reserve approach links ecology with economics, sociology and politics, and ensures that good policy intentions do not yield inappropriate results. Biosphere reserves are indeed special places for people and nature, and a key help in managing our biosphere. Biosphere reserves are areas of terrestrial and coastal ecosystems promoting solutions to reconcile the conservation of biodiversity with its sustainable use. They are internationally recognized, nominated by national governments and remain under sovereign jurisdiction of the states where they are located. They serve in some ways as 'living laboratories' for testing out and demonstrating integrated management of land, water and biodiversity, which is the embodiment of the ecosystem approach' being developed by the Convention on Biological Diversity.
In short, biosphere reserves are much more than just protected areas. They represent a means for promoting management essentially as a pact between the local community and society as a whole (UNESCO, 2000).

to conservation. Therefore, it order to achieve sustainable conservation, state legislators and environmental planners should involve local people in management of protected areas and *"need to identify and promote social processes that enable local communities to conserve and enhance biodiversity as a part of their livelihood system"* (MCNEELY, 1994; PIMBERT & PRETTY, 1997a, p.307).

2.4 Sustainable livelihoods

How to integrate sustainable livelihoods with both nature conservation and development objectives is a key question in the world today. We will address and present here some of the key concept of livelihoods strategies.

'Household livelihoods, and the strategies that people use to create them, are at the core of development' (MESSER & TOWNSLAY, 2003, p.7).

People may be involved in different social and economic activities as individuals, but it is at the level of household* that the real impacts of those activities are seen most clearly, and the well-being of the household is generally a key objective for most people, at least in rural society (Id.).

How people define well-being varies of the households (MESSER & TOWNSLAY, 2003). For example, for poor households living in poor rural areas, 'well-being' may means just having enough to eat, shelter for the family and the basic level of

* Some definitions of a 'household' '…a group of people who eat from a common pot, and share a common stake in perpetuating and improving their socio-economic status from one generation to the next' (FAO, 1992).There can be no single definitions of a 'household'. Different cultures, and different social groups within cultures, will often think of the household in the different terms. Households are usually based on family relationships, but they can often include people who have no kin relationship at all with other household members. Households may pool some of the resources available to individual members, but access to other resources may be different for different household members (for example, women may have less access to some resources than men). A whole household may be poor, but some household members may be poorer than others. In some situations, for example where there is migration, some individuals may be members of more than one household. Usually, members of a household will have some common interest in improving their socio-economic condition from one generation to the next. So, the meaning of a 'household' always needs to be adjusted to local circumstances (MESSER & TOWNSLEY, 2003).

security. For other groups, standards may be higher, but, whatever the definition, household will strive to achieve that level and sustain it. 'A livelihood is basically the means that a household uses to achieve that well-being and sustain it' (MESSER & TOWNSLEY, 2003, p.7).

The livelihood strategies that household develop to ensure their livelihoods will depend on how they can combine their livelihood assets (fig. 2.4), take into account the vulnerability context in which they live, and the policies, institutions and processes that affect them (MESSER & TOWNSLAY, 2003). In order to understand the meaning of livelihood assets, the following definitions are adopted from (MESSER & TOWNSLEY, 2003, p.9):

SOCIAL CAPITAL - The way in which people work together, both within the household and in the wider community, is crucial to the household livelihood. In many communities, different households will be linked together by ties of social obligation, reciprocal exchange, trust and mutual support, all of which can play a critical role, particularly in times of crisis. These can be thought of as social capital, which forms part of a household's livelihood capabilities.

PHYSICAL CAPITAL - Physical capital may include tools and equipment, as well as infrastructure such as roads, ports and landing places, and market facilities. Access to these, as well as other forms of infrastructure, such as water supply or health care facilities, will influence people's ability to earn an adequate livelihood.

HUMAN CAPITAL - People's health and ability to work, and the knowledge and skills they have acquired over generations of experience and observation, constitute their human capital. Education can help to improve people's capacity to use existing assets more effectively and generate new assets and opportunities.

NATURAL CAPITAL - For people living in rural areas, natural capital, including assets such as land, water, forest resources and livestock, are obviously of key

importance for the production of food and income. The manner of access to these resources – ownership, rental, common pool, etc. – needs to be considered, as well as the condition of the resources themselves, their productivity, and how they may change over time.

FINANCIAL CAPITAL - The financial capital available to rural households may come from the conversion of their production into cash in order to cover periods when production is less or to invest in other activities. They may make use of formal and informal credit to supplement their own financial resources.

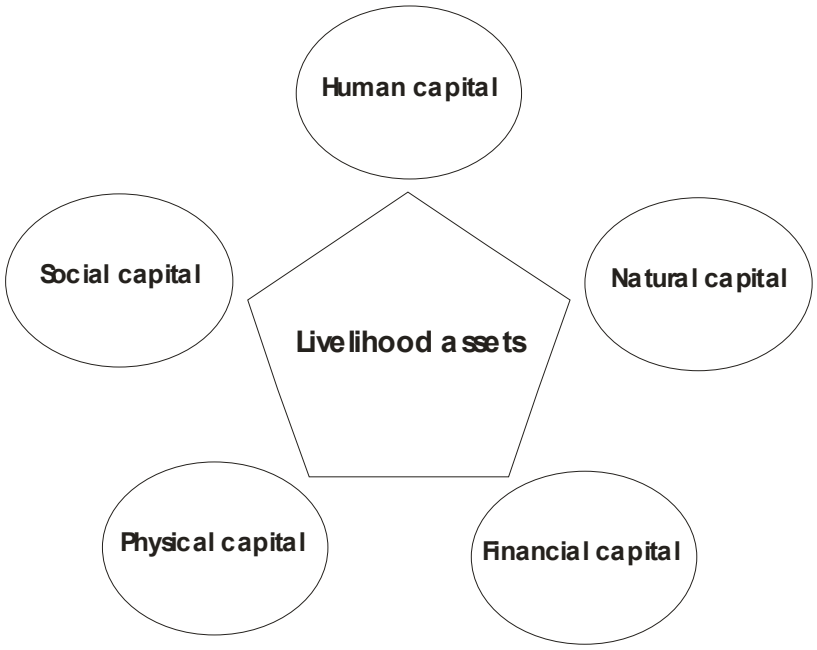

Fig. 2.4: Livelihood assets (*Source*: Adapted from MESSER & TOWNSLEY, 2003)

It is generally agreed that sustaining or providing alternative livelihoods is necessary in order to halt the exploitation of protected areas; that livelihood opportunities can be integrated with nature conservation objectives; and, for example, that extractive reserves and multiple-use forestry can provide benefits to people and biodiversity (JEANRENAUD, 1999).

According to JEANRENAUD (1999), livelihood and conservation dilemmas should be addressed at an institutional, as well as at economic levels, e.g. through the (promotion of land reform as well as finding marketing solutions for non-timber forest products).

"Livelihood issues should be addressed not only as an environmental imperative, but also as an issue of social justice" (JEANRENAUD, 1999, p.132).

The sustainable rural livelihoods approach has shifted towards considering people first, and then examining how they manipulate different capital stocks (social, physical, human, natural and financial) to augment their livelihoods. Biodiversity represents a part of natural capital. Natural capital provides the material, energy, processes and information which people combine to produce and accumulate other capital stocks – physical, human and financial – from which positive livelihood outcomes are derived. Thus, 'biodiversity should be seen as a means of contributing to sustainable rural livelihoods, rather than an end in itself' (KOZIELL 1998, p.84).

2.5 Participation

The issue of participation is an important issue in protected area management. For instance, the IV IUCN World Congress on National Parks and Protected Areas called for increased community participation and human equity in the decision-making of protected areas in order to improve their management (IUCN, 1993). The term *participation* can be interpreted in very different ways, and therefore it is essential to define it carefully.

Until the 1970s, the participation of local people in conservation was often seen as a tool to achieve the local approval to protected area plans, and participation was almost a mere public relations exercise.

During the 1980s, participation of the local people was regarded as a mechanism to gain better results in natural resource protection, while in the 1990s, participation

has been interpreted more and more as a means to involve local people in protected area management (PIMBERT & PRETTY, 1997a).

It is now widely assumed that participation is required in order to achieve sustainable and effective conservation, particularly in protected areas; that it can bring economic and social benefits to marginalised groups; and that devolution of decision-making will benefit biodiversity (JEANRENAUD, 1999). 'Participatory approaches provide opportunities for the poor to contribute constructively to development' (FAO 1990a, p.4; FAO 2001).

The FAO People's Participation Programme believes that 'participatory approach is an essential part of any strategy and its call for 'the active involvement and organization of grass roots level of the rural people' (FAO 1990a, p.5).

As sustainability is defined in ecological, economic, and social terms, participation, as a democratic means of decision-making, has been increasingly recognised 'as an essential means and end to the development of the social dimensions of sustainability' (FINGER-STICH & FINGER 2003, p.1).

According to FINGER-STICH & FINGER (2003), 'participation' is defined as, *"the voluntary involvement of people who individually or through organised groups deliberate about their respective knowledge, interests, and values while collaboratively defining issues, developing solutions, and taking – or influencing – decisions"*. Furthermore, defining who can participate will lead to different types of participation processes. FINGER-STICH & FINGER (2003) distinguished three main types of participation: public participation, representative participation and community participation. This research focuses is on community-based participation processes.

Public participation[5], collaborative management[6], and community-based management as types of participation may not always be distinct. 'They may be

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[5] Team of specialists (FAO/ECE/ILO, 2000) Public participation defined as, *"a voluntary process whereby people, individually or through organised groups, can exchange information, express opinions and articulate interests, and have the potential to influence decisions or the outcome of the matter at hand"* (FAO/ECE/ILO, 2000 , p.9).

[6] Collaborative management or '**co-management'** is defined as *"a situation in which two or more social actors negotiate, define and guarantee amongst themselves a fair sharing of the management functions, entitlements and responsibilities for a given territory, area or set of natural resources"* (BORRINI-FEYERABEND *et al.,* 2000, p.1). Co-management (short for collaborative or joint management) – this term has been defined as, *"...durable, verifiable and equitable forms of participation, involving all relevant and legitimate stakeholders in the management and conservation of resources"* (RENARD, 1997).

complementary and evolve into one another over time' (FINGER-STICH & FINGER, 2003, p. 28). For example, a protected area policy may be drafted in consultation with the general public at the regional and/or national level, then there may be a co-management body to monitor the management of a particular protected area, and it may work in partnership with community-based associations to adapt this management to particular places, activities, and social groups (Id., p.28).

In order to understand the meaning of participation, as well as participation processes, the following definitions and understandings are collected from different authors:

Participation processes, whatever their type, have the potential to evolve and provide space and opportunities for social learning (KORTEN, 1990). Participatory theories, such as social forestry (KORTEN, 1981), emphasize policy-making based on direct citizen participation, ahead of expertise and citizen preference structures. These theories propose a restructuring of institutional arrangements to accommodate greater citizen deliberation. In the field of social forestry, KORTEN (1980) identified several weaknesses in early traditional community development programmes, which he attributed partly to inappropriate governance structures. He maintained that new arrangements can be achieved through *"innovative social learning (which emphasizes) central facilitation over central control, performance monitoring and self-correction over planning, encourages local initiative and self-control, and reflects a tolerance for the ambiguity and uncertainty inherent in the learning process"* (KORTEN, 1981, p.613).

"While understanding that all participatory processes entail communicative action, it is useful to recognise that in the situation where problems are being defined and actors are forming or changing their roles, the essence of the participatory process is communicative action. This means that the degree of instrumental or strategic policy development is low since there is not a clear public problem and no organised social interests. Indeed, one can expect this part of the policy process to possibly extend over years as the nature of the public problem is slowly understood and shared understanding emerges through dialogue between the actors" (SHANNON, 2003, pp.147-148).

Thus, communicative action leads to a better understanding of the actors, stakeholders and interests and why they are associated with this problem (FINGER-STICH & FINGER, 2003).

"Participation processes are both a way to manage conflict by seeking compromise between various interests, and they are also a means of developing more creative solutions that would not have emerged without the interaction of stakeholders. The decisions born out of such collaborative thinking and negotiation have the advantage of being the product of all those taking part, and are therefore more likely to be effective. Effective participation is a means and an outcome of collaborative learning" (FINGER-STICH & FINGER, 2003, p.41).

In general, scholars have agreed about main point of participation, namely: learning process, communicative action and participation is a means and an outcome of collaborative learning.

One promising overall approach to building cooperation between local people and protected area managers is through 'collaborative management' or 'co-management' of protected areas – a partnership whereby various stakeholders agree to share amongst themselves the management functions, rights, and responsibilities for a territory or set of resources under protected area status (BORRINI-FEYERABEND, 1996).

In recent years, there has been a growing interest in the integrated management of protected areas, which means the ample participation of the local people in the decision-making and management of the area (GHIMIRE & PIMBERT 1997; ORLOVE & BRUSH 1996; SHYAMSHUNDAR 1996; WELLS & BRANDON 1993). PIMBERT & PRETTY (1997a, p.309-310) classify the different levels of participation in protected area management as follows (tab. 2.5).

Tab. 2.5: A typology of participation (Adopted from PIMBERT & PRETTY, 1997a, p.309-310)

	Passive participation
2	**Participation in information giving**
3	**Participation by consultation**
4	**Participation for material incentives**
5	**Functional participation**
6	**Interactive participation**
7	**Self-mobilization**

In this table, *passive participation* means informing the stakeholders on what has happened in the area, or what is going to take place, while their reaction concerning the information or the activities realized are not taken into account.

Participation in information giving means that information about the protected area is gathered from the local inhabitants through surveys, but people do not have the opportunity to influence the proceedings in the area. This way their role in the participation is only to give information. Discussing the results more widely, and people's *participation by consultation* in the definition of the problems and in the search for solutions of the management of the area is a step further in local participation. But even in this case they do not have an active role in decision making, led by professionals. Sometimes participation means local *participation for material incentives* in which case local people provide some of their resources such as labour, land or collecting genetic material in return for food, cash and other material incentives. In these cases, participation often finishes when the incentives end (Ibid., p.309).

However, compared to the first two levels, this kind of participation offers the local people a role as a subject, and not just an object of activities, as they both give and receive something from the protected area authorities.

According to PIMBERT AND PRETTY (1997a), only the last three levels of participation (functional, interactive and self-mobilization) are sufficient in order to achieve effective, efficient and sustainable conservation in protected areas.

Functional participation is defined as people participating by forming groups to meet the predetermined objectives related to protection of the area. This kind of participation can also include the promotion of externally initiated social organizations. Even though these organizations are usually dependent on external facilitators, they may later become more independent. In *interactive participation* people formulate a joint analysis, which leads to action plans and to the formation of new local groups and the strengthening of the existing ones.

These groups then take control over local decisions. Finally, self-mobilization means people taking initiatives, independent of external institutions, to change the management systems of the natural resources (Id., p.309-310).

Sustainable protected area management requires, first of all, understanding of the complex ecological and social relationships in rural areas, and valuing of local people's ideas and knowledge systems. Both the conservation authorities and the people living in and around protected areas have their particular strengths and limitations. For this reason, the advantages and skills of professionals need to be combined with the strengths of local people, this kind of participation process, at its best, leading to the real empowerment of the local people (Id.).

2.6 Participatory forest management

Forests represent one of the most important and most endangered natural resources in Tara National Park. Therefore in this subchapter will focus on the role of forestry, which can play in sustainable livelihoods in particular.[7]

Forests and trees can make a significant contribution in sustainable livelihoods. It has been estimated that about 1.6 billion people worldwide are heavily dependent on forest resources for their livelihoods. Within a local community, it is common

[7] The five forms of capital needed for sustainable livelihoods are: natural capital, physical capital, social capital, financial capital and human capital.

to find that it is the poorest households, with less agricultural land, livestock, or labour are the predominant collectors of forest products (FAO, 1990b; WARNER, 1995). Despite the importance of forest resources to the poor, until recently efforts in development, as well as in forestry, have not paid sufficient attention to how natural capital, such as forests, is used in combination with other assets to sustain livelihoods. This has resulted in gaps in our understanding of the forests' contribution to sustainable livelihoods (DFID, 1999).

Forests are an important source of natural capital and provide non-material goods that contribute to livelihoods by enhancing social and human capital. Forestry initiatives supporting access to resources, participatory decision-making and equity assist in increasing well-being, especially that of the poor (WARNER, 2003).

However, sustainability of the natural resource base is a critical concern of (and basis for) sustainable livelihoods. Increased sustainable use of natural resources can have a direct impact on the improvement of natural capital. The holistic approach of current sustainable livelihood initiatives recognises the vulnerability of the poor to resource degradation and promotes sustainable resource management as a critical element for sustainable improvement in the livelihoods of the poor.

A key challenge lies in implementing environmental policy. One of the greatest needs may be for a policy and legal framework that legitimises participation in the co-management of the resources and incorporates multiple objectives, including poverty alleviation, and provides operational mechanisms (WARNER, 2003).

"However, even if the policy, legislation, rules and regulations are in place, it does not automatically follow that implementation takes place. The focus of the efforts to create an enabling environment for participatory multi-objective management has primarily been on the policy and legislation components" (WARNER, 2003, p.26).

Furthermore, meeting the needs of local people should be the principal objective of forest management, and this should be reflected in control and tenure arrangements (PELUSO & PADOCH, 1996). Poverty-oriented forestry is concerned with reducing the vulnerability of the poor by enabling people to continue to have access to the resources and product flows needed for subsistence purposes

(WARNER, 2003). A detailed assessment needs to be prepared by, or at least with the people concerned, in order to identify the complete range of relationships between the people and forest that they use and/or manage, the current limitations to their livelihoods and the potentials and desire for change (BYRON AND ARNOLD, 1999). Experiences in community-based forestry demonstrate that a people-centred approach is viable and effective (WARNER, 2003).

Some conservationists recommend participatory forest management over community or state forest management because participatory forestry enhances collaboration and understanding between forest communities and state authorities (e.g. MURPHREE 1993; PAGIOLA *et al.,* 1998; BECKER & LEON, 2000; POKHAREL, 2000).

However, POFFENBERGER & SINGH (1998) and CAMPBELL *et al.* (2001) warned that implementation of participatory forestry can be difficult, particularly where securing representation on joint management committees and reaching consensus on issues such as distribution of benefits to communities are concerned. GRUMBINE (1994) and JACOBSON (1995) suggested that these issues can partly be overcome if resource users and managers are aware of the forest management goals and practices, and have positive attitudes towards conservation.

Furthermore, in protected areas, received benefit from tourism is a key factor for a local population to perceive conservation positively (see for example WALPOLE & GOODWIN, 2001). Although, research findings in Wasa National Park in northern Cameroon, representative of trends towards more participatory protected areas in Africa, *"suggest that benefits are an incentive for people to perceive conservation positively"* (BAUER, 2003, p. 179).

A correlation between benefits and positive attitudes has been confirmed in many cases (DE BOER & BAQUETE, 1998; GILLINGHAM & LEE, 1999; HAMILTON *et al.,* 2000; ABBOT *et al.*, 2001; MEHTA & HEINEN, 2001). Furthermore, literature based on empirical evidence indicates that three important refinements must be added to the statement claiming that benefit sharing contributes to cooperative attitudes towards conservation. These can be summarised as (1) the importance of economic

viability from the local perspective (SHYMSUNDAR & KRAMER, 1996), (2) an explicit link with long-term conservation interests (SHYAMSUNDAR, 1996), and (3) the need for proper institutional arrangements (ARCHABALD & NAUGHTON-TREVES, 2001).

As was already noted in the introductory chapter, the attitudes and perceptions of the stakeholders towards a conservation area and the policy being implemented are an important element of sustainable conservation, and local communities must be actively involved, and their needs and aspirations considered if biodiversity conservation is to be successful.

These trends have encouraged the development of a new conservation paradigm, 'community-based conservation', emphasising management of biodiversity by, for, and with local communities (GIBBS & BROMELY, 1990; RAO & GEISLER, 1990; WESTERN *et al.*, 1994; GIBSON & MARKS, 1995).

All policies and programmes implemented under the community-based conservation paradigm share the key assumption that biodiversity conservation will only succeed if local communities receive sufficient benefits, participate in management, and therefore, have a stake in conserving the resource (GIBSON & MARKS, 1995).

2.7 Protected areas and rural development

The significance and role of protected areas in local and regional development has become one of the frequently discussed topics in protected area management. According to this view, protected areas can be an opportunity to combine conservation and rural development (e.g. GARCÍA, 1997) and, by this way, to resolve the dilemma between nature protection *versus* local people's livelihood. It is important, however, to make it clear that development in protected areas cannot be synonymous with any kind of rural development.

The special designation as a protected area needs to be taken into account, and the development activities carried out must be as environmentally sound as possible. In

protected areas, development should mean *sustainable development*. If the management actions are chosen by focusing on the socio-economic situation of the area, protected areas could, at their best, contribute to local development. The IV IUCN World Congress on National Parks and Protected Areas held in1992 saw protected areas as an important tool in implementing sustainable development and discussed the various economic benefits protected areas can bring to surrounding areas.

Protected areas have an important role in protecting watersheds, preventing soil erosion, mitigating the climate change and maintaining wild genetic resources for medicine or for plant and animal breeding, besides offering sites for tourism, research and education (MCNEELY, 1993.) The question then is how much these benefits profit the local communities, and not only the international investors.

There are many examples of the direct and indirect benefits of the protected areas to the local communities, such as increase yields and better nutrition through improved agricultural practices, or better health care and education possibilities through increased institutional attention to the area. The planning and management of protected areas can, in turn, benefit from the knowledge and experience of the local people. At best, protected areas can offer one alternative for the sustainable development of rural areas by encouraging the local economy in ecologically and socially sustainable ways (IUCN/CNPPA, 1994). For example, inhabitants of the nearby communities or in the area itself may find new alternatives for income generation from (eco)tourism and associated activities, or the communication possibilities in the buffer zone (roads, transportation, even telecommunication) may be improved as a result of the activities carried out in the protected area.

The sustainable management of protected areas must take the social, cultural, economic, and political context of the society into consideration (IUCN, 1993). At the same time, the protected area management should seek further tools in order to promote more locally-based protection and conservation initiatives and to enable more socially and ecologically sustainable development in the area.

2.8 Summary

Generally, protected areas are primarily viewed in biological or ecological terms, but they provide numerous functions beneficial to humans, and even essential to human welfare. Increasingly, they are seen as drivers and providers of social and economic change.

Protected areas contribute to a country's social and economic objectives through supporting ecosystem services, promoting the sustainable use of renewable resources. However, protected areas can only deliver their environmental, social and economic benefits if they are effectively managed. Capacity to manage has many components and cannot be summarised in a single measure. The principal dimensions are the system of governance, level of resources, and community support. In order to adequately protect ecologically valuable areas, it is necessary to recognize the role of people in sustaining these systems and to engage people in protecting them.

In recent years several researchers have stressed community support and especially the role of the local people as an important element in the successful management of protected areas. Focus was on the role of local communities in the management of protected areas with the expectation that without the cooperation and assistance of local communities, achieving biodiversity conservation in places where the land and resources are fundamental to supporting people's livelihoods will be less successful than if the local people actively support this goal. There is a growing recognition that the sustainable management of protected areas ultimately depends on the co-operation and support of the local people.

In order to achieve sustainable conservation, state legislators and environmental planners should involve local people in management of protected areas and need to identify and promote social processes that enable local communities to conserve and enhance biodiversity as a part of their livelihood system.

It is generally agreed that sustaining or providing alternative livelihoods is necessary in order to halt the exploitation of protected areas; that livelihood opportunities

can be integrated with nature conservation objectives; and, for example, that extractive reserves and multiple-use forestry can provide benefits to people and biodiversity.

The sustainable rural livelihoods approach has shifted towards considering people first, and then examining how they manipulate different capital stocks (social, physical, human, natural and financial) to augment their livelihoods.

The issue of participation is an important element in protected area management. Furthermore, it is now widely assumed that participation is required in order to achieve sustainable and effective conservation, particularly in protected areas; that it can bring economic and social benefits to marginalised groups; and that devolution of decision-making will benefit biodiversity.

These trends have encouraged the development of a new conservation paradigm, 'community-based conservation', emphasising management of biodiversity by, for, and with local communities All policies and programmes implemented under the community-based conservation paradigm share the key assumption that biodiversity conservation will only succeed if local communities receive sufficient benefits, participate in management, and therefore, have a stake in conserving the resource.

3 Research area

-Tara National Park and institutional and legal framework on protected areas in the Republic of Serbia

"This is how I imagine paradise" (Dr. Aitken Clark, the director of the Federation of Nature and National Parks of Europe, speaking of the Rača Monastery, August 1996)

According to an ancient Slavic legend, Tar, king of the gods, chose Tara Mountain with its outstanding and unique natural beauty as the place to spend his divine life (MOSUROVIĆ & SIMIĆ, 2002). This natural beauty led Tara Mountain to be named a National Park in 1981 and now to be considered for designation as an International Biosphere Reserve. This chapter outlines the main physical, ecological, cultural, and social characteristics of Tara National Park.

3.1 Geographic location

Tara National Park (TNP) is situated in the west of Serbia (fig. 3.1-1), between 43° 52' and 44° 02' north, and 19°15' and 19°38' east of Paris. The region which includes Tara NP extends over an area of 19175 ha. It contains most of Tara Mountain and the region bordered by the elbow-shaped course of the River Drina, between Višegrad and Bajina Bašta, thus belonging to a part of Starovlaške mountains (Starovlaška-Raška Visija highlands) (GAJIĆ, 1989).

Fig. 3.1-1: Geographic position of Tara in the Republic of Serbia and Montenegro

Tara National Park incorporates the region belonging to the Bajina Bašta municipality. Two local communities, namely Jagoštica and Rastište are situated entirely on the national park territory (fig. 3.1.2), with eight further communities partly within the park's boundaries (Perućac, Beserovina, Zaovine, Rača, Mala Reka, Solotuša, Zaugline and Konjska Reka) (GAJIĆ, 1989). Five great mountains – Tara, Crni Vrh, Aluške Planine, Zvezda and Kaluđerske Bare – framed by the impressive canyon of the River Drina, represent the park's most precious features. Especially noteworthy is the diversity of the abiogenes and the heterogeneity of the ecological characteristics, as well as a very significant refuge in which numerous relict and endemic species and associations have been preserved, many even since the glaciations. It is considered that certain manmade ecosystems (meadows and pastures) also represent a particular value and potential of this region (ZAVOD ZA ZAŠTITU PRIRODE SRBIJE, 2002a).

Fig. 3.1-2: Map of Tara National Park

3.2 Geomorphology and relief

Tara mountain range was formed more than 600 million years ago from Palaeozoic limestone and shales. Glacial and postglacial events played a significant part in determining the flora and fauna of this protected area. During the great ice age and the alternation of glacial and interglacial periods, the large Paratetis Sea, part of the Panonian Sea, played an important role. A part of this sea, next to the basin of the River Drina, extended as far as Tara Mountain. Later, the withdrawal and disappearance of the sea caused an alteration of the climate and the formation of specific vegetation (PE, NATIONAL PARK TARA, 2002a).

Geomorphologically, the national park region is characterised by a set of mountain humps and highly fissured surfaces bisected by deeply tongued river valleys, with canyon walls of 1000 m in height. The region is made of carbonic, Triassic and chalk rocks (PE, NATIONAL PARK TARA, 2002a). The average altitude is 1000-1200 m. The highest peak in TNP is Kozji rid (1591 m a.s.l.). There are a large number of mountain peaks and ridges, which are excellent for mountaineering and also provide spectacular views. The canyon of the rivers Drina (fig. 3.2.), Derventa and Rača, with their waterfalls and spring Ladjevac, are particularly spectacular (PE, NATIONAL PARK TARA, 2002a).

Fig. 3.2: The refuge of the flora – the gorge of the River Drina

In the national park, agricultural areas cover 3,353 ha, or 17.5 % of total area, comprised of 82 % meadows and pastures, 15 % ploughed fields and 3 % orchards. However, natural resources for the development of agricultural production are limited, because the type of soils differs in their productive value and their capacity to be utilized. There are however, agricultural potentials in terms of meadows and pasture that could support cattle breeding, which have been underdeveloped to date (ZAVOD ZA ZAŠTITU PRIRODE SRBIJE, 2002a).

3.3 Climate

Climate is one of the most significant factors for the appraisal of Tara Mountain as a tourist destination. Due to the varied topography, and in places vertical relief, ranging from altitudes of 220 meters to 1,591 meters, two types of climate prevail: 'moderately continental' in the lower part up to 700 meters, and 'submontane' at the higher elevations (Mosurović and Simić, 2002). Differences of air temperature at various locations on Tara Mountain are shown in table 3.3-1.

Tab. 3.3-1: Average monthly air temperatures for particular locations in Tara in °C (data from the Mitrovac meteorological station for the periods 1946-1950 and 1954-1973)

Place name	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
Perućac	-1.2	1.9	5.5	11.1	14	18	19.7	19.9	15.9	11.4	7.4	1.2
Zaovine	-3.9	0.9	2.8	8.4	11.3	15.2	17	17.2	13.2	8.7	4.7	-1.5
Kaluđerske Bare	-5.5	-2.4	1.2	6.8	9.7	13.6	15.4	15.6	11.6	7.1	3.1	-3.1
Mitrovac	-4.8	-3.8	0.5	3.8	8.9	12.6	14	13.9	10.4	6	1.9	-1.6

(Source: Faculty of Forestry, Belgrade, 1992)

The data contained in table 3.3-1. demonstrate that January is the coldest month at each place, and the warmest month is August. An absolute minimum temperature of -20°C occurs in January, and an absolute maximum of 29 °C in July (GAJIĆ, 1989). Annual precipitation in Tara is around 977 mm, with a maximum of 127 mm

in May and a minimum of 49 mm in February. The rest of the year monthly precipitation is more or less equal, between 60-79 mm. The average number of snowy days is 109-160, with a maximum snow depth of up to 1 m in the higher mountain zone. The climate of Tara induces the formation of haemoglobin, improves blood circulation and has a favourable influence on the respiratory organs. It promotes the strengthening of the immune system and regenerates strength, this makes Tara 'an air spa of significant components of medicine, health and tourism' (MOSUROVIĆ & SIMIĆ, 2002, p.14).

3.4 Protected values and biodiversity

3.4.1. Protected values

Thanks to the specific orography of the terrain, the Tara range became a refuge for many species of flora and fauna. This diversity is evident not only in the presence of living species, but also by a great number of relict and endemic species. The most important relict is Panchich's spruce (*Picea omorika*), endemic to this region and a source of national pride, but also an object of interest for world experts, lovers of nature, mountaineers and tourists (PE, NATIONAL PARK TARA, 2002a).

All of this determines the main concept of protection, arrangement, range and manner of resource utilisation (PE, NATIONAL PARK TARA, 2002a). According to the spatial plan of the Tara National Park region (Official Gazette of RS no.3/89), there are three zones, corresponding to three grades of protection, each with different protection and development regimes (fig. 3.4-1) tourists (PE, NATIONAL PARK TARA, 2002a).

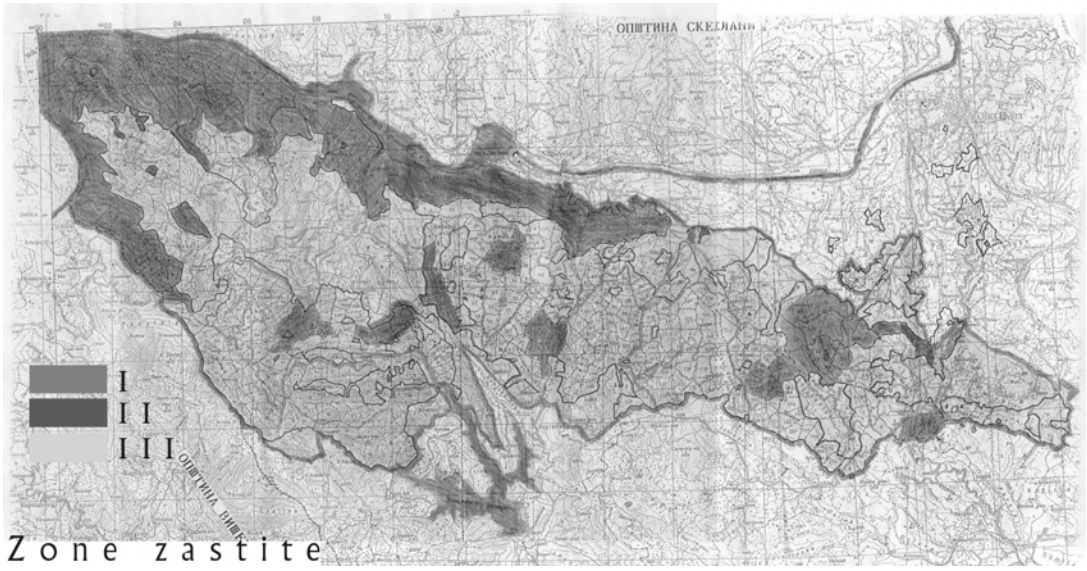

Fig. 3.4-1: Grades of protection and the corresponding protection and development regimes (Source: PE, NATIONAL PARK TARA, 2003)

The grade 1 zone covers 3,378.84 ha, which represents 17.6 % of the total area of the national park, and involves the protection of special natural values such as natural reservations, monuments of nature, natural rarities, views and stationary cultural features.

The most significant category and the biggest part of the grade 1 zone are natural reservations. Reserves are situated at Management Unit (M.U.) Zvezda, M.U. Crni Vrh and M.U. Rača.

The grade 2 zone covers 7,488.89 ha, 39.1% of the total area of the national park and corresponds to areas around natural reserves and monuments of nature belonging to the grade 1 zone. These include protected forests, park forests, arboreta, experimental fields, springs, water courses and other water sources, game breeding areas and scientific reserves, and cultural and historical complexes. The grade 3 protection zone covers an area of 8,307.27 ha, 43.3% of the total area of Tara National Park. These areas are intended for forestry, agriculture, the active development of tourism, recreation and sport, infrastructure and other activities (PE, NATIONAL PARK TARA, 2002a).

3.4.2. Biodiversity of Tara

The main value of the area is the abundance and biodiversity of natural values (fig. 3.4.2-1). The rich flora is the result of many factors: geographic position, geology, soils, climate, history and altitude (PE, NATIONAL PARK TARA, 2002a).

Fig. 3.4.2-1: Natural beauty in Tara National Park

The vascular flora of Serbia contains 3662 taxa (STEVANOVIĆ, 1999), of which 1 000 plant species have been identified in this region, or one third of the total flora of Serbia, makes TNP the most important area for preservation of biodiversity (GAJIĆ, 1989). According to the research in 1989 (GAJIĆ *et al.* 1992), the flora of Tara is composed of 35 forest and 9 meadow associations. The majority of species belong to the families Asteraceae, Poaceae, Fabaceae and Lamiaceae (table 3.4.2-1). The Asteraceae family accounts for the greatest number of floral species from northern Europe to the Mediterranean (OBRATOV & DJUKIĆ, 1996). The great number of genera from this family indicates that the Serbian and Montenegrin territory is one of the significant development centres of taxonomic differentiation (STEVANOVIĆ, 1999). Other families, such as Brassicaceae, Scrophulariaceae, Rosaceae, etc., occur with a lower number of representatives.

Tab. 3.4.2-1: List of the number of species of vascular flora from each family on Tara Mountain compared to the total species per family for all of Serbia and Montenegro

Family	Tara	Serbia	Montenegro
Asteraceae	105	366	307
Poaceae	73	250	263
Fabaceae	58	250	233
Lamiaceae	56	146	129
Brassicaceae	47	194	48
Scrophulariaceae	47	161	135
Rosaceae	44	83	-
Caryophyllaceae	42	205	151
Apiaceae	34	142	139
Ranunculaceae	31	121	93
Cyperaceae	24	115	93
Orchidaceae	19	66	64
Rubiaceae	19	49	47
Boriginaceae	17	65	51
Campanulaceae	13	60	51
Euphorbiaceae	13	37	36
Liliaceae	13	116	91
Dipsacaceae	11	44	31
Malvaceae	11	31	-
Polygonaceae	11	39	36
Geraniaceae	10	21	-
Primulaceae	9	22	-
Salicaceae	9	29	-
Violaceae	9	27	-
Aspidiaceae	8	9	-
Crassulaceae	7	25	-
Gentianaceae	7	23	-
Aceraceae	6	14	-
Alliaceae	6	32	-
Caprifoliaceae	6	20	-
Eqisetaceae	6	8	-

(Source: OBRATOV & DJUKIĆ, 1996)

Forest ecosystems of Tara Mt. are among most diverse and most preserved in Europe. At the lowest elevations the forests are characterised by grey elder (*Alnus incana*), willow (*Salix spp*), European walnut (*Juglans regia*) and the flowering ash (*Fraxinus ornus*).

These are succeeded by forests with Austrian oak (*Quercus cerris*), Hungarian oak (*Quercus frainetto*), sessile oak (*Quercus petraea*), Balkan beech (*Fagus moesiaca*), and Austrian and Scot's pine (*Pinus nigra*, *P. sylvestris*). At the highest elevations the forests consist of silver fir (*Abies alba*), Norway spruce (*Picea abies*) and beech (*Fagus sylvatica*), along with sycamore (*Acer pseudoplatanus*), mountain elm (*Ulmus glabra*), European aspen (*Populus tremula*), etc. A set of impoverished forest associations derived from the Omorikae-Pineto-Abieto-Fagetum mixtum association are found in the national park (PE, NATIONAL PARK TARA, 2002a). Furthermore, there are the plenitude of natural rarities protected by law, such as Panchich's spruce (*Picea omorika*), the hazel tree (*Corylus colurna*), European yew (*Taxus baccata*), European holly (*Ilex aquifolium*), the Derventa knapweed (*Centaurea derventana*), alkanet (*Gentiana lutea*), etc. are a further special feature of the region (see annex 4) (PE, NATIONAL PARK TARA, 2002a).

Over 250 edible and poisonous mushrooms can be found in the meadows and forests of Tara. The most poisonous is death cap (*Amanita phalloides*). The edible mushrooms of a high quality include: king bolete (*Boletus edulis*)**,** yellow morels (*Morchella esculent*), and delicious lactarius (*Lactarius deliciosus*). The rich fauna consists of a large number of rare but scientifically important species, a number of which are already extinct in many parts of Europe, such as chamois (*Rupicapra rupicapra*) and brown bear (*Ursus arctors*), etc. (see annex 4). There are also many game species: wild boar, wolf, fox, rabbit, marten and wild cat (Id.).

The mountain complex of Tara, one of the most strictly protected natural areas, provides a habitat for many birds, some of which have already been exterminated throughout most of Serbia and Montenegro.

A small number of golden eagles (*Aquila chrysaetos*) are present, and the capercaillie (*Tetrao urogallus*), for example. In total, 53 species of mammal and 82 bird species have been recorded in this region (Id.).

3.5 Meadow associations

Meadows cover large areas of the national park, developing as secondary vegetation on the soils of various former forest associations (fig.3.5). Thanks to the diversity of habitats, the Tara area provides meadow associations: - *Ranunculo – nardetum stricte*; *Danthonietum - calycinae*; *Cariceto – brometum erecti*; *Rhinantho – cynosuretum cristati*; *Bromo – plantaginetum mediae*; *Arrhenatheretum - elatioris; Lythro –caricetum paniculatae; Eriophoretum latifoliae; Patasitetum hybridi* (ZAVOD ZA ZAŠTITU PRIRODE SRBIJE, 2002a).

The meadow associations are maintained and preserved ecosystems with varied and rich vegetation and fauna. There are a great number of herbs of pharmacological importance, but they have as yet been insufficiently studied (Id.).

Fig. 3.5: The meadow association in Tara National Park

3.6 Population, cultural and historical heritage

3.6.1 Population and settlements

The inhabitants of this region belong to the Dinaroid anthropological type. They are highlanders infused by permanent migration streams from southern parts (eastern parts of Herzegovina, Montenegro and Stari Vlah), people of the same physiological features, little changed across centuries and generations (INSTITUTE FOR NATURE CONSERVATION, 2003).

The population is Serbian and lives in scattered villages, so-called 'starovlaski', where the houses of one family make up an independent economic unity. These houses are often far away from one another (fig. 3.6-1), and therefore a single village with a small number of inhabitants may sprawl across a number of kilometres. Two villages are situated entirely within the borders of the national park. Jagoštica is a village of the small scattered type, and Rastište consists of strewn hamlets and represents the biggest and most scattered village in the Tara region. Jagoštica is the most isolated settlement and only in the last ten years has it been better connected with neighbouring Rastište and the surrounding settlements (INSTITUTE FOR NATURE CONSERVATION, 2003).

Fig. 3.6-1: Distant house in Rastište village and the rare scene of both old and young generations together (photo: Tomićević, 2003)

In the period 1948-1981, the population of the Tara region decreased to 5000 people, of which 900, or 17.2%, live within the national park (Id.). In Jagoštica village there are 53 households and 163 inhabitants. Rastište village has 107 households and 285 inhabitants.* There are eight villages along the borders of the national park. Parts of the associated households and their estates are located within the national park, including mainly forests, but also meadows and pastures. The main occupations of the inhabitants of this region are agriculture and forestry. A small number of inhabitants of the region are employed, mainly in forestry. The possibility of employment in other activities is limited, leading to a population drain, which along with a low birth rate means that the population is in decline (GAJIĆ, 1989). The dwindling population is a consequence of the underdevelopment of the region and the difficult local employment situation, causing the inhabitants to migrate to more developed areas (INSTITUTE FOR NATURE CONSERVATION, 2003). These trends will be discussed in chapter 5.

3.6.2 Cultural and historical heritage

The Tara Mountain possesses a rich cultural and historical heritage. During the periods of Roman and Byzantine occupation of the Balkan Peninsula, the Tara region and the canyon of the River Drina, belonging to the Roman province Ilirikym, represented the most northern natural defensive border. However, the region was located at the margins of both the Roman and Byzantine cultural influence. Therefore, there are no significant remains from those periods. When the Slavs arrived (10th century) in this area, however, they brought new customs and forms of organisation along with them (PE, NATIONAL PARK TARA, 2002a).

* Census in 2002

With the foundation of the Serbian state* in Raška, this region became the defence zone for the state's northern border. The remains of mediaeval fortresses can be found in Perućac and Rastište. In the second part of the 13th century, king Dragutin founded the monastery at Rača, in the canyon of the River Rača. The significance and cultural role of this monastery was especially prominent after the fall of Serbia to Turkish control. In the most difficult period of World War II, the oldest written monument of the Serbian nation – *Miroslavljevo jevandjelje* – was kept in this monastery. Upon the liberation of Serbia from Turkish rule in the mid 19th century, people from Stari Vlah began to move to the Tara region (PE, NATIONAL PARK TARA, 2002a).

Today, these ethnographic characteristics of this region represent a special tourism value. As time has moved on, however, so too have the local customs, clothes and diet changed. Customs concerning slavas, wedding parties and field work are wide-spread and specific. The local handicraft were famous for producing small bags, gloves, socks, jumpers, carpets, flasks and saltcellars, but the tradition of the handicrafts faded away, especially with migration away from the villages to cities (MOSUROVIĆ & SIMIĆ, 2002).

3.7 Forestry

3.7.1 Forest management

Organised forestry has a long tradition in the Tara Mountain region. In 1820 Duke Miloš introduced the Regulation for the Protection of Forests, and in 1833 the first

* "Based on historical sources known up to now we can't with certainty determine the time of foundation of Serbia, in other words when it obtained all characteristics of statehood" (BLAGOJEVIĆ *et al.,* 1989, p. 18). "The foundation of the oldest Serbian state (or states) can't be fallowed in all its particulars, but the process of its organization had quite improved by the middle of 10th century" (BLAGOJEVIĆ *et al.,* 1989, p. 17). "In the west of Serbia, around the upper course of the river Bosnia, there was a minor region mentioned in 10th century as Bosnia, whereas in the east there was another geographical entity called Raška or Rasa " (BLAGOJEVIĆ *et al.,* 1989, p. 17).

forester was appointed. The first foresters in Tara began work in 1872 (ORLOVIĆ & OSTOJIĆ, 2001).

During that period, a majority of the population of the Rača region lived from the sale of forest products due to the shortage of arable land and pastures (IGNJIĆ, 1985). At the end of 19th century and the beginning of 20th century, Tara was exploited by individuals and businessmen. Initially, individuals and then enterprises were granted permission to harvest the forests. Often there were legal conflicts between the inhabitants of municipalities surrounding Tara and the local government departments responsible for protecting the forests. Furthermore, foresters marking trees and forests for harvesting occasionally selected trees located on municipal estates. In order to avoid potential conflicts, the Ministry of Finance of the Princedom of Serbia established a commission in 1875 with the aim of examining and terminating relations between the state and the municipalities (IGNJIĆ, 1985).

The exploitation of Tara's forests continued, however, especially after the second world war, for the purpose of reviving and rebuilding the country (IGNJIĆ, 1986). In 1940, the planned methodical arrangement of forests began (the demarcation of borders, division into management units), but this was halted by the onset of the war so that in effect the process began in 1951 (ORLOVIĆ & OSTOJIĆ, 2001). In 1951, the Forest Department in Titovo Užice took charge of the forests of Tara, and from that year forward a 'calmer period of forest management' began (IGNJIĆ, 1986). The extent of wood cutting within state forests[8] was governed by the principle of maintaining the 'optimal status of the forests'. It's interesting to note that in 1960 a 'Goch type of group selection cutting method was introduced'

[8] 'The utilisation of the state forests of Tara has been documented thus: - in 1964: 45857 m³ of timber was cut; in 1974: 69170 m³ and in 1984: 103076m³. It is evident that the exploitation of the forests increased, but experts state that with, respect to the annual increment, timber removal is 2% lower than permitted by the official standards. The Section for Forestry in Bajina Bašta calculated the following felling volumes for private forests: - in 1980 – 8681 m³, 1981 – 9117 m³, 1982 – 7847 m³, 1983 – 10282 m³, 1984 – 9314 m³. There was no large variation between the volumes felled in the cadastral municipalities' (IGNJIĆ, 1986, p.266).

(IGNJIĆ, 1986). A group selection cut is executed every ten years. The aim is to regenerate the forest after a sanitary cutting (Id.).

Forestry is of great importance to the socio-economic development of the Bajina Bašta municipality. The Section for Forestry in Bajina Bašta built a network of roads at Tara, facilitating the rational management of this natural beauty spot and encouraged the development of tourism by building a communication infrastructure.

Following intense research carried out by leading forestry experts from 1960 on, the Serbian parliament founded the Tara National Park on July 13th, 1990. Up until January 1990, the national park was managed by the Forestry Administration of the Forestry Department in Titovo Užice. In 1990 the Serbian parliament founded the 'Tara National Park' Public Enterprise, which today administers the park (ORLOVIĆ & OSTOJIĆ, 2001).

Today, the total area of state forest in the national park is 12,137.75 ha, grouped into five management units: Zvezda, Crni Vrh, Tara, Kaludjerske Bare and Rača. The most widespread forest association is a mixed, assorted association of fir trees, spruces and beeches (*Piceo-Abieti-Fagetum* Čolić) covering an area of 498.84 ha (ZAVOD ZA ZAŠTITU PRIRODE SRBIJE, 2002a). According to data of the MINISTRY OF NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION (2002), forests are vital, biologically stable and representative of the potential natural vegetation of the region.

Fig. 3.7-1: Fir and spruce forest

3.7.2 Private forests

According to data from the Public Enterprise Tara National Park: 'the area of private forests on the territory of the Bajina Bašta municipality covers 17,109ha 51a 35m^2 (tab. 3.7.2-1 – review of status of private forests in the cadastral municipalities of Jagoštica and Rastište).

This data is based on cadastral measurements from 1934. The actual area of private forests is about 5,000 ha larger, because these forests were the result of organised afforestation schemes between 1960-1986, but large meadows, pastures and other areas afforested naturally were not registered' (PE, NATIONAL PARK TARA, 2002b).

The private forests are predominantly high forests (78.78%) and coppices (21.21%). The high forests possess an average standing timber volume of 137 m³/ha and the coppices 205 m³/ha. High forests and coppices cover 10,500 ha with beech as the dominant species. Sessile oak (*Quercus petraea,),* hornbeam (*Carpinus betulus*) and Austrian oak (*Quercus cerris*) are dominant at lower elevations and are present in the coppices. Coppices provide wood mainly for lopping and use as firewood. These forests have a low annual growth increment. Coniferous and mixed forests cover about 6,600 ha. The most widespread species are spruce, fir, beech and Austrian pine. Scots pine (*Pinus sylvestris*) is found on locations where the geology is serpentine, occasionally limestone. Coniferous forests, mainly *Piceo-Abieti-Fagetum*, cover 50% of area. This forest association includes spruce, fir and Austrian pine (PE, NATIONAL PARK TARA, 2002c).

The problems of private forest management for foresters include:

- natural fragmentation and disparity of forests,
- unresolved legal regulations governing ownership; a large number of owners are dead and their heirs failed to divide up the forests or demarcate parcels,
- legal owners of communal forests are not known,
- relatively poor condition of a large part of the forests.

Additionally, we found that private forest owners used wood as fuel, but in case with small parcels with a low wood mass these situation represents a problem for private forest owners because he must satisfy his own needs, as well as generate an income from sale. For some owners, wood is the only source of income. The number of owners is growing, which means the parcels are being divided into smaller units (tab. 3.7.2-2: The wood volume, number of owners and number of parcels in private forests).The demand for wood is greater than the production capacity of the forests.

The number of mills for primary wood preparation is increasing from year to year. Most of them have a small capacity of 5-7 m^3 per day, but a great quantity of curved wood, legally and illegally cut, is prepared. The large number of limekilns in and near forests poses a big problem. A single limekiln expends about 30-40 m^3 of wood for a lime baking and there are 200 limekilns* in existence (PE, NATIONAL PARK TARA, 2002b).

The survey provided data in relation to the *Medium-term program for the Management of Private Forests* prepared in 1988 and revised in 2002. The primary aim of the program is to determine the dynamics of the management of private forests and implement a legal framework.

This provides essential data in relation to private forests: area, volume, annual increment and other data defining the status of the forests. The main aims of the management of private forests are defined by the Forestry Act, articles 24; 32; 38; 87and 88 'Official Gazette of RS no. 46/91' including:

1. Development and improvement of generally useful function
2. Providing management continuity for the purpose of the optimal protection of particular functions of the forests*'* (PE, NATIONAL PARK TARA, 2002c).

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* according to the report 'Program of protection and development of Tara National Park from the period 2002-2006', these data indicate that the park is endangered by the utilization of raw mineral materials, mainly stone.

Tab. 3.7.2-1: Review of status of private forests in the cadastral municipalities

Cadastral municipalities	area	species	wood volume		wood increment	
			m^3	m^3/ha	m^3/ha	m^3
Jagoštica		spruce/fir beech other deciduous trees	53 637 20 967 8 289	110 43 17	3.1 1.9 0.8	1 511 927 390
Total:	487ha 61a 43m^2		82 893	170	5.8	2 828
Rastište		pine fir/spruce beech oak other deciduous trees	21 211 106 059 42 423 31 193 11 229	17 85 34 25 9	1.1 3.0 2.0 0.6 0.6	1 372 3 743 2 495 749 749
Total:	1 247ha 75a 51m^2		212 115	170	7.3	9 108

(Source: PE, NATIONAL PARK TARA, 2002c)

Tab. 3.7.2-2: The wood volume, number of owners and number of parcels in private forests

Cadastral municipalities	area	wood volume	number of owners	number of parcels	average area
Jagoštica	487ha 61a 43m^2	82 893	327	1 331	1.50
Rastište	1 247ha 75a 51m^2	212 115	618	3 632	1.99

(Source: PE, NATIONAL PARK TARA, 2002c)

3.8 Tourism

Various natural values in Tara National Park, namely specific geomorphological units, good climate and unique vegetation, are a basis for the development of appropriate tourism activities (MOSUROVIĆ & SIMIĆ, 2002). Many of the main characteristics have been described already, therefore, the focus here is on the three main existing centres of tourism[9] the Tara military catering establishment, the Mitrovac children's rest home and Predov krst.

Tara National Park is wonderfully suited for the development of almost all forms of recreational activities, i.e. tourism. The national park is a traditional summer and winter resort. Natural beauty, climate and cultural heritage cater for all kinds of tourism, including sport, recreation, hunting, fishing and hiking. Tourism in Tara has not been well-developed yet. Partly, this is a consequence of the poor traffic infrastructure and a lack of awareness of the importance of tourism for the further development of the region (MOSUROVIĆ & SIMIĆ, 2002).

3.9 Organisation and management of Tara National Park

Tara National Park was proclaimed a protected natural resource in 1981 by the First Regulation on the National Park (Official Gazette of RS no. 41/81). According to the Regulation on the National Parks of Serbia (Official Gazette of RS no. 39/93), a public enterprise, *'National Park Tara'*, was founded, with full responsibility for the management of the park, with its head office located in Bajina

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[9] **The Tara military catering establishment**: the hotel Omorika (370 beds), the hotel Beli bor (300 beds), the Javor (50 beds), forest cottages and camping.
The Mitrovac children's rest home has 600 beds in the central building and in six pavilions. It organises winter holidays, summer holidays, open-air classes, climatic treatment, training facilities for athletes, weekend excursions, camping, etc.
Predov krst is a tourist centre situated quite near the most valuable natural and game reserves in the national park, and therefore has a particular tourist function. This complex is managed by the administration of Tara National Park. As it is situated in an isolated area surrounded by an unspoiled landscape, it represents the most beautiful location for a vacation. Predov krst is one of the 'hearts' of Tara National Park and is the main forest and game centre.
(For more information visit http://www.tara.org.yu/

Bašta (PE, NATIONAL PARK TARA, 2002a). The national park is managed according to annual and five-year protection programmes developed by the Institute for Protection of Nature of Serbia, and approved by the Ministry of Natural Resources and Environmental Protection (see subchapter 3.10) (UNCE, 2003).

The aims and tasks of development were set out in this programme, which is based on the Spatial Plan of Tara National Park. The programme of protection and development of Tara National Park is based on a concept of permanent and balanced development, protection and preservation of natural and manmade features, the preservation of biodiversity, along with the moderate and controlled utilisation of resources with the following aims (PE, NATIONAL PARK TARA, 2002a).

1. Preservation, protection and enhancement of the special natural values of the national park and their utilisation for scientific and other research purposes, education, presentation and recreation according to the ecological potential of the national park;
2. Preservation, enhancement and protection of landscapes within the national park, including the flora, fauna, soil, water, air, pastures, meadows, game and fishing, with utilisation based on the principles of spatial capacities;
3. Development of activities in line with the protection and development functions of the national park (forestry, hunting, fishing, tourism, agriculture, traffic, etc.);
4. Preservation, protection and utilisation of immobile cultural values and all cultural and historical attributes for the purposes of science, education, presentation and recreation;
5. Organised multidisciplinary and long-term scientific research into the phenomena within the national park and the education of all categories of local people and sector branches;
6. Directional development of all existing and potential new activities based on the traditions of the national park region and the protection regulations, the

development of ecological tourism, sport and recreation according to the functions of the national park;

7. Prevent degradation of the national park using control and supervision measures, and protect against natural disasters, and seek to enhance the quality of life and the availability of work for the local people.

According to data from the protection and development programme of Tara National Park from the period 2002-2006, it is clear that several challenges affect the management of the National Park. The Park is endangered by the utilization of raw mineral materials, mainly stone and other resources, and also by the exploitation of space for building and tourist purposes without appropriate prior planning or adherence to regulations and construction norms. Other problems include insufficient financial support as well as the lack of support for the creation of a programme for the development of the national park (PE, NATIONAL PARK TARA, 2002a).

The problem of financing national parks will be discussed in greater detail in subchapter 3.10.2 , however, according to VUČKOVIĆ *et al.* (1997), all the income generated by the public enterprise responsible for the management of Tara is derived from timber. This leads to the question: can and should the income from timber, under a system of restricted fellings (this was, to a high degree, the original intention of the national park designation), finance the realization of almost all of the activities of the national park?

The development concept of the region is based on the utilization of natural resources, with a focus on the preservation of biodiversity and the necessity for tourism and recreation; the production of traditional and healthy food; the establishment of small handicrafts, especially in the protected zones; protection of natural resources and biodiversity involving the application of necessary sanitation and reconstruction measures, and the engagement of labour from the surrounding villages in the activities of the national park. It is necessary to get institutional

support for all of these development activities in Tara National Park (PE, NATIONAL PARK TARA, 2002a).

3.10 Institutional and legal framework on protected areas in the Republic of Serbia

3.10.1 Background

The Republic of Serbia is situated in the central part of the Balkan Peninsula, along the main paths connecting Europe to Asia. Serbia is located between 41°53" and 46°11" north and 18°49" and 23°00" east, covering a total of 88 361 km² (see fig. 3.10-1) (DIMOVIĆ, 2003).

The topography of Serbia is predominantly characterized by lowlands, and hill and mountain regions. The central longitudinal valleys of the rivers Tisa and Morava, and transverse valleys of the rivers Danube and Sava, as well as western Morava and Nišava, demarcate the country's main axes (see fig. 3.10-2) (UNCE, 2003). There are five main geographical regions: (1) the Vojvodina lowland to the north, (2) the central (hilly) region, (3) the Peri-Panonian eastern part, (4) the Upper Morava region, and (5) Kosovo. The climate varies from continental in lowland regions to montane and alpine across the rest of the country. Each of these regions has its own ecosystems, including steppes, wetlands, mountain grasslands, and forests, bringing with them a rich diversity of flora and fauna species to Serbia (UNCE, 2003).

Fig. 3.10-1: Serbia and Montenegro

Fig. 3.10-2: The orography of the Republic of Serbia & Montenegro

Due to the large variety of the ecosystems it hosts, the former Yugoslavia[10] was designated one of six European centers of biological diversity and is home to 39% of Europe's vascular plant species, 51 % of its fish species, 74 % of its bird species, and 68% of its mammalian fauna. The country's biodiversity is further enhanced by endemic and relict species along with ecosystems found in this region giving them global significance. Almost 15 % of the total flora is made up of endemic and sub-endemic plants, 2-3 % of these are found exclusively in Serbia and Montenegro, and along the immediate borders of the neighboring states (THE WORLD BANK, 2003).

This research project involved a study of protected areas and national parks, the institutional and legal framework for nature protection, and an analysis of how the different levels – federal, national and local – correspond to one another and how they are interconnected.

[10] Although the research focused on the Tara National Park, in the Republic of Serbia, this section will rather provide information on the status of protected areas in the Republic of Serbia in general. Nevertheless, some data will refer to the federal level, to the state of Serbia and Montenegro, formerly Yugoslavia.

3.10.2 Protected areas and national parks in Serbia (national level)

The protection of natural values in Serbia dates back to 1349, when Tsar Dusan introduced an environmental law, article 123 of which referred to forest protection. During the tempestuous and difficult times to follow in the history of Serbia, however, almost no attention was paid to nature protection (AMIDŽIĆ, 1998).

After a complete conquest of Serbia in 1459, the Turks established their own legal system and administration. According to Koran, all of the territory in Turkish Empire belonged to God meaning, the sultan, who is God's emissary on Earth. The sultan gave the land to landowners who didn't have the right to own property, but only the right to enjoy it. The property system established by the Turks, scarce population and huge forest wealth enabled unlimited forest exploitation. Even after the liberation from the Turks in the Second Serbian Rise, the status of the forests remained unregulated by law. In that period, the forest vegetation used to cover two-thirds of Serbian territory, but its exploitation soon started to increase dramatically. That was the reason for Miloš the Duke to issue a command which represents the oldest legal act in the reinstated Serbia; he forbade the unorganised and unnecessary cutting of trees and clearing of forests, especially the oak forests common in Serbia at that time (AMIDŽIĆ, 1998).

Towards the end of 19th century, the first protected area, where among other things even flora and vegetation were preserved, was proclaimed on the territory of modern Serbia. It was the Obed's pond. In 1874, Baron Mollinary, who was at the time military commander of Croatia and Slavonia, issued a command by which he put the Obed's pond under strict protection measures. This initiative, thus, represents the beginning of legal protection of most precious natural entities, which unfortunately was not been more firmly established until 20th century (Id.). Laws regulating the protection of certain plant and animal species are also the first laws in the fields of forestry, hunting and fishing.

These laws were passed in Serbia in the late 19th century: the Forest Act in 1891, the Hunt Act in 1898, and the Fishing Act in1898 (RADOVIĆ & MANDIĆ, 1998).

However, the arrival of Josif Pančić in Serbia in 1846 represented a strong contribution to nature protection and a turning point when the modern history of ecological, vegetation and biodiversity research of living things began. As the author of numerous scientific works and books, Pančić drew the attention of the public, both local and worldwide, to the importance of the flora, fauna and nature as a whole in Serbia (AMIDŽIĆ, 1998).

A significant shift came after World War II, when the state started employing a protection policy based on the findings of botanists and nature researchers. The protection of nature in Serbia at present is based on all significant international conventions (Id.). Institutional protection of nature in Serbia most certainly begins with the foundation of the Institute for Protection and Scientific Research of Rare Species in Republic of Serbia. This Institute was founded in 1948 (Id.). Today, the Republic of Serbia has adopted and implemented modern principles of protection and preservation, and methods for maximising the natural and anthropogenic values of the features of the country's protected areas (national parks, reserves, nature parks and natural monuments). These methods are consistent with the international IUCN criteria for the value appreciation of natural features and protected areas, which serve as guidelines for the management of almost all protected areas of the world (PROKIĆ, 1999), (tab.3.10.2).

Tab.3.10.2: Review of the protected natural areas in the Republic of Serbia

Designation	Number	Surface area (ha)
1. National parks	5	158 853.00
2. Regional nature parks	20	45 373.54
3. Nature reserves	114	36 140.12
4. Natural monuments	345	5 297.59
5. Memorial monuments of nature	33	2 445.96
6. Natural areas surrounding immobile natural features	14	1 715.78
7. Monuments of landscape architecture	23	94.20
8. Park forests	6	516.01
9. Scenic landscapes	1	13.73
10.The special features of beautiful landscape	1	16 133.43
Total	562	266 583.36

(Source: Protection of Nature, N^0 50, 1998, p. 35)

In addition to the aforementioned categories, certain other areas, as well a plant and animal species, are also considered valuable natural features. There are 73 such plant species and 379 animal species (PROKIĆ, 1999). In Serbia, there are 562 protected natural assets, covering a total area of 266 583.36 ha, which represents 5 % of the territory of Serbia (Ibid.).

The management of natural features is regulated by the Environmental Protection Act of the Republic of Serbia (Official Gazette of RS, no.66/91). The Environmental Protection Law was enacted in 1991. Under the Environmental Protection Act, the types of natural features are defined, based on the IUCN criteria (PROKIĆ, 1999).

The most important category is the national park, which is separated into particular subcategories. Management in the national parks is regulated by a separate act.

Five national parks have been established under the National Parks Act of the Republic of Serbia to date: Fruška Gora, Djerdap, Tara, Kopaonik and Šar Planina

(tab.3.10.3). The National Park Act was enacted in 1993, in agreement with previously accepted international obligations.

Tab. 3.10.3: A survey of national parks of Serbia

National park	IUCN category	1st degree of protection (ha)	2nd degree of protection (ha)	3rd degree of protection (ha)	Surface area (ha) total
1. Kopaonik	V	698.34	3 610.51	7 501.06	11 809.91
2. Djerdap	IV	2 664.20	15 262.17	45 682.02	63 608.45
3. Tara	II	2 959.25	7 721.89	8 436.96	19 175
4. Fruška gora	V	*			25 393
5. Šar planina	II	*			39 000
Total					158 986.36
Republic of Serbia					8 836100

* In the national parks the 1st degree of protection is represented by the nature reserves, whereas areas of 2nd and 3rd degree protection are not defined.

(Source: Ministry of Natural Resources and Environment Protection, 2003)

National parks in the Republic of Serbia represent ecosystems and areas of particular value in terms of their uniqueness, vegetation, fauna diversity, and with representative geomorphological, geological, hydrological phenomena and processes, cultural-historical values, and anthropogenic characteristics resulting from the interaction between man and nature (PROKIĆ, 1999). The national parks designation, as the protection status granted natural features of national significance owned by the state, imparts total protection and development. Under the National Parks Act public enterprises were formed to manage the national parks (tab. 3.10.4).

Tab. 3.10.4: Management of national parks of Serbia

National park	Established in (year)	Municipality	Managed by	Employees (number)
1. Kopaonik	1981/83/93	Raška, Brus	Public enterprise 'Kopaonik NP'	27
2. Djerdap	1974/83/93	Golubac, Majdanpek, Kladovo	Public enterprise 'Djerdap NP'	65
3. Tara	1981/93	Bajina Bašta	Public enterprise 'Tara NP'	264
4. Fruška gora	1960/93	Novi Sad, Sremski Karlovci, Beočin, Bačka Palanka, Šid, Sremska Mitrovica, Irig, Indjija	Public enterprise 'Fruška gora NP'	341
5. Šar planina	1986/93	Štrpce, Kačanik, Prizren, Suva Reka	Public enterprise 'Šar planina NP'	31

(Source: Ministry of Natural Resources and Environment Protection, 2003)

National parks have also faced a lot of weakness and constraints in term of management. Most national parks suffer from inadequate funding and have 'weak institutional and human capacities' (THE WORLD BANK, 2003, p.46). Park development depends in part on the receipt of public funding. However, this has been decreasing in the face of the government's tight budgetary policies. These difficulties have led a number of National Park administrations to resort to revenue-generating activities not in line with existing legislation. This is an issue in the national parks including forest areas, in particular, where the administrations engage in timber harvesting and sale under the guise of 'sanitary cutting'(THE WORLD BANK, 2003, p.46). Regular small-scale logging takes place in zones with less restrictive protection regimes.

In general, the management of protected areas is dominated by forestry concerns and lacks park services, such as a visitor system, landscape management, and community services. The park staffs do not include biologists and environmental experts.

Furthermore, the interests of local communities in park management issues are not included in the current protection programmes (UNCE, 2003).

In Serbia, the planning process in the national parks typically exhibits a top-down approach. The National Assembly of the Republic of Serbia establishes national parks and the Institute for Protection of Nature of Serbia[11] prepares the documents necessary for the establishment of protected areas. Under the National Parks Act, each national park is managed by a public institution established by the Serbian Government, based on a proposal by the Institute for Protection of Nature of Serbia. Each public institution has its own management board, supervisory board and director. The numbers of staff and their professional background differ amongst the national parks according to their size. Each national park is managed according to annual and five-year protection programmes developed by the Institute for Protection of Nature of Serbia. These programmes must be approved by the Ministry of Natural Resources and Environmental Protection (UNCE, 2003).

The basic guidelines and objectives of the management of the national park regions, and protected valuable natural features in general, were set down in the Spatial Plan of the Republic of Serbia and the spatial plans designed for the national parks and their surrounds. According to this plan, by the year 2010, 10 %

[11] The Institute for Protection of Nature of Serbia is a scientific institution and independent public authority established by the Serbian Government. It is responsible, among other things, for the planning and implementation of the nature protection policy, analyses of the impact of construction and other activities on nature, issuance of licenses for species collecting and export. The institute provides expertise on biodiversity conservation and management to the Ministry of Natural Resources and Environmental Protection. (For more information see www.natureprotection.org.yu)

of the territory of the Republic of Serbia should be placed under protection (PROKIĆ, 1999).

3.11 The institutional and legal framework for biodiversity protection

In general, Serbia and Montenegro's institutional framework is currently in flux as a result of the ongoing, gradual shift of legislative and executive powers from the federal level to the republics, and the revision of various laws in parallel with the ongoing economic transition. In June 2002, the Serbian government upgraded the environmental authority from the level of a directorate to a ministry. It is currently reviewing a new comprehensive and ambitious law on environmental protection. The objectives are to develop a consistent and modern legal and institutional system for environmental protection in harmony with the European Unions's framework that will improve horizontal and vertical cooperation and increase responsibility and efficiency (THE WORLD BANK, 2003). The protection of biodiversity and the preservation of biological and landscape diversity of forest ecosystems are supported by the general Federal Republic of Yugoslavia 'Resolution on the Policy of Preservation of Biodiversity'. Serbia's legal framework contains laws regarding various aspects of biodiversity: the Forest Law (1991), the Law on Environmental Protection (1991), the Law on Hunting (1993), the National Parks Law (1993), the Law on the Control and Circulation of Wild Plant and Animal Species (1996) (THE WORLD BANK, 2003). The most relevant laws are presented in fig. 3.11-1.

Overall, biodiversity and nature protection legislation is segmented into several regulations and does not provide a sufficient basis for unified and efficient biodiversity management and control (UNCE, 2003). There are no overall strategic documents on biodiversity management or nature conservation policy. Existing legislation is not harmonized with international standards on biodiversity management. This is especially the case with respect to the involvement of local

communities and the establishment of inter-sectoral relationships in protected area management (UNCE, 2003).

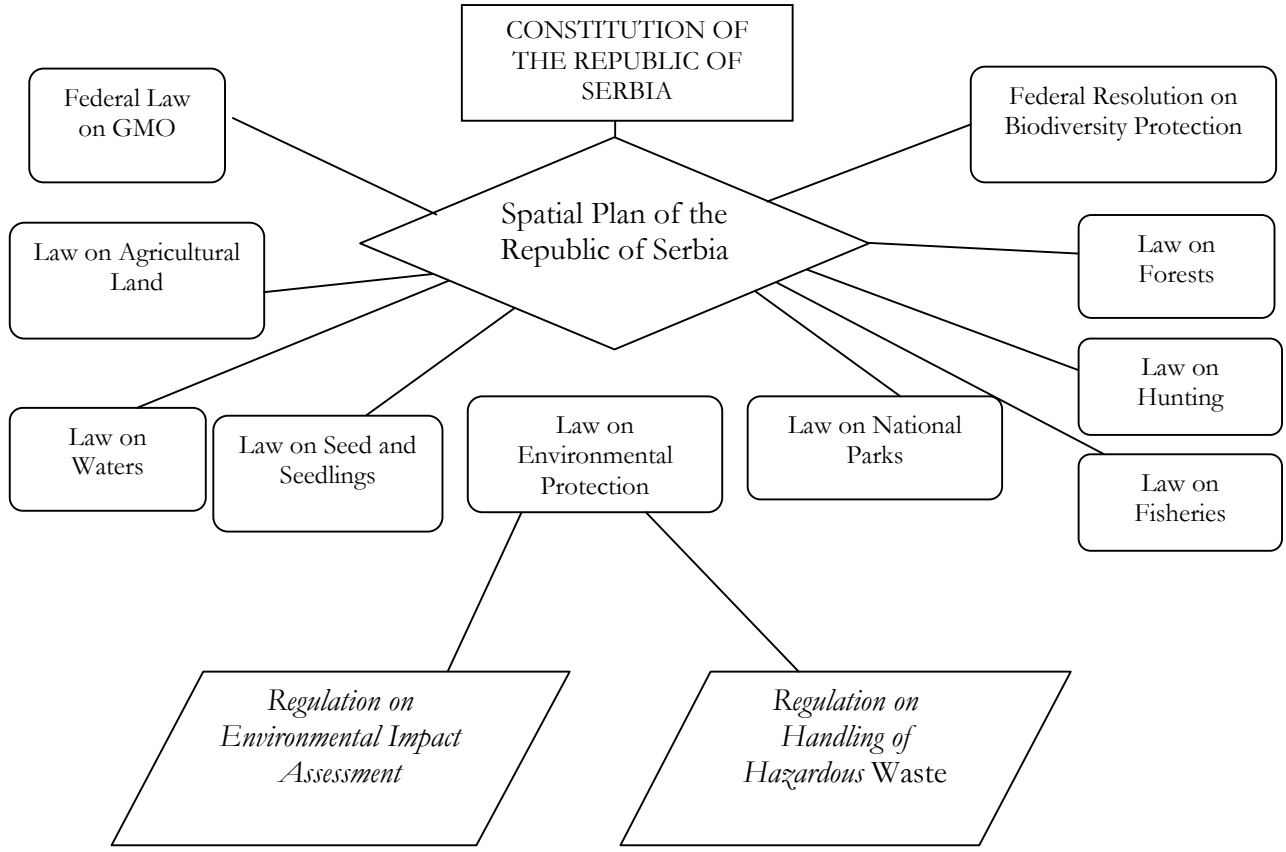


Fig. 3.11-1: Legal framework in relation to natural resource utilisation in the Republic of Serbia

(Source: National Report on Serbia, Forest Directorate, 2003)

This legal framework reflects the central role of the Spatial Plan of the Republic of Serbia, which represents the most relevant operational instrument in dealing with territorial projects. Two ministries are responsible for the main environmental issues in the Republic of Serbia: the Ministry of the Protection of Natural Resources and Environment (MoPNRE) (following the last governmental changes at the beginning of 2004, the MoPNRE was transferred to the new Ministry of Science and Environmental Protection of the Republic of Serbia, Directorate for Environmental Protection) and the Ministry for Agriculture, Forestry and Water (MoAFW). The MoPNRE is responsible among other things for the sustainable

use of natural resources, environmental protection, nature protection etc. The responsibilities of the MoAFW in relation to the environment are protection of the soils, forests and water resources.

The political and economic changes and events of 1990s will have far reaching consequences and will be felt for a long time. The preservation of nature, therefore, is faced with new temptations in the area of land utilization and the utilization of natural resources. For example, in 2003 the forestry sector (see fig. 3.11-2.) was transferred to the Ministry of the Protection of Natural Resources and Environment, having previously been the responsibility of the Ministry of Agriculture, Forestry and Water Management, before being transferred back to the Ministry of Agriculture, Forestry and Water again recently. Figure 3.11-2. illustrates the institutional framework of the Republic of Serbia in 2003, and reflects the complexity of the national and local bodies dealing with natural resource protection.

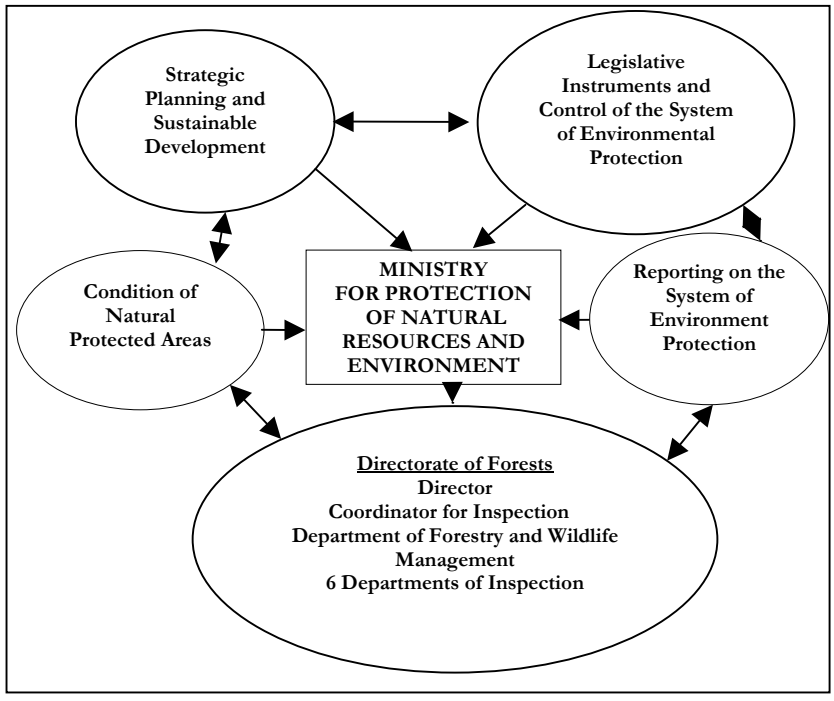


Fig. 3.11-2: Institutional framework of natural resource management units in the Republic of Serbia

(Source: National Report on Serbia, Forest Directorate, 2003)

The linkages in the figure 3.11-2 are relative complex. But linkages between local people, local institutions (Tara National Park management enterprises), nature conservation agency and Environmental Ministry are much more important, or it is precisely the potential complexity of linkages in the simple way. Additionally, we will try, in general, to illustrate how some of these potential complexities between institutions can affect local people. In terms of the livelihood framework previously described in chapter 2, this may mean the way in which institution affects the different livelihood assets, or by influencing how, where, when and by whom they are used. For example, an environmentally protected area, such as national park, represents a particular type of institution that could link with the livelihoods of people living in the area in several different ways. The creation of a protected area might strongly influence people's access to natural assets within the area – households that went hunting for animals may no longer be able to do so; people who collected medicinal plant, firewood or wild fruits may have their access to these regulated or stopped altogether; grazing of livestock may be prohibited inside the protected area. If local people have to move their residence to outside the protected area, their physical capital will be affected. Being made to shift from an area they know well to an area where they unfamiliar with the natural environment will reduce people's human capital as their knowledge and skills may no longer be relevant. Even without directly affecting the assets that people use, an institution may also change the context in which people live in a way that will affect their vulnerability (MESSER & TOWNSLEY, 2003).

The case of the Tara National park, provides an example which directly illustrate some of these potential complexities and help us to understand these linkages.

3.12 Local level

The Law on Environmental Protection defined the competency of the municipalities in relation to decision making on the protection of natural areas, especially with respect to the protection categories on the national level (national

parks, nature reserves, natural rarities, international protected areas, the special and ambient features of the landscape) and the local level (nature parks, natural monuments and the remaining protected areas) (Official Gazette RS no.66/91). The regulations contained within the law underline the significance of spatial and urban plans and development programmes, as well as the adequate management of natural resources, with harmonised economic development and the enhancement of the environment and quality of life.

According to the regulations of the Law on Local Self-Government, local authorities are obliged to enact development programmes, which expand the possibilities for the active role of the municipalities and local people in planning processes and the achievement of sustainable development (ORLOVIĆ, 2001, p.368).

In practice, 'development projects are more the exception than the rule' (ORLOVIĆ, 2001, p.368). According to ORLOVIĆ (2001), the majority of these programmes were developed a decade ago and the contents of these documents demonstrate that environmental issues are not amongst the priority areas of development. Protected areas have been mentioned in a small number of cases, mostly as areas requiring conservation rather than areas with potential for resource development.

The links between economic development and the privileges offered by protected areas, for example workplaces and control over the utilization of resources, eco-tourism and so on, are virtually non-existent in these documents. The development of tourism, which is recognised as one of the main opportunities in the majority of municipalities rich in natural resources, is taking place along classical, sometimes non-compatible lines, rather than through the promotion of specific local traditions and advantages such authentic approaches offer the tourist (Ibid.).

However, management plans and plans for the protection and development of protected areas, both annual and five-year protection programmes, correspond to the development strategies of protected areas. As was mentioned before, the creation of programmes is the responsibility of the institution managing the area, as well as some experts from scientific organizations. Nevertheless, the frequent lack

of complementary plans on the part of local communities and the general character of the recommendations made by the programme for protection and development, contribute to weaknesses and inefficient collaboration in the implementation of plans (Ibid.).

3.13 Summary

This section provides one overview of our research site, namely Tara National Park. Furthermore, we present here historical background on protected areas, especially national parks and also we present here the institutional as well as legal framework for nature protection in Serbia in general.

Firstly, we found that Tara National Park has many natural beauties, in fact we found several characteristics which can describe the uniqueness of natural and cultural heritage of Tara National Park.

Tara represent the refuge habitat of the original forest vegetation. The relict mixed forests of beech, fir, spruce, Panchich's spruce, Austrian and Scotch pine, representing the basic composition of the park Also, the forest ecosystems of Tara Mountain are among most diverse and most preserved in Europe. Furthermore, the vascular flora of Serbia contains 3 662 taxa, of which 1 000 plant species have been identified in this region, or one third of the total flora of Serbia making Tara National Park the most important national area for preservation of biodiversity. Further, the Tara Mountain possesses a rich cultural and historical heritage. Various natural values in Tara National Park, namely specific geomorphological units, good climate and unique vegetation, are a basis for the development of appropriate tourism activities. All of these characteristics led Tara Mountain to be named a National Park in 1981.

At the same time, these unique natural and cultural heritage of Tara NP placed this mountain into the proposal for designation as an International Biosphere Reserve. In 2003 a Serbian Institute for Nature Protection proposed Tara National Park for designation as a Biosphere Reserve and this additional protected area designation

poses new questions in relation to the role of the local communities in the national park, therefore the issue of Biosphere Reserve will be discuss later in section 6.

Secondly, we found from different reports that management of Park is based on a concept of sustainable development, protection and preservation of natural and manmade features, as well as the preservation of biodiversity, along with the moderate and controlled utilisation of resources. But on the other hands we found also some constrains and problems which are facing Tara National Park management. In fact, several challenges affect the management of the National Park. The Park is endangered by the utilization of raw mineral materials, mainly stone and other resources. Other problems include insufficient financial support as well as the lack of support for the creation of a programme for the development of the national park.

Furthermore, all the income generated by the public enterprise responsible for the management of Tara is derived from timber. This leads to the question: can and should the income from timber, under a system of restricted fellings finance the realization of almost all of the activities of the national park?

In this section we also summarized the main points related to broader presentation of protected areas in Serbia as well as broader understanding of institutional and legal framework for nature protection in Serbia, in general.

We found that first protected natural value in Serbia start from the end of 19th century, and it was the Obed's pond. Actually, in 1874, Baron Mollinary, who was at the time military commander of Croatia and Slavonia, issued a command by which he put the Obed's pond under strict protection measures. This initiative, thus, represents the beginning of legal protection of most precious natural entities, which unfortunately was not been more firmly established until 20th century.

Further, we found that a significant shift in protected areas management came after World War II, when the state started employing a protection policy based on the findings of botanists and nature researchers. Furthermore, institutional protection of nature in Serbia most certainly begins with the foundation of the Institute for Protection and Scientific Research of Rare Species in Republic of Serbia. This

Institute was founded in 1948. Today, this institute (with new name), namely the Institute for Protection of Nature of Serbia is a scientific institution and independent public authority established by the Serbian Government. The institute provides expertise on biodiversity conservation and management of protected areas to the Ministry of Natural Resources and Environmental Protection.

Furthermore, we found that in Serbia, the planning process in the national parks typically exhibits a top-down approach. The National Assembly of the Republic of Serbia establishes national parks and the Institute for Protection of Nature of Serbia prepares the documents necessary for the establishment of protected areas. National park is managed according to annual and five-year protection programmes developed by the Institute for Protection of Nature of Serbia and these programmes must be approved by the Ministry of Natural Resources and Environmental Protection.

Despite, the facts that national parks in Serbia present ecosystems and areas of particular value in terms of their uniqueness, and reach biological diversity, on the other side in general we recognized a lot of weakness and constrains in term of management. Most national parks suffer from inadequate funding and have 'weak institutional and human capacities'.

Furthermore, the management of protected areas is dominated by forestry concerns and lacks park services, such as a visitor system, landscape management, and community services. The park staffs do not include biologists and environmental experts. Further, the interests of local communities in park management issues are not included in the current protection programmes.

Lastly in this section we found that there are no overall strategic documents on biodiversity management or nature conservation policy and that existing legislation is not harmonized with international standards on biodiversity management. This is especially the case with respect to the involvement of local communities and the establishment of inter-sectoral relationships in protected area management.

4 Methods

4.1 Research approach

The initial goal of this study was to examine the role played by local people in the management of the national park. The literature on social research design distinguishes two basic strategies of social research: the quantitative and the qualitative approach. Quantitative research attempts to explain social reality by means of controlled, mathematical methods (ATTESLANDER, 1995). The basic goals include the quantifying of social phenomena, the formulating and testing of theories, and the making of predictions (RAGIN, 1994; FLICK, 1996). In order to identify general patterns and their relationships, quantitative research focuses on the objective analysis of variables and co-variables across a large number of cases (RAGIN, 1994). Similar to natural science methods, data obtained by quantitative social research must comply with the criteria of reliability, validity and representativeness (ATTESLANDER, 1995). Qualitative research attempts to understand a situation in its entirety, and is characterised by a number of specific principles: subject orientation, adequacy of theories and methods, reflexivity of researcher and research, and problem orientation (MAYERING, 1993; ATTESLANDER, 1995; FLICK, 1996).

However, the selection of one or the other, or both, may be determined simply by the nature of the problem. CRESWELL (1994) identified four factors that support the use of qualitative research:

1. The exploratory nature of research;
2. The number of unknown variables;
3. The importance of the context;
4. The lack of a theoretical basis for the study.

In terms of the assumptions and the nature of the problem, this study of the participation of local people in the management of the national parks clearly falls within the qualitative research design. As for the nature of the problem explored in this thesis, no recent studies that deal with role of local people in the management of protected areas and the issue of participation in Serbia have been found. The conceptual framework of this study does not lend itself to a controlled research approach. The importance of the context is central to choice of a case study methodology. Two purposes for case studies have been identified (STAKE, 1994). The first, the *intrinsic case,* occurs when there is interest in the specifics of an individual case. The second is the *instrumental* case study, which is used as a tool to provide insights into other external interests. There is, however, no distinctive line between the two (STAKE, 1994).

This study encompasses both an interest in the specific circumstances of Tara National Park in Serbia and a broader understanding the role of local people in the management of protected areas. Figure 4.1 is an illustration of the conceptual framework of the thesis, and presents the various research methods employed within each component. These methods are presented in greater detail in the following section.

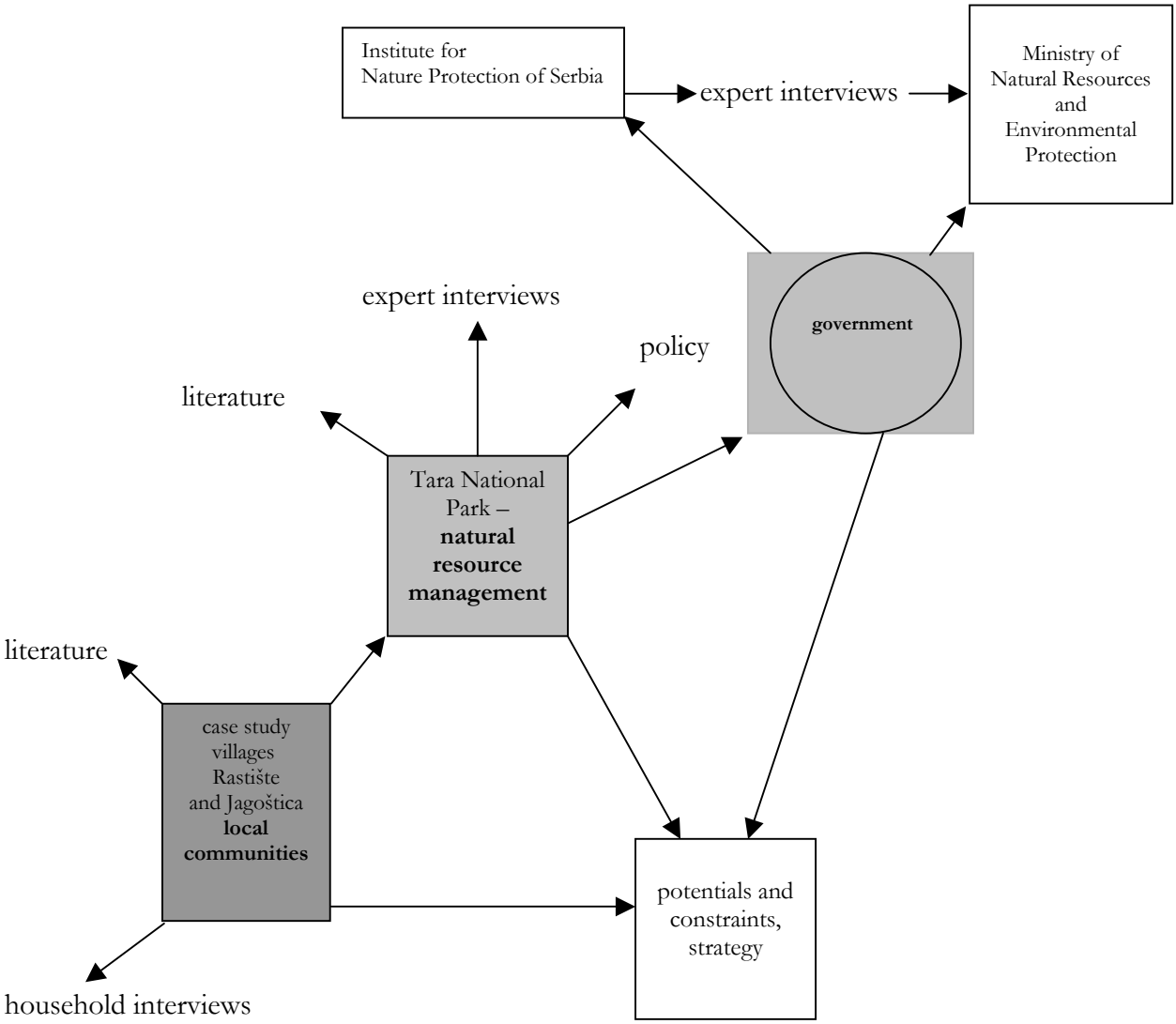


Fig. 4.1: Illustration of the conceptual framework of the thesis

Consistent with exploratory qualitative research, the development of the conceptual framework was dynamic and evolved throughout the research and analysis process. However, its development was driven by the thesis objectives and research questions identified in chapter 1. The main objective was to gain an understanding of the local people and their perception of, and role in, the management of the national park. In order to adequately understand the local context, expert interviews with people in the relevant agencies and management organizations were also conducted. The literature selected for this study pertained to parks and

protected areas, people and parks, public participation, sustainable development, conservation and co-management.

4.2 Case study selection

"A case study is not a methodological choice,
but a choice of object to be studied"
(STAKE, 1994, p.236).

The local villages Jagoštica and Rastište are located within the boundaries of Tara National Park. A detailed description of the case study locations and their histories is provided in chapter 5. These local communities were selected following the preliminary study, which included a literature survey, field visit, discussions with the managers of Tara National Park and national park staff. In the first visit of Tara area and in the first preliminary discussions with the managers of Tara National Park, we found that issue of local communities in the management of protected areas as very important element for sustainable conservation. Furthermore, in discussion with managers we found that local people from two local communities, namely Jagoštica and Rastište within the boundaries of park area were left marginalized in decision making process of establishment of Tara National Park and through the centralized top-down approach government proclaimed Tara as a National Park without of acceptance of local people and despite the fact that local people have their private land within the boundaries of Tara area. Considering this historical facts, we chose villages Jagoštica and Rastište as a case study and they were selected for the following reasons:

- These two local communities are situated within the territory of Tara National Park. Additionally, these communities are the most isolated rural villages in the national park.
- Tara National Park has never been accepted by the local communities.

- The management and administration of Tara National Park have focused more on forestry and nature protection than rural development.
- The local communities and people were deprived of the utilisation of the natural resources.
- Tara National Park was proposed for designation as a Biosphere Reserve by a Serbian Institute for Nature Protection, which poses further questions with respect to the role of the local communities given an additional protected area designation.

The case studies facilitated an understanding of the impact of the granting of protection status upon local communities.

4.3 Data collection

4.3.1 Secondary data

Two types of data are needed for this study area: primary and secondary data. Secondary data (see annex 5) includes relevant documentation, such as written reports and programmes provided by the public enterprises, a spatial plan of Tara NP, reports by the Institute for Nature Protection of Serbia and reports by the Ministry of the Protection of Natural Resources and Environment, a population census compiled by the Republic's Institute for Statistics and data from earlier research related to the topic. Secondary sources was not only analyzed, also some of reports were discussing a in section 3, furthermore, this date provide an important background for understanding the institutional linkages in protected area management as well understanding, how this linkages are related to our research site. Documentation that does not specifically address the central issue of the research but is nevertheless valuable, including, historical literature regarding the area under study because historical information can help us to understand how changes in the political, social , cultural and economic context may have affected peoples livelihoods and the institutions that can help to sustain them. Statistical

information from survey census or surveys of agriculture, employment, and demographic parameters, can help us to determine the 'frame' for developing the questionnaire for village households, for example, what type of activities households performed, who and in what ways people are likely to be affected by different types of institutions.

Reports on management of the area along with policy and legal documents provide a useful background for understanding the complexity of linkages between local people, management enterprises, nature conservation agencies and environmental ministries. Experts and scholars in related fields were consulted, including those who have experience doing research in the field related to participatory approaches and especially their experience in survey questionnaire design were important reasons for this consultation to make clarification possible and also stimulate some thinking. Such data was derived from the WOCAT programme (World Overview of Conservation Approaches and Technologies)[12], and research by ZLATIĆ (2001) and HÖCHTL (2003). Zlatić's (2001) work related to public participation in sustainable land management in the mountainous area of Grdelička klisura.

The Grdelička klisura (Grdelička gorge) was one of the regions in Europe most endangered by erosion processes. The consequence of erosion was misery for the population and migration from the region, with only elderly people remaining in the households in the villages of this upland region, and an alarming tendency towards the extinction of the villages. The project included activities aimed at sustainable land management in the Grdelička klisura area, involving public participation in the decision-making processes. This studies of local people provided useful guidance for the preparation of a questionnaire directed at the local communities in the Tara area.

12 The World Overview of Conservation Approaches and Technologies is a worldwide programme launched in 1992 by the World Association of Soil and Water Conservation. The WOCAT programme provides tools allowing soil and water conservation (SWC) specialists to share their valuable knowledge in soil and water management, assist in the search for appropriate SWC technologies and approaches, and support decision-making in the field and at the planning level. More information is available from the internet: http://www.wocat.net

Another helpful study was situated in the Val Grande National Park in Italy (HÖCHTL, 2003; HÖCHTL *et. al.*, 2005). This project focused on the landscape changes that have taken place in the region, their effects on vegetation and structural diversity, the perception of landscape change by local populations and tourists, as well as the social and ecological effects of land abandonment. The main goal was the discussion of 'wilderness' as a nature conservation strategy, as well as the proposal of future development prospects. This research project involved a trans-disciplinary approach combining methods of historical landscape analysis, ecological inventories and empirical-social research. The latter methods were used as guidelines in the preparation of a questionnaire, as well as a personal consultation with researchers.

In order to understand these linkages between local people and Tara National Park and especially for understanding the attitudes of different stakeholders was not enough to study only relevant documents, therefore household interviews were chosen in order to understand the local people living within the National Park boundaries and to understand there attitudes towards 'future for life' in Tara National Park. In addition, experts were interviewed in order to understand how the park managers and the other representatives of the institutional environment of Tara National Park and protected areas think about and affect the policies and management of the park. By means of interviews, it was possible to update policy and management documents as well as to gain a better understanding of their relationships with one another and expectations for the future. Therefore two different types of interviews were carried out to understand the complexity of linkages better.

4.3.2 Primary data

Primary data were assembled using different techniques, such as pre-test interviews, structured interviews (household interviews), problem-centered interviews (expert interviews), and direct field observation.

Prior to the survey, a pilot interview was conducted with the supervisory assistants in two villages to test the comprehensiveness of the questionnaire. Subsequently, certain questions were modified to improve clarity and to minimise errors.

4.3.2.1 Household interviews

Before the discussion on household interviews we will try to linked our conceptual framework with the theoretical background. Actually, we will directly linked the issues of sustainable livelihoods from theoretical background with our household interviews.

As we emphasize in is section 2.4 'household livelihoods, and the strategies that people use to create them are at the core of development, and the well-being of the household is generally a key objective for most people. Furthermore, 'a livelihood is basically the means that a household uses to achieve that well-being and sustain it' (MESSER & TOWNSLEY, 2003, p.7). We try to integrate livelihood assets (human, natural, social, physical as well as financial capital) into household interviews in order to understand how households combine their capabilities, skills and knowledge with the different available resources and how their livelihood assets influence them and create their attitudes towards protected area as well toward future for life in Tara National Park. Furthermore, in analyses of household interviews, we aimed to identify which social economic variables are linked to different forms of capital (table 4.4.) and also we will try to answer which variables mainly contribute to positive attitudes towards protected areas. Additionally, based on a literature review, we take into account how social-economic variables, namely education as well as received benefits from conservation, can be important in determining whether people have positive or negative attitudes towards protected areas.

The household interviews were carried out between April and May 2003. The questionnaire was very carefully prepared, bearing in mind the antagonism towards protected area and age structure of the local people (fig. 4.3.2-1).

Fig. 4.3.2-1: Household interview (photo: Tomićević, 2003)

The wording and order of the questions were also carefully thought out to avoid asking leading questions and/or priming the interviewees for particular responses to later questions (LOFLAND, 1971). For example, participants were asked 'do you have any conflicts with the national park?' at the very end of the interview, to avoid possibly 'directing' their responses to earlier questions. On average, each interview took between approximately forty minutes and one hour to complete. Participants were chosen on the basis of the order in which they were met as we walked through the villages. Only one adult member of any one household was interviewed. We also took into account that 'the interview context calls for the interviewer to play a neutral role and to establish what has been called 'balanced rapport'; he or she must be, on the one hand, casual and friendly but, on the other hand, directive and impersonal" (FONTANA & FREY, 1994, p.364).

According to the census from the year 2002, 107 households were registered in Rastište and 53 in Jagoštica. The total number of interviewed households in Rastište was 65, which represents 60% of the total number of registered households. In the village of Jagoštica 37 households were interviewed,

corresponding to 70% of the total number. The purpose of household questionnaire was to understand how households combine their capabilities, skills and knowledge with the different available resources and how their livelihood assets influence them and create their attitudes towards protected area.

Furthermore, we tried to find from household questionnaire what are the key elements for improvement of attitudes towards Tara area as well how to increase involvement of local in management of natural resources in Tara area. The household questionnaire contained seven topics (see annex 1: household interviews - English version).

The first set of questions referred to the general characteristics of the household: number of members, their age-groups, ability to work, and the number of children in school as well. Questions in relation to work outside the household, migration and the number of single people within households were also posed. The second set of questions referred to peoples' attitudes to rural life. The aim of these questions was to attempt to find the main reasons for migration and to quantify the changes observed locally. The third area of questioning revolved around nature and the landscape, with the fourth referring to the relationship of village residents with Tara National Park. The fifth area pertained to natural resources and agricultural production, whereas the sixth set of questions focussed on produce, the markets and any forms of cooperation-participation in which the local community was involved, representing one of the fundamental elements of the thesis. The final questions posed dealt with the local peoples' investment plans, their attitudes towards the development of tourism, and their predictions for the future of their village in the Tara National Park. And the purpose of these questions was to find which element could increase the hopefulness about their future and which social economic variables are important for achievement of sustainable conservation in Tara National Park.

The survey questionnaire included a mixture of open, fixed-response and multiple-response questions. A combination of mixture was used to examine the various dimensions to the respondents' attitudes and especially to get right information, for

example if we chose only the multiple-choice answers then we can usually inhibit interviewees, preventing them from expressing their opinions in their own words, and in the context of their own situation, therefore we chose the combination of different response questions.

Generally, the fixed-response questions required one types of answer, a yes/no answer. Responses from these questions are presented as response frequencies for both communities. Responses from open questions are presented as response categories constructed from the replies to the open questions. Responses from these questions are also presented as response frequencies for both communities. Where we had a multiple responses then respondents had possibilities to give more answers, and responses on these questions are presented as the number of cited answer.

4.3.2.2 Expert interviews

The expert-interview is a special form of problem-centered interview. In an expert interview, the respondent does not serve as an individual case, but provides expertise in the context of his institutional or organisational background (MEUSER & NAGEL, 1991). In a problem-centered interview, the interviewer explores the personal attitudes and environment of the respondent in respect of a particular societal problem. The problem-centered interview is an open, semi-structured form of the qualitative interview. It is open, because the respondent recounts his or her experiences without a pre-defined set of answers. At the same time, it is half-structured because the interviewer follows a guideline which structures the conservation, but leaves room for spontaneous reactions and ad-hoc questions (MAYRING, 1993).

Resource managers were selected to interview as experts in charge of Tara National Park (see annex 2). The questions were semi-structured, an approach adopted for the flexibility it provides when asking questions (FONTANA & FREY, 1994). The concepts of the Biosphere Reserves and national park management were discussed in the expert interviews (see annex 3). Furthermore, the topic of the participation

of local people in the management of the national park was discussed, as well as the conflicts between the local people and the utilization of natural resources. Finally, the experts were asked about their opinions in relation to the future of Tara National Park. The purpose for expert-interviews was not only to provide the personal attitudes towards the Tara National Park, also from these data we obtain the broader understanding of relationships between different stakeholders.

4.4 Data analysis

There are two main analysis sections in this thesis. The first contains the analysis of the household surveys. This analysis of the interviews was essentially based on identifying patterns within the data gathered for each community and the identification of socio-economic variables which show attitudes towards participation and future life in Tara National Park. Data collected from the expert-interviews involved more qualitative interpretation and these sources were used in an integrated manner to:

1. gain insights into the management of the protected areas in general, and the role of local people in the management of national parks,
2. to understand the experts' perceptions of the future for life in Tara National Park, and also to understand the local peoples' perceptions in relation to the future for the villages in Tara.

The data acquired from the household interviews were analyzed in two phases. In the first phase, the interviews were transcribed and all of the 102 interviews were processed in MSWord. In the second phase, the statistics programme SPSS (Statistical Package for Social Sciences) version 10.0 was used. The collected data were processed using the descriptive statistics and correlation methods.

In the second phase certain issues were investigated in order to understand deeper the attitudes towards the Tara National Park. Actually, the set of questions chosen for the household interview already focused on the issues of migration, the

relationship with Tara national park, relationships between local people and natural resources, participation and cooperation with Tara national park administration. In addition, we were interested in their attitudes towards the development of tourism, and their predictions for the future of their village in the Tara National Park. Therefore, from the household questionnaire we distinguish the certain social-economic variables which were associated with our interested issues and furthermore we try to identify which social economic variables are linked to different forms of capital (tab. 4.4). It is very important to emphasise here that identical questions were posed in both villages, but during the interviews in Rastište certain issues were not evident in the other village. To be more precise, in Rastište there is an issue regarding limekilns and respondents spoke of conflicts with the National Park administration. In general, the variables measured included: the gender and age of the interviewee, the number of household members, household members able to work, education (children in school), the single people, those working for the National Park, those working outside the household, migration away from the household, migration into the household, migration away from the village, the relationship with the National Park, land ownership, forest ownership, cattle breeding, other activities, cooperation, machinery (wealth), tourism, and future outlook. The variables were identical for Jagoštica, only additional variable we found as a fruit production variable. In the table 4.4 we present distinguished socio-economic variables from household questionnaire which we linked to different forms of capital. From adopted definitions regarding the different forms of capital from (MESSER & TOWNSLEY, 2003) we recognized for example that gender, age, number of household member, household members able to work, education, single people are indicators of human capital, further we found that variables work for National Park, work outside the household are indicators of financial capital, thereafter, variables migration away from the household, migration into the household, migration away from the village, relationship with the National Park are indicators of social capital, further we recognize that variables land ownership, forest ownership, cattle breeding and other activities which are related

with natural recourses are with indicators of natural capital and finally the variable machinery (wealth) are indicator of physical capital.

Tab. 4.4: Set of variables

Variable	**Type of capital**
Gender	Human capital
Age	Human capital
Number of household members	Human capital
Household members able to work	Human capital
Education (the children in school)	Human capital
Single people	Human capital
Work for National Park	Financial capital
Work outside the household	Financial capital
Migration away from the household	Social capital
Migration into the household	Social capital
Migration away from the village	Social capital
Relationship with the National Park	Social capital
Conflict*	-
Land ownership	Natural capital
Forest ownership	Natural capital
Cattle breeding	Natural capital
Fruit production**	Natural capital
Other activities	Natural capital
Machinery (wealth)	Physical capital
Cooperation	-
Tourism	-
Future	-
Limekiln*	-

* The conflict and limekiln are not variable, there are present here the issues associated with our variables.

** The variable fruit production was identified in Jagoštica village, but the other variables were identical in both villages; (variables cooperation, tourism and future were related to attitudes, therefore in this table they are not here to measure the different type of capital).

Finally, for analyzes of correlation between the variables, we applied a nonparametic method of rank correlation with Spearman's rank coefficient. (By applying Kendal's rank coefficient the same conclusions about the importance of

the variables can be reached (TENJOVIĆ, 2000)). We chose this test regarding their applicability for social attitudes (VUKOVIĆ, 1997).

According to TENJOVIĆ (2000) in cases where we do not know what type of distribution will occur, and somtimes we know that we can not predict normal distribution (e.g. in social attitudes), then the application of a nonparametic method is recomended as the appropriate method for such type of situation.

Furthermore, according to TENJOVIĆ (2000), these tests has several advantages: they can be applicable in a variety of situations: they can be applicaple for comparison of samples from different populations (regarding the distribution measures); they can be applicable for rank and for nominal data: they can be easy to learn and apply.

The expert-interviews were analysed step-by-step according to the method described by YIN (1994). At the first stage the transcribed material was read thoroughly in order to get a general understanding of the contents. At the second stage, the analysis was carried out more systematically, by commenting along the lines and pointing out specific answer in relations to their attitudes towards the Tara National Park. Similarities and contradictions in policy issues were examined and the material developed from the interviews was compared to the material gathered through observation and documentation from secondary data (YIN, 1994).

4.5 Methodological critique

Qualitative research requires numerous skills to limit the potential biases in data collection and analysis. Among the biases relative to the interview process, the following were identified:

- In the case of one household interviewee, numerous conversations prior to the interview had occurred. The interviewee therefore had an understanding of our topic, which may have affected his responses. However, because of the case study's factual context and the delimitation of the question within criteria, this factor may have had a limited impact on the answers provided.

The goal of the interviews was to 'understand'. FONTANA & FREY (1994) consider that, particularly in unstructured interviews, building a rapport with the interviewee is paramount. The challenge lies in building a balanced rapport within which the research questions can be met.

- Too much explanation was provided in some instances when people seemed to lack understanding of the question or the criteria.

Prominent biases of data analysis and research conclusions identified in the qualitative methods literature include: the salience of first impressions, selectivity, overconfidence in some data, and the unreliability of the information from the sources (HUBERMAN & MILES, 1994). Triangulation of information and personal verifications were practiced to minimize these biases.

The problem-centered interviews were a suitable instrument, in order to receive deeper answers to certain central issues of the research area. As we emphased in this section, the secondary data provide a useful background for understanding the complexity of linkages between local people, management enterprises, nature conservation agencies and environmental ministries. However, some issues were not enough represented (for example involvement of local people in management of natural resources), therefore we found that only in direct expert interviews could we get insight into these issues and better understand these linkages.

The evaluation of the interview results caused certain difficulties. During a multi-level analysis process, the translated interview texts were summarized and paraphrased (MAYRING, 2000). However, during the transcription of the interviews, the interview contents had been very much shortened, and thus the precision of some statements as well as additional information were lost. Therefore, this text was compared carefully with the original text transcriptions in order to ensure that quotations were accurate and concise statements fit accurately the original text (HÖCHTL, 2003).

4.6 Summary

In order to understand linkages between local people and Tara National Park and especially to understand the attitudes of different stakeholders, it was not enough to study only secondary data. Therefore, we chose to undertake household interviews in order to understand the local people living within the National Park boundaries and to understand their attitudes towards the future for their lives in Tara National Park. In addition, we chose to conduct expert interviews in order to understand how the park managers and the other representatives of the institutional environment of Tara National Park and protected areas think about and affect the policies and management of the park.

We integrated an inquiry about livelihood assets (human, natural, social, physical as well as financial capital) into household interviews in order to understand how households combine their capabilities, skills and knowledge with the different resources and how their livelihood assets influence them and create their attitudes towards protected area as well toward future for life in Tara National Park. Furthermore, based on our literature review, we take into account some social-economic variables, namely education as well as received benefits from conservation which have been shown to be important in determining whether people have positive or negative attitudes towards protected areas.

For analyzes of these two different types of interviews, we chose a quantitative and qualitative analysis. Our household interviews are essentially analyzed quantitatively. Actually, the questionnaire was designed to allow quantitative analysis for fixed responses with qualitative analysis of the open-ended questions. For analyzes of correlation between the variables, we applied a nonparametic method of rank correlation with Spearman's rank coefficient. We chose this test as it is especially applicable to understanding social attitudes.

Data collected from the expert-interviews involved more qualitative interpretation and during a multi-level process the transliterated interview texts were summarized and paraphrased. Qualitative analysis means that we systematically analyze

transcribed text based upon the concepts related to our research question. But, here as we emphasis in methodological critique, during the transcription of interview, the interview contents had been very much shortened and the precision of some statements as well as additional information were lost. Therefore, the resulted text was coordinated again concerning quotations and concise statements carefully with the original text transcriptions.

5 Case study

5.1 Location, traffic infrastructure

The Tara National Park covers the municipality Bajina Bašta, which has a total area of 19 175 ha, divided among ten local communities. The total area of state land amounts to 12 097.58 ha. The remaining 7 077.42 ha is private property belonging to two villages - Rastište and Jagoštica, (fig. 5.1). Both villages are situated within the territory of the National Park (PE, NATIONAL PARK TARA, 2002a).

Fig. 5.1: Villages - Rastište and Jagoštica within the territory of the Tara National Park

The geography of the villages Rastište and Jagoštica, which are divided into hamlets, is predominantly mountainous (fig. 5.2).

Fig. 5.2: Part of village Jagoštica: scattered type of village (photo: Tomićević, 2003)

An asphalt road connects Rastište village to municipality Bajina Bašta, i.e. there is a connection between the urban area and one of the Tara Natinal Park's tourist objectives, namely Predov Krst situated almost on the border of two villages mentioned. The lack of a road network is a problem for both villages, but is more acute in Jagoštica, which is further from the municipality Bajina Bašta. The canyon of the River Drina provides a natural border facilitating access to the village.

However, historic data indicates that this region has always been backward with respect to traffic infrastructure (IGNJIĆ, 1985). After the Second World War the problems pertaining to roads and isolation, characteristic of this region, were reviewed in an illustrative article published in the Narodni Glasnik journal from Užice:

'We wonder how hundreds of villagers from Rastišta, Jagoštice and surrounding areas live, with only one road, namely the road through this canyon? How do these poor people transport corn, flour, potatoes, cabbage and other products through this pathless area' (Rosić, cited in IGNJIĆ, 1985, p.139).

In recent times politicians have emphasised the importance of infrastructure for the development of the region:

"Just as regular blood circulation is important for man, good roads are important for the markets and economic status of a nation. Due to the shortage of good roads for import and export, the populations of entire regions suffer great financial losses. By the time raw materials arrive in Belgrade they have already eaten themselves."[13]

Population density and the quality of road networks are determined by natural (physical geography) and socio-economic factors. Apart from poor traffic infrastructure, Jagoštica was the last village in the municipality provided with electricity at the end of 1985 (IGNJIĆ, 1986). Migration trend, highlighted in chapter 5.2., is the result of all of these factors.

5.2 Population, migration

A characteristic of the populations of both villages is permanent emigration. According to IGNJIĆ (1986), the number of inhabitants has decreased more significantly in locations further from Bajina Bašta, which were without links to other locations for a long period. For example, there were 967 inhabitants living in Rastište in 1948 and only 498 inhabitants in 1981. Jagoštica, on the slopes of Tara, had 537 inhabitants in 1948, but in the period 1971 to 1981 the number of inhabitants declined. Villages connected to main roads and located close to the River Drina or Bajina Bašta, grew in numbers.

13 ARHIV SRS, MF, E odeljenje, f.V, 78, 1881. Stenografske beleške narodne skupštine za 1890, Bgd.1891, 237.SBNS, održane u Nišu 1884 god., p. 647

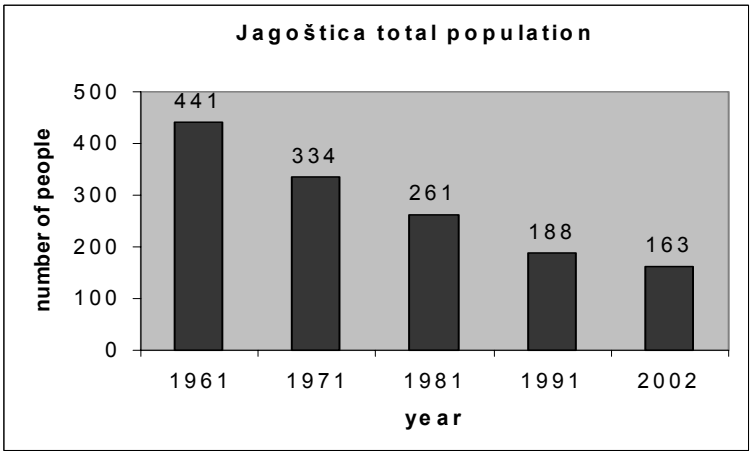


Fig. 5.2-1: The total population of Jagoštica from 1961-2002

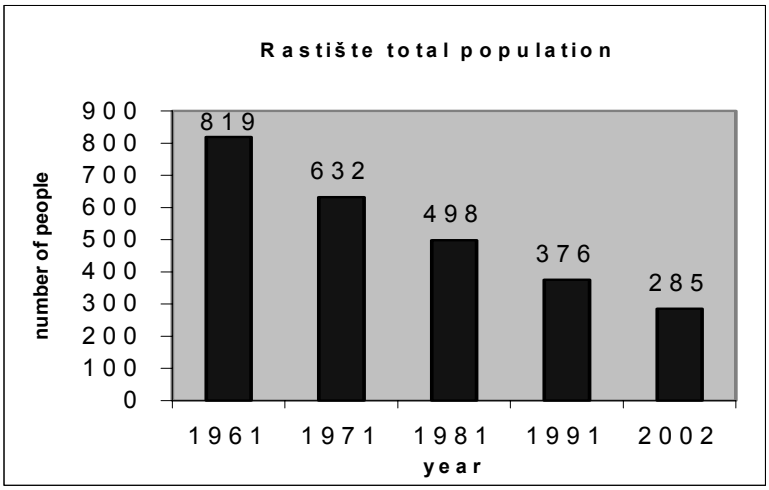


Fig. 5.2-2: The total population of Rastište from 1961-2002

(Source: Republic Institute for Statistics in Belgrade, Population Census from 1961, 1971, 1981, 1991 and 2002)

Data held by the Republic Institute for Statistics, from the register of citizens covering the period 1961 - 2002, reveals that the emigration trend continues in both villages (fig. 5.2-1-5.2-2).

Results of the survey: According to the survey results relating to migration to and from local households, it was confirmed that migration away from the villages remains the more common, tab. 5.2-1.shows examples of families from Rastište with 5, 6 and 7 members of households who left the village. There is a similar trend in Jagoštica.

Tab. 5.2-1: The survey results pertaining to migration away from the households (n=sample size)

Jagoštica (n=37)			Rastište (n=65)		
Number of member of the households *	Frequency	Percent	Number of member of the households	Frequency	Percent
0	6	16.2	0	6	9.2
1	11	29.7	1	16	24.6
2	6	16.2	2	21	32.3
3	7	18.9	3	11	16.9
4	6	16.2	4	4	6.2
5	1	2.7	5	5	7.7
			6	1	1.5
			7	1	1.5
Total number of interviewed people	37	100.0	Total number of interviewed people	65	100.0

* who migrate away from the household

(Question No.1d: Migration away from the household)

The data relating to migration into local households reveals that in a number of cases women have moved in (tab. 5.2-2). From the questionnaire results we found that women have moved into the household.

Tab. 5.2-2: The survey results pertaining to migration into local households (n=sample size)

Jagoštica (n=37)			Rastište (n=65)		
Number of persons moved into the households	Frequency	Percent	Number of persons moved into the households	Frequency	Percent
0	6	16.2	0	12	18.5
1	29	78.4	1	49	74.5
2	2	5.4	2	4	6.2
Total number of interviewed people	37	100.0	Total number of interviewed people	65	100.0

(Question No.1d: Migration into the household)

The actual picture was obtained through the answers provided to question No. 2.2 of the survey (see annex 1). Tab.5.2-3 shows that 21.5 % of the inhabitants of

Rastište declared their desire to leave the village. In Jagoštica the proportion is 35.1%.

Tab. 5.2-3: The survey results in relation to the inhabitants' desire to leave the villages (n=sample size)

Jagoštica (n=37)	Frequency	Percent	Rastište (n=65)	Frequency	Percent
no	24	64.9	no	51	78.5
yes	13	35.1	yes	14	21.5
Total number of interviewed people	37	100.0	Total number of interviewed people	65	100.0

(Question No.2.2: Do you have a plan to leave the village and if you were to leave the village, what would be some of the reasons?)

Furthermore, as we made in the question No.2.2 ('If you were to leave the village, what would be some of the reasons?') the list of reasons (family reasons, loneliness, lack of prospects, lack of job, lack of entertainment, lack of shopping facilities, lack of health insurance, poor traffic infrastructure, lack of visitors) we found that all respondents were agreed for aforementioned reasons, and additional reason included most commonly 'school and children'. The intention of the survey was to find the causes of the main problems faced by the villagers and provide some solutions.

The answers acquired from both villages in respect to question No. 2.5 ('How do you view these changes?') were: 'the changes are negative', 'everything is worse', 'everything is slow', 'the changes are late', 'the village is deserted'.

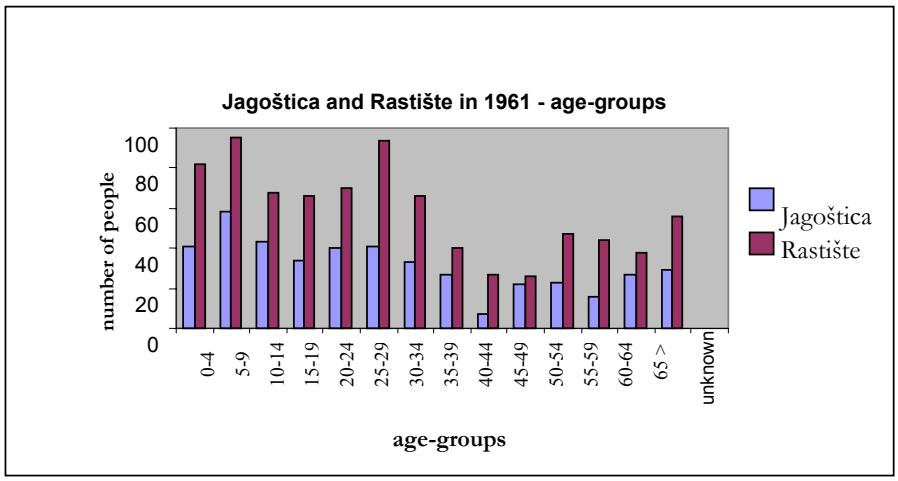
In addition to migration, the problem of natural depopulation manifested in both villages. According to the survey, most households are lacking in young people. There are elementary schools with four forms in both villages. Higher education is possible only in areas near cities. The number of schoolchildren is presented in Tab. 5.2-4. The data acquired show that in Rastište only 15.4% of the interviewees have children in school. In Jagoštica the situation is even more dramatic, with 8.1% of those interviewed with children attending school.

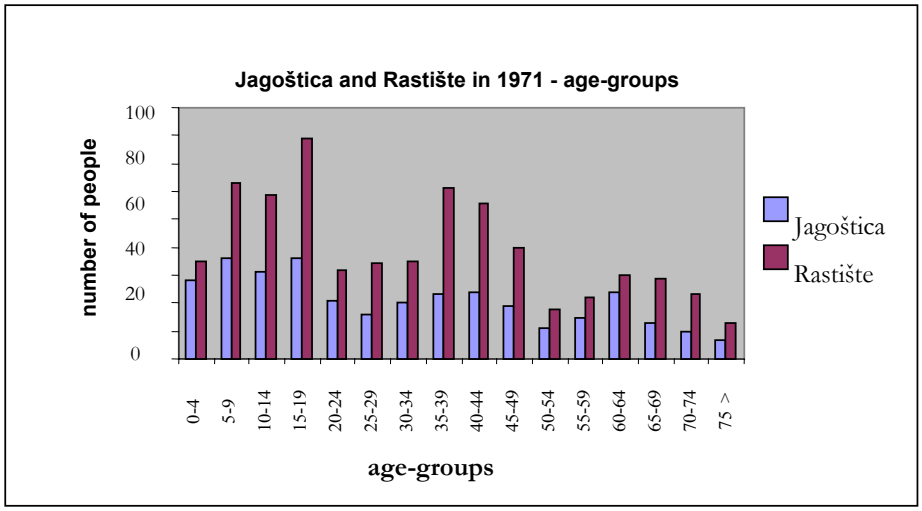
Tab. 5.2-4: The survey results pertaining to whether the household includes children in school (n=sample size)

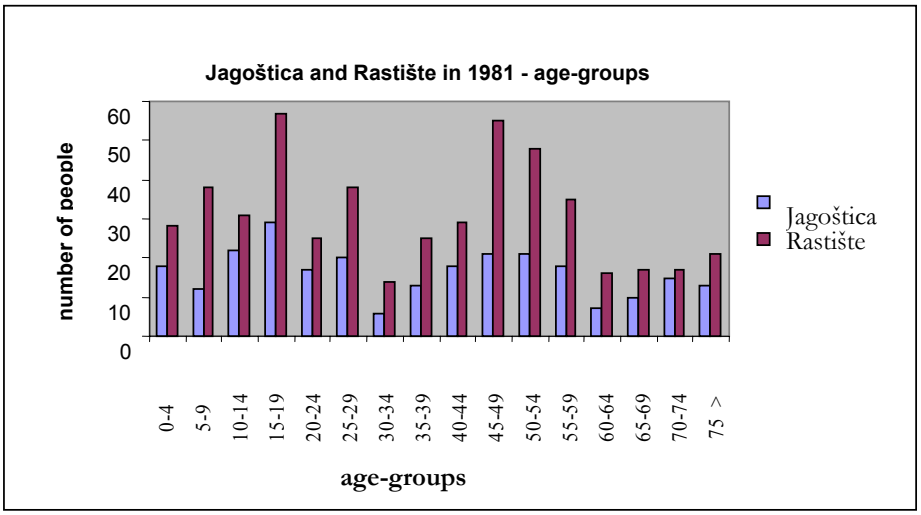
Jagoštica (n=37)	Frequency	Percent	Rastište (n=65)	Frequency	Percent
no	34	91.9	no	55	86.2
yes	3	8.1	yes	10	15.4
Total number of interviewed people	37	100.0	Total number of interviewed people	65	100.0

(Question No. 1b: Education-currently in school)

Like many rural areas, the population of the villages was getting older, which is characteristic of areas with low birth rates. The aging process is shown in fig. 5.2-3. The numbers per age group are illustrated at ten year intervals for both villages during the period 1961 -1991. The numbers in the age group 55-59 years old is increasing, in other words the population is getting older.







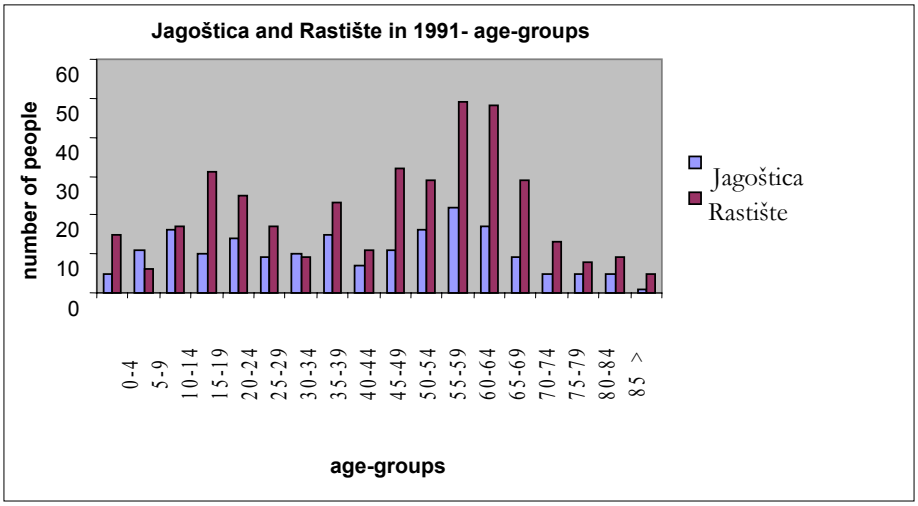


Fig. 5.2-3: The populations of Jagoštica and Rastište according to age groups during the period 1961 –1991

(Source: Republic Institute for Statistics in Belgrade, Population Census from 1961, 1971, 1981 and 1991)

The survey confirmed the aging process. The answers provided to question 1a ('Age-groups in the household') reveal that in both villages the largest category is the oldest age-group, 'over 64 years of age'. The results of the analysis show that people over 64 years old represent 46.2% of the population in Rastište and 32.4% in Jagoštica village. The ages of the interviewees, in categories are given in tab.5.2-5.

Tab.5.2-5: The survey results pertaining to age categories in both villages (n=sample size)

Age groups Jagoštica (n=37)	Frequency	Percent	Age groups Rastište (n=65)	Frequency	Percent
'20-34 years'	5	13.5	'20-34 years'	5	7.7
'35-49 years'	10	27.0	'35-49 years'	9	13.8
'50-64 years'	10	27.0	'50-64 years'	21	32.3
'over 64 years'	12	32.4	'over 64 years'	30	46.2
Total number of interviewed people	37	100.0	Total number of interviewed people	65	100.0

(Question No.1a: Age-groups in the household)

The increase in numbers of single men is an additional negative trend, especially in Jagoštica. According to the results, of the 37 households in Jagoštica, 17 households contain single or unmarried men, amounting to 45.9% of the population. The number of single people is summarised in tab. 5.2-6.

Tab. 5.2-6: The survey results pertaining to the number of single people (n=sample size)

Jagoštica (n=37)	Frequency	Percent	Rastište (n=65)	Frequency	Percent
no	20	54.1	no	56	86.2
yes	17	45.9	yes	9	13.8
Total number of interviewed people	37	100.0	Total number of interviewed people	65	100.0

(Question No. 1: Do you have any single people within the household?)

In the last census of 2002, the number of men and women were almost equal in case of both local communities (fig. 5.2-4).

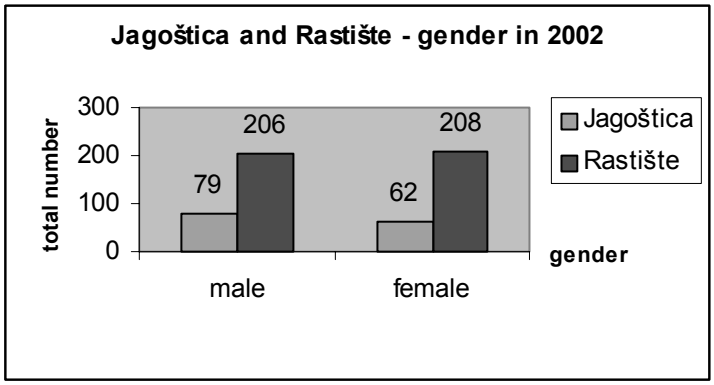


Fig. 5.2-4: Gender in Jagoštica and Rastište in 2002

(Source: Census 2002)

In our survey results, on question No. 1 ('Who is interviewed') we found that of the 65 interviewees in Rastište 52 were men (80%) and 14 were women (20%). In Jagoštica 34 interviewees were men (91.9%) and only 3 were women (8.1%) (tab. 5.2-7). Additionally, we observed that female interviewers were afraid to answer on question without of presence of man (J.T., personal observation) and during the survey it was also observed that women showed a certain lack of confidence in terms of their ability to answer the questions. This situation, actually reflect one traditional Serbian culture, were the man was the head of household, and therefore it was not surprise for researcher that women were less aware to respond on interview.

Tab. 5.2-7: The survey results pertaining to the picture who were the interviewer (n=sample size)

Jagoštica (n=37)			Rastište (n=65)		
Gender	Frequency	Percent	Gender	Frequency	Percent
male	34	91.9	male	52	80.0
female	3	8.1	female	13	20.0
Total number of interviewed people	37	100.0	Total number of interviewed people	65	100.0

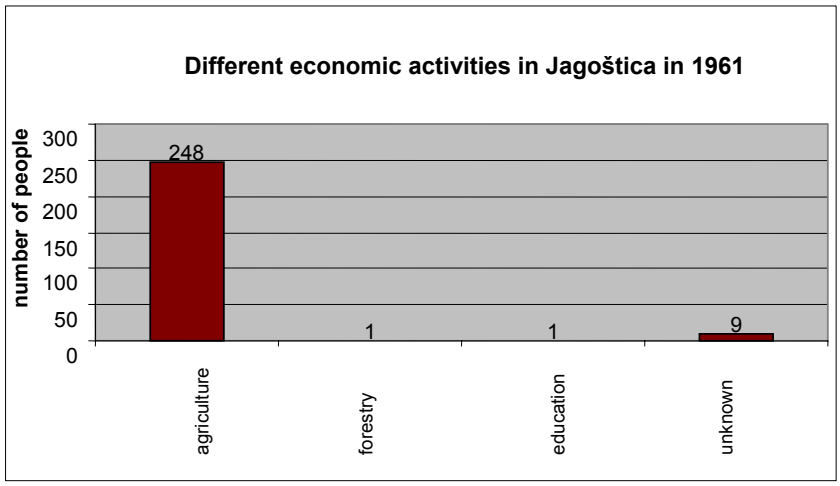
(Question No. 1: Who is interviewed)

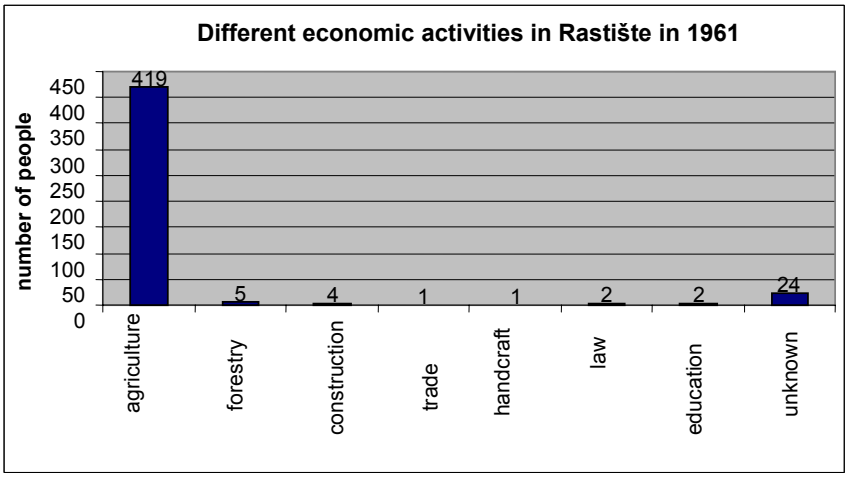
According to the survey results relating to issue of migration, we can briefly summarize as follows: we found that in both villages there is still an increasing trend of emigration of local people. Furthermore, we found that aging population, increasing number of single men, decreasing number of educated people are very important factors which are in case of both the local communities caused the low quality of human capital in the Tara area. There is no doubt that the quality of human capital can plays an essential role in achieving sustainable development. There is also no doubt that the factor education can increase the quality of human capital of the local people.

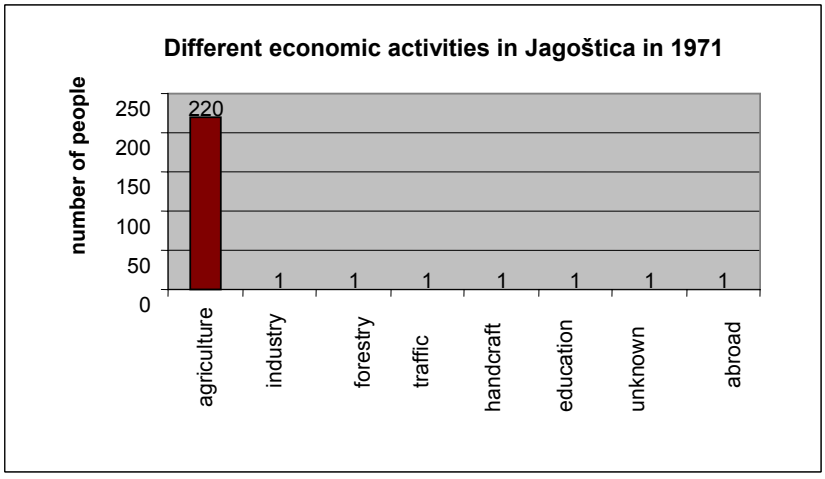
5.3 Economic activities – Agriculture

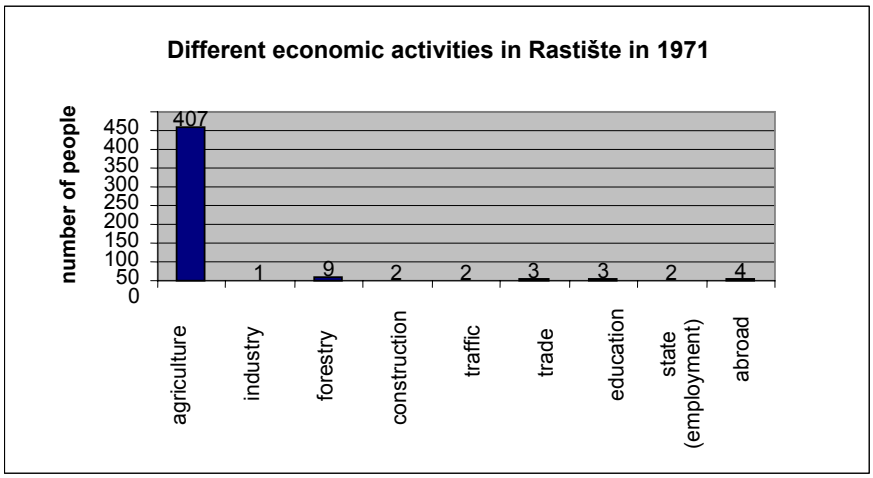
Data from 1866 show that the inhabitants of this region were mainly occupied with agriculture and cattle breeding. In the period 1918-1941, the social structure of the population and the nature of the activities carried out did not change. The main activities continued to be agriculture and cattle breeding, but it was noted that over time the economic capacity improved, due to agricultural 'co-operatives' and credits (IGNJIĆ, 1985).

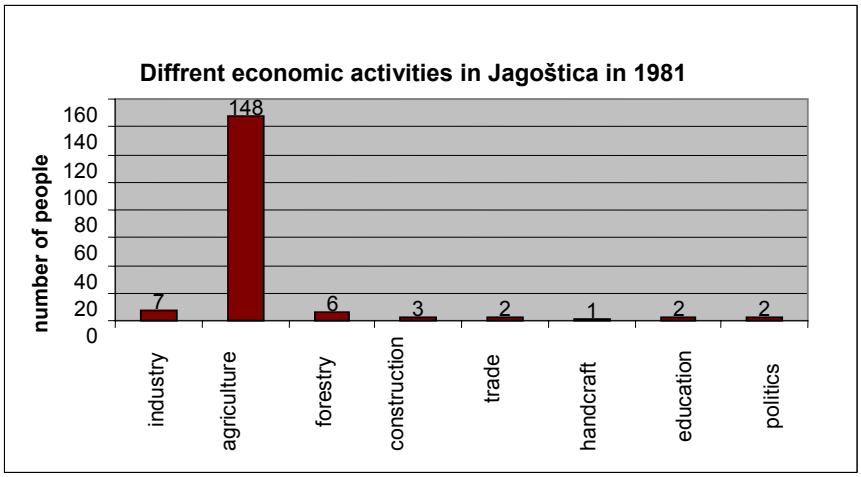
However, even after the Second World War agriculture remained backward for a long period. The structure of population reveals the undeveloped nature of agriculture and culture in this part of western Serbia, due to influence of economic, social, geographic and demographic factors (IGNJIĆ, 1986). According to data of the Republic Institute for Statistics (1961 – 1991) agricultural activity was widespread in both villages, whereas other activities were negligible (fig. 5.3-1). This means that few people were employed outside of the household.

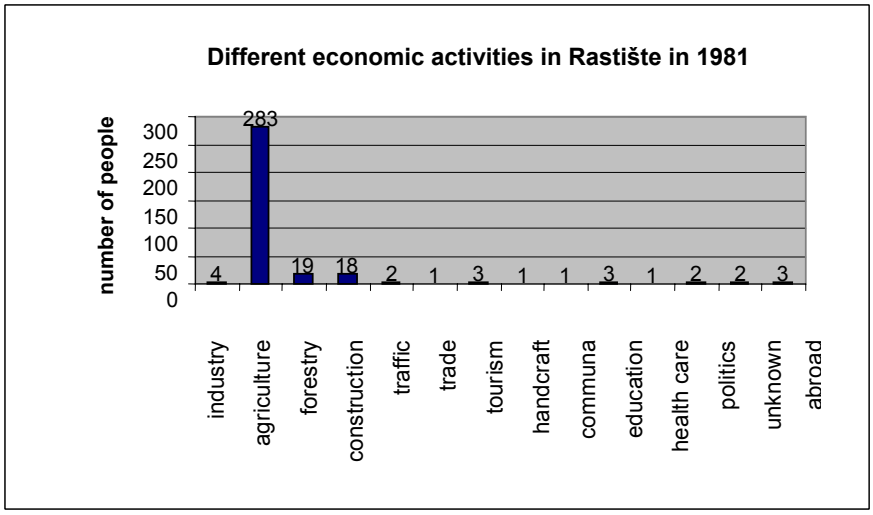

Different economic activities in Jagoštica in 1961
number of people
300
250
200
150
100
50
0
248
1
1
9
agriculture
forestry
education
unknown

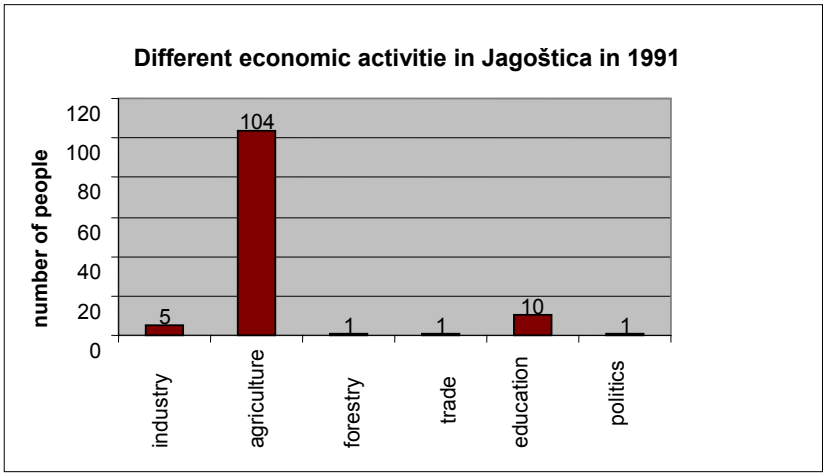

Different economic activities in Rastište in 1961
number of people
450
400
350
300
250
200
150
100
50
0
419
5
4
1
1
2
2
24
agriculture
forestry
construction
trade
handcraft
law
education
unknown


Different economic activities in Jagoštica in 1971
number of people
250
200
150
100
50
0
220
1
1
1
1
1
1
1
agriculture
industry
forestry
traffic
handcraft
education
unknown
abroad


Different economic activities in Rastište in 1971
number of people
450
400
350
300
250
200
150
100
50
0
407
1
9
2
2
3
3
2
4
agriculture
industry
forestry
construction
traffic
trade
education
state (employment)
abroad


Diffrent economic activities in Jagoštica in 1981
number of people
160
140
120
100
80
60
40
20
0
7
148
6
3
2
1
2
2
industry
agriculture
forestry
construction
trade
handcraft
education
politics


Different economic activities in Rastište in 1981
number of people
300
250
200
150
100
50
0
4
283
19
18
2
1
3
1
1
3
1
2
2
3
industry
agriculture
forestry
construction
traffic
trade
tourism
handcraft
communa
education
health care
politics
unknown
abroad



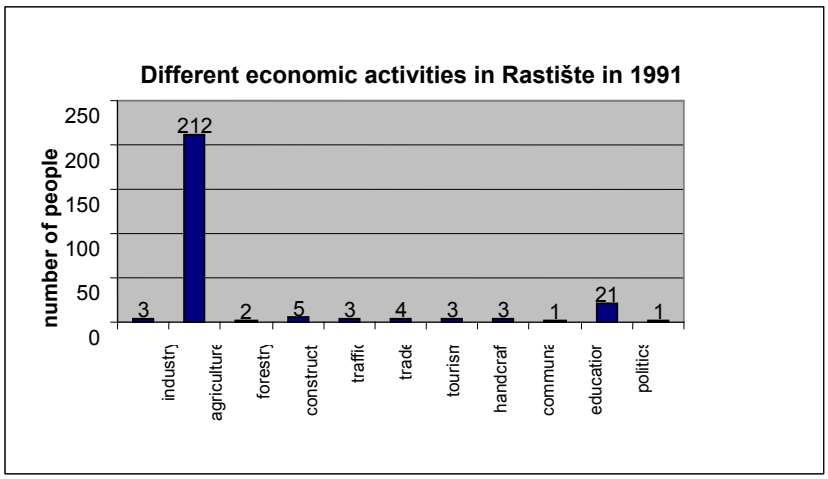


Fig. 5.3-1: Different economic activities practised in Jagoštica and Rastište in the period 1961-1991

(Source: Republic Institute for Statistics in Belgrade, Census of 1961, 1971, 1981 and 1991)

Results of the survey: The factors which describe the social and economic status of the local population include the number of employed inhabitants, livestock, possession of agricultural machines, possession and size of estate and possession and size of forest land.

The survey examined the number of employed inhabitants (question No. 1c: 'Work outside of the household'), i.e. the percentage of inhabitants who worked outside of the local households. The results show (tab.5.3-1) that the inhabitants who worked for the national park were the only people in the 'employed' category who worked outside of the local households. The remaining percentage of those

employed were wage labourers working for wealthy locals. The number of interviewees working for the National Park is shown in tab. 5.3-1.

Tab. 5.3-1: The number of interviewees working for the National Park (n=sample size)

Jagoštica (n=37)	Frequency	Percent	Rastište (n=65)	Frequency	Percent
no	26	70.3	1	42	64.6
yes	11	29.7	2	23	35.4
Total number of interviewed people	37	100.0	Total number of interviewed people	65	100.0

(Question No. 1c1: Work outside of the household -(work for the NationalPark)

In Rastište 35.4% of the population were registered employees of the National Park. The figure for Jagoštica is 29.7%. Employment figures for activities outside of the local households is presented in tab.5.3-2.

Tab. 5.3-2: The survey results pertaining to employment outside of the local households (n=sample size)

Jagoštica (n=37)	Frequency	Percent	Rastište (n=65)	Frequency	Percent
no	15	40.5	no	33	50.8
yes	22	59.5	yes	32	49.2
Total number of interviewed people	37	100.0	Total number of interviewed people	65	100.0

(Question No. 1c2: Work outside of the household- elsewhere (where?))

All of the inhabitants interviewed were engaged in cattle breeding, agriculture and fruit production to a certain extent, which indicates that the character of occupation has not changed. A trend towards partial production was observed in both villages (question No. 5.2). This means that the local population performs different type of production, but none of them are commercialised. In Rastište there were also other activities (type of production) apart from cattle breeding, and fruit and vegetable production. Seventeen interviewees claimed to be engaged in apiculture (fig. 5.3-2), two in carpentry and one in lumber work (processing).

Fig. 5.3-2: Apiculture (photo: Tomićević, 2003)

In Jagoštica seven interviewees were engaged in apiculture, one in carpentry and one in lumber processing. In the past, fruit production was common and represented a significant source of income for the households of the region, plum production in particular (IGNJIĆ, 1986).

Livestock is a very important indicator of the economic power of a household. A survey of the livestock was carried out in both villages during the period 1981-2002 (fig.5.3-2), and judging by the information obtained in the interviews important changes in agricultural production were observed.

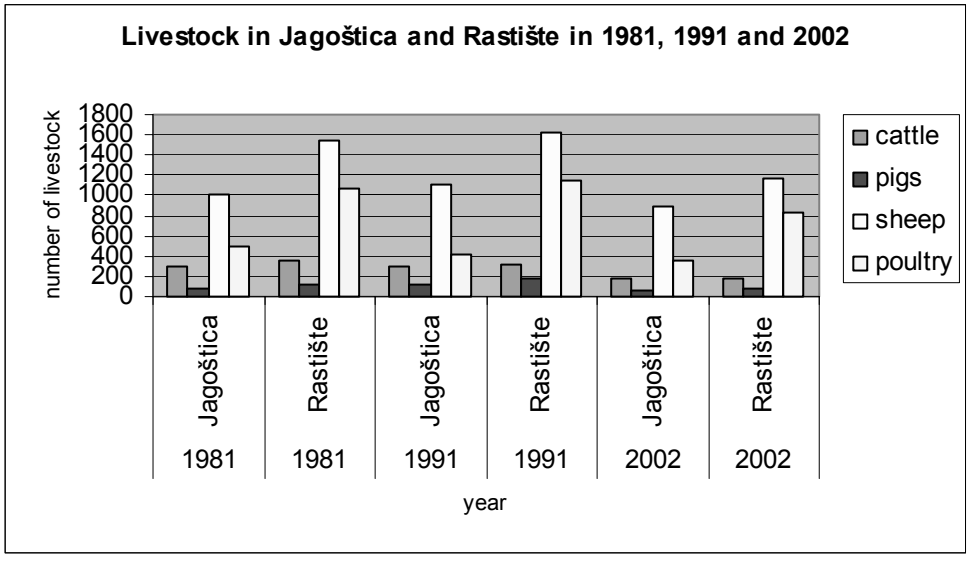


Fig. 5.3-3: Livestock, 1981-2002

(Source: Republic Institute for Statistics in Belgrade, Census of 1981, 1991 and 2002)

Results of the survey: The answers given by the interviewees when questioned in relation to the changes they've noticed in agricultural production (question No.5.3: „Livestock: How is it now and how changing") included the following: 'the changes have been negative', 'prices and markets are a problem', 'children left, so there is less production'.

Fig.5.3-4: Cattle breeding in Rastište in 2003 (photo: Tomićević, 2003)

In relation to the role of livestock (see question No.5.4: What is the importance of livestock:), the results from Rastište show that 64 interviewees viewed production as most important, sixty saw livestock as an investment and 47 interviewees referred to traction source category , making it the third most important issue. In Jagoštica all three categories were of equal importance. All 37 interviewees referred to the importance of livestock in terms of production, investment and traction source[**] (tab.5.3-3).

[*] e.g. horses were a means of transport, especially in Jagoštica village. At the same time they were used to extract wood from the forest.

Tab. 5.3-3: The survey results pertaining to the role of livestock in household economies (n=sample size)

Rastište (n=65)		**Jagoštica (n=37)**	
a) major part of production system	64	a) major part of production system	37
b) minor part of production system	0	b) minor part of production system	0
c) investment-securing wealth	60	c) investment-securing wealth	37
d) traction source	47	d) traction source	37

(Question No.5.4: What is the importance of livestock?:)

Question No. 5.5 asked, "What are the main difficulties in agriculture and livestock production?" In Rastište, 58 interviewees named the problem of finding a market for products as the greatest problem, 51 mentioned the problems of labour force (only old people remain in the village), 37 poor infrastructure, 17 the lack of equipment and ten interviewees complained of wild animals (for example: wild boar, fox, wolf, bear and others) (tab.5.3-4). However, for the all interviewees (table.5.3-4 and table 5.3-5, statement j), indicating that National park did not recognize as a treat for agriculture and livestock production. The results acquired for Jagoštica are shown in tab.5.3-5.

Tab. 5.3-4: The survey results pertaining to the main difficulties in agriculture and livestock production in Rastište (n=sample size)

Rastište (n=65)	
a) wild animals	10
b) diseases	0
c) markets (e.g., distance, non-existence)	58
d) climate	2
e) poor infrastructure	37
f) unsatisfactory soil fertility	3
g) soil erosion/degradation	0
h) labour	51
i)bad/low- equipment	17
j) nature conservation (National Park)	0

(Question No. 5.5: What are the main difficulties in agriculture and livestock production?:)

Tab. 5.3-5: The survey results pertaining to the main difficulties in agriculture and livestock production in Jagoštica (n=sample size)

Jagoštica (n=37)	
a) wild animals	19
b) diseases	0
c) markets (e.g., distance, non-existence)	36
d) climate	0
e) poor infrastructure	37
f) unsatisfactory soil fertility	0
g) soil erosion/degradation	0
h) labour	35
i) bad/low- equipment	29
j) nature conservation (National Park)	0

(Question No. 5.5: What are the main difficulties in agriculture and livestock production?:)

In the eyes of the inhabitants the greatest problem is that of infrastructure, referred to be 37 interviewees. The problems of finding a market for their produce and the age of labour follow with only slight difference between them - 36 interviewees referred to the market and 35 the labour force. The lack of equipment is also important, as mentioned by 29 people, with 19 interviewees referring to the problem of wild animals.

The survey revealed that the poor infrastructure, aging and the lack of a sufficient labour force was quite a factor in the lives of the inhabitants, along with the issue of market access (more in chapter 5.4.). Inhabitants of both villages possess a very poor inventory of agricultural machines and equipment. The results provided by the survey are summarised in tab.5.3-6.

When questioned about the equipment owned by the household, in Rastište 15 interviewees answered that they were sufficiently equipped (23.1%), compared to only one in Jagoštica, representing 2.7% of the inhabitants (tab.5.3-6).

Tab. 5.3-6: The survey results pertaining to the possession of agricultural machines (n=sample size)

Rastište (n=65)	Frequency	Percent	Jagoštica (n=37)	Frequency	Percent
no	50	76.9	no	36	97.3
yes	15	23.1	yes	1	2.7
Total number of interviewed people	65	100.0	Total number of interviewed people	37	100.0

(Question No. 6.4: Equipment owned by the household: are there cooperatives or shared equipment within a family?)

The analysis of the answers pertaining to the types of equipment possessed revealed that the number of tractors corresponds to the number of interviewees who said they were well equipped. A summary of the types of machines and tools and their numbers is presented in tab. 5.3-7.

Tab. 5.3-7: The survey results pertaining to the types of machines and tools possessed by the inhabitants (n=sample size)

types of machines	Rastište (n=65)	Jagoštica (n=37)
	number	number
tractor	15	1
truck	2	0
saw	39	24
scythe	33	14
combine harvester	0	0
others (list)	……	……..

An important indicator of an inhabitant's economic status is the size of their estate and possession and area of forest land. IGNJIĆ (1985) said the following in relation to those living on estates under 5 ha: 'Poor peasants were not able to provide for their families on the basis of such small estates so they either incurred debts or were hired to work for wealthy peasants' (IGNJIĆ, p.126). Unfortunately, the results

of the survey reveal that small estates and forest lands are widespread. A survey of the available land resources and forests is contained in tab. 5.3-8 for Rastište and tab.5.3-9 for Jagoštica.

Tab.5.3-8: The survey results pertaining to the agricultural land and forest resources in Rastište (n=sample size)

Rastište (n=65)					
Agricultural land	Frequency	Percent	Forest	Frequency	Percent
0.06 – 1.00 ha	2	3.1	0 ha	4	6.2
1.01-3.00 ha	14	21.5	0.06 – 1.00 ha	23	35.4
3.01-5.00 ha	14	21.5	1.01-3.00 ha	16	24.6
5.01-10.00 ha	19	29.2	3.01-5.00 ha	9	13.8
10.01-15.00 ha	10	15.4	5.01-10.00 ha	12	18.5
15.01-20.00 ha	5	7.7	10.01-15.00 ha	1	1.5
>20.01 ha	1	1.5			
Total number of interviewed people	65	100.0	Total number of interviewed people	65	100.0

(Question No.5.1: How much land do you have ownership of or access to?)

Tab. 5.3-9: The survey results pertaining to the agricultural land and forest resources in Jagoštica (n=sample size)

Jagoštica (n=37)					
Agricultural land	Frequency	Percent	Forest	Frequency	Percent
0.06 – 1.00 ha	2	5.4	0 ha	3	8.1
1.01-3.00 ha	4	10.8	0.06 – 1.00 ha	7	18.9
3.01-5.00 ha	5	13.5	1.01-3.00 ha	13	35.2
5.01-10.00 ha	12	32.4	3.01-5.00 ha	9	24.3
10.01-15.00 ha	10	27.0	5.01-10.00 ha	3	8.1
15.01-20.00 ha	3	8.1	10.01-15.00 ha	2	5.4
>20.01 ha	1	2.7			
Total number of interviewed people	37	100.0	Total number of interviewed people	37	100.0

(Question No.5.1: How much land do you have ownership of or access to?)

It is important to mention that in the past, after the Second World War, the land belonging to the 'enemies of the nation'* was confiscated (IGNJIĆ, 1986). This process later resulted in problems of ownership and conflicts between the state and private landowners. 'Confiscated land was placed in a communal fund or was given to poor peasants for cultivation (in 1945, 303 ha of cultivated land were confiscated and in 1954, 852 ha of land were taken from 272 wealthy peasants). There were proposals to establish cattle breeding farms on the confiscated lands' (IGNJIĆ, 1986, p. 250).

Results of the survey: The emigration of inhabitants to Bajina Bašta and other developed locations led to changes in the area, i.e. a decline in the area of cultivated land and an increase in pastures and meadows. The survey results reveal different reasons for these changes.

Interviewees from Rastište mentioned the following changes to the landscape (see question No.3.2.): 55 interviewees felt that there is more forest now, 27 interviewees believed that there are fewer pastures and meadows, whereas 21 interviewees believed that there are more orchards. The results are presented in tab. 5.3-10.

Tab.5.3-10: The survey results pertaining to the changes to the landscape in Rastište

Rastište (n=65)	
a) Today there is more forest	55
b) Today there is less forest	8
c) Today there are more pastures and meadows	14
d) Today there are fewer pastures and meadows	27
e) Today there are more orchards	21
f) Today there are fewer orchards	11
g) other changes (please specify)	….

(Question No. 3.2.: When you compare the landscape with that of 20, 30 or more years ago, can you see any changes?:)

* the 'enemies of the nation' were people who managed to accumulate financial capital during the occupation of the country (Second World War).

The interviewees were also provided the opportunity to describe other changes they had observed. The following were mentioned: 'today fewer people cultivate the soil'; 'there are more meadows than arable land' (arable land is most rare/there are more meadows at the expense of fields); 'arable land is neglected'; 'the village is neglected'; 'weeds grow on fields because there is no one to cultivate them' and 'orchards are being established.'

In Jagoštica, 30 interviewees answered that there is more forest today, 33 believed there are fewer pastures and meadows, and twenty said that there are more orchards. The results are presented in tab.5.3-11.

Tab. 5.3-11: The survey results pertaining to the changes to the landscape in Jagoštica (n=sample size)

Jagoštica (n=37)	
a) Today there is more forest	30
b) Today there is less forest	5
c) Today there are more pastures and meadows	3
d) Today there are fewer pastures and meadows	33
e) Today there are more orchards	20
f) Today there are fewer orchards	13
g) other changes (please specify)	….

(Question No. 3.2: When you compare the landscape with that of 20, 30 or more years ago, can you see any changes?:)

Other changes observed included: 'there used to be a lot of arable land in the past'; 'there is less arable land because there is no one to work it'; 'there are very few fields' and 'orchards are being established'. We can add that the local people's observations reflect reality appropriately and were affirmed in expert interview with adviser for private forest in public enterprises Tara National Park (J.T., personal communication).

Considering various results of the study, the role of agricultural resources in villages in supporting sustainable development can be briefly described as follows:

The agricultural sector, which has deep cultural roots in the community, has become inefficient and ineffective as a result of the different changes and

difficulties in this area. First, the low quality of the human resources has caused a low productivity of the agricultural activities. Emigration as well as the high number of old people who remain in village clearly describe this negative situation. The main difficulties that local people emphasized for agricultural production as well as for livestock production are the problems of infrastructure, finding a market for their produce, and the problem of the age of labour force. Both the agricultural sector and the livestock sector are important for the both of communities. Cattle and sheep raising are tradition activities and both cattle and sheep play important roles in the daily life of the community. Furthermore, today livestock is a major part of the local production system (e.g. milk, meat, wool). However, the emigration of local people has and the reduced numbers of livestock have caused certain changes to the landscape: more forest, less cultivated land, fewer pastures and meadows and relatively more orchards in the area.

There are at least two economic sectors that must get special attention to achieve sustainable development in Tara area: the agricultural and livestock sectors. The importance of the agricultural sector can at least be seen from two aspects, namely agriculture as landscaping factor and as a major source of food and income for the local community. But, we found that the low economic benefits from agricultural activities have led to a shift of the agriculture labour to other sectors. Our survey results, however, indicated that local people would be willing to invest in the agricultural sector, if there was the potential for realizing greater economic benefits. This is also true of the livestock sector for which there is ample opportunity for expansion in terms of land. Therefore these two economic sectors are still dominate the local communities in the Tara area. These results will be discussed more in the subchapter 5.6.

5.4 Cooperatives and production

In the 1980s, the agricultural cooperatives played an important role in the life of the villages. Local people were well organised within agricultural cooperatives, which

meant larger incomes for each person. Cooperation between agricultural cooperatives and local people was achieved through loans (green plan, provision of plants, cattle breeding etc.) (IGNJIĆ, 1986). Cooperation verified by agreements represents a special form of cooperation between local people and cooperatives. As households are economically more stable, their income is larger and supply of agricultural products is more certain (IGNJIĆ, 1986).

Furthermore, it was observed that the cooperative made an effort to improve cattle production, to buy fat animals from local people and, through dairies, to buy milk and refine it into a quality cheese. The cooperatives also sought to stop a permanent reduction of the livestock by establishing a farmers' association (IGNJIĆ, 1986).

Results of the survey: The aim of the survey was to scrutinise the current production status of the local households (the type of product, the orientation and organisation of production). According to results for both villages, dairy products, wool and meat dominated.

The results from Rastište show (see question No. 6.1) that 62 interviewees produced meat and wool, whereas 52 interviewees produced dairy products. The situation in Jagoštica was similar: Thirty five interviewees produced meat, and 32 produced both wool and dairy products. Other goods produced named in both villages were brandy, knitwear, honey, furniture and joinery (tab. 5.4-1).

Tab. 5.4-1: The survey results pertaining to the type of goods produced (n=sample size)

Rastište (n=65)		**Jagoštica (n=37)**	
dairy	59	dairy	32
meat	62	meat	35
wool	62	wool	32
others (specify)	……..	others (specify)	…….

(Question No. 6.1: What type of products do you produce?:)

Answers were also provided in relation to the question concerning the organisation of production. The answers obtained to question No. 6.2 ('Market orientation of

production system':), were that in Rastište 39 interviewees produced for household purposes only, whereas 26 interviewees claimed to produce for different purposes (subsistence and commercial). In Jagoštica the ratio was different. Thirty interviewees produced for household purposes, whereas only seven interviewees claimed to have a production of mixed orientation (tab.5.4-2).

Tab. 5.4-2: The survey results pertaining to the market orientation of the production systems (n=sample size)

Rastište (n=65)		**Jagoštica (n=37)**	
a) subsistence (self-supply)	39	a) subsistence (self-supply)	30
b) mixed (subsistence and commercial)	26	b) mixed (subsistence and commercial)	7
c) commercial /market	0	c) commercial /market	0

(Question No. 6.2: Market orientation of the production systems)

The next question was directed at the organisation of production (question No.6.3. 'How is the production system organized:'). It was noted that in Rastište village production was carried out by the cooperative, whereas the inhabitants of the more distant Jagoštica village were involved less in 'cooperative-based' production. (They could only cooperate with the 'cooperative' in Rastište.) The answers obtained to question No. 6.4 ('How is the production system organised?') for Rastište were: 45 interviewees made sporadic sales from the household, 25 sold their products through the farmers' cooperative, four interviewees sold through the National Park, whereas only one interviewee organised sales through the green market. The results for Jagoštica show that the most common type of sale is sporadic sale from the households – 35 interviewees – followed by sales through the green market – 6 interviewees – with two selling through the NP and a further two through the farmers' co-operative (tab.5.4-3). Sporadic sales direct from the household were recorded in both villages. In Rastište 45 interviewees engaged in sporadic sales from the household, whereas in Jagoštica it was 34 interviewees, making this the most important means of sale.

Tab. 5.4-3: The survey results pertaining to the organisation of production systems (n=sample size)

Rastište (n=65)		**Jagoštica (n=37)**	
through the farmers' cooperative	25	through the farmers' cooperative	2
through the green market	1	through the green market	6
sales to (industrial) companies, manufacture enterprises	0	sales to (industrial) companies, manufacture enterprises	0
sporadic sales direct from the household	45	sporadic sales direct from the household	34
through the NP	4	through the NP	2

(Question No. 6.4: How is the production system organised?:)

Finally, one of key components of the study is the cooperation between the inhabitants of both villages and Tara National Park under a defined agreement. The results from both local communities were positive. In answer to question No. 6.5 ('Would you cooperate with the National Park authorities (if they guarantees they'll buy your products at appropriate prices)?'), 51 out of 65 interviewees in Rastiste answered 'yes', a total of 78.5%, whereas in Jagostica 31 of the 37 interviewees answered 'yes', 83.8% of the interviewees. Interviewees who gave a negative response stated old age as a reason.

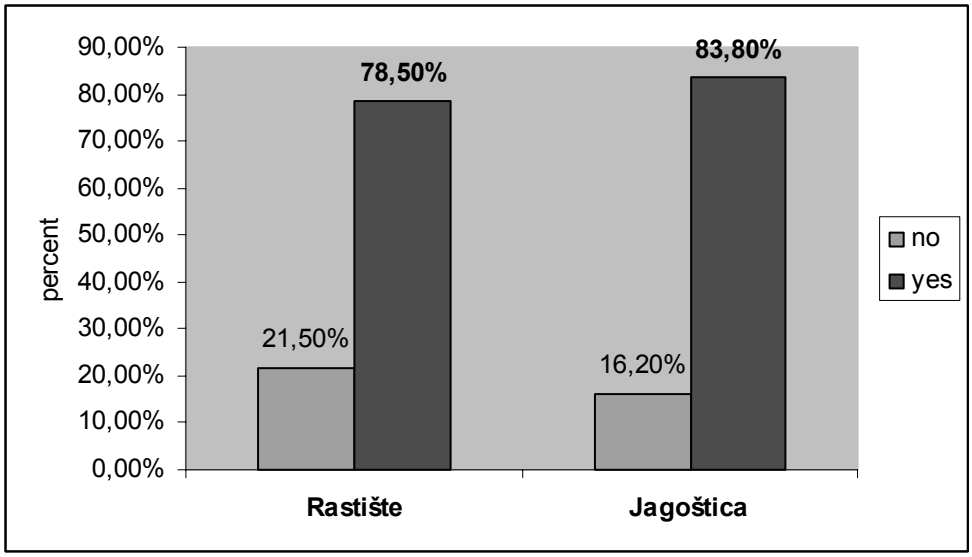


Fig. 5.4-1: The survey results pertaining to the cooperation between the locals and the NP (Question No. 6.5: Would you cooperate with the National Park authorities (if they guarantees they'll buy your products at appropriate prices)?)

These results confirm the necessity for local communities to organise a system of cooperation enabling secure production and a more stable economic standing for the local communities.

As we already emphasized, the livestock sector plays an important role in Tara area. From the survey results we can summarize as follows: in both villages production of meat, wool, and diary products is produced for household purposes.

Additionally, some households produce brandy, honey and other craftwork. In Jagoštica village, which is the much more isolated village than Rastište, local people produce more for household purposes than trade (a subsistence based economy). While in Rastište there is both subsistence and commercial production. It is within this context of subsistence as well as limited commercial production that a participatory process with National Park authorities might contribute to expanding market opportunities through cooperative agreements with the National Park.

The goal of local community empowerment in relation to sustainable development requires that the local communities are ready to participate in development as well in conservation processes. However, the people of the Tara region have a relatively strong motivation for achieving sustainable development. This is indicated by their willingness to cooperate in implementing any idea of environmental improvements. Apart from economic motivations, another aspect that motivates them to be environmentally friendly is their memory of their ancestors' customs that sought to maintain good relations between human beings and their environment. Nonetheless, economic goals remain their main motivation for cooperation with the National Park. This is a difficult challenge to answer in the process of planning and developing sustainable development with conservation objectives.

5.5 Forestry

The main value of the Natonal Park is represented by biological and ambient diversity of ecosystems evident as different forest types according to altitude and

level of development.[14] Forests as a natural resource are one of the most important natural resources in the Tara National Park. In this subchapter, we discuss the attitudes of local people towards the forest and other natural resources. Recalling our initial research question, we hypothesized that attitudes are very important in local participation in developing sustainable livelihoods in protected areas.

Results of survey: The current status of Tara's natural resources, based on the examples of Rastište and Jagoštica, was surveyed (see annex 1, questions concerning nature and the landscape, No.3) as well as the attitude towards the natural environment was examined, with a particular emphasis placed on the utilisation of the forests. The results of the survey tend to reflect a greater value placed upon medicinal plants, mushrooms and rare flora for which Tara is famous. In both villages the answer to question No.3.1 ('Do you like your environment?') was 100% affirmative, with all of the interviewees saying that they liked their environment very much.

The following results were obtained in answer to question No. 3.3 ('For what purpose do you use the forest?): In Rastište all 65 interviewees stated that they use the forest principally for firewood purposes and for timber use (33 interviewees) were in second place). In Jagoštica the results followed the same pattern (tab.5.5-1).

Tab. 5.5-1: The survey results pertaining to forest utilisation (n=sample size)

Rastište (n=65)		**Jagoštica (n=37)**	
a) timber	33	a) timber	26
b) firewood	65	b) firewood	37
c) fruits and nuts	0	c) fruits and nuts	0
d) grazing	1	d) grazing	0
e) other forest products (medicinal, honey, etc.)	1	e) other forest products (medicinal, honey, etc.)	0
f) recreation - tourism	1	f) recreation - tourism	0
g) others (specify)	….	g) others (specify)	….

(Question No. 3.3: For what purpose do you use the forest?:)

14 PE, NATIONAL PARK TARA (2002a) Program zaštite i razvoja područja Nacionalnog parka Tara za period 2002-2006 godina, Javno preduzeće 'Nacionalni park Tara', Bajina Bašta.

In personal observation we revealed that lime production frequently occurred in the Rastište region (tab. 5.5-2). Eight (12.3%) of the 65 inhabitants are registered as engaged in this activity. Their interview responses confirmed that their involvement in lime production is principally for the money. People are forced to engage in this activity due to their poor financial situation. In Jagoštica the transport of lime is handicapped by the poor infrastructure. As a consequence, this activity was not registered.

Tab. 5.5-2: The survey results pertaining to lime production (n=sample size)

Rastište (n=65)	Frequency	Percent	Jagoštica (n=37)	Frequency	Percent
no	57	87.7	no	37	100.0
yes	8	12.3	yes	0	0
Total number of interviewed people	65	100.0	Total number of interviewed people	37	100.0

Fig. 5.5-1: Lime production in Rastište village (photo: Tomićević, 2003)

With respect to the inhabitants' knowledge of medicinal plants and mushrooms species (see question No. 3.4: 'Do you collect natural products?:'), the results show

that in respect to mushrooms species in Rastište nine species were listed*, whereas eight species mushroom species were registered in Jagoštica village (tab. 5.5-3).

The local population of Jagoštica demonstrated their knowledge of medicinal plants by naming twenty medicinal plant species and in Rastište village twenty six species of medicinal plants were determined (tab. 5.5-4). In both villages, all of the interviewees stated that they were acquainted with (could recognise) some rare species (see question No.3.5: 'Do you know which plant species are exclusive to Mt. Tara?'). All of the interviewees named the Panchic spruce as being the tree species for which Tara is famous.

Medicinal plant species presented in table 5.5-4 served for official as well for folk medicine. It is important to emphasize that all listed plant species are out of category list of endangered and rare plant species (see annex 4), and regulated and controlled exploitation of this species does not present a threat for disturbance of the balance in their population.

Tab. 5.5-3: The survey results pertaining to the mushrooms found in the villages Jagoštica and Rastište (n=sample size)

Jagoštica (n=37)	**Rastište (n=65)**
Genus Boletus Fr.	Genus Boletus Fr.
Genus Morchella St.Amans	Genus Morchella St.Amans
Genus Lactarius D.C. ex Gray	Genus Lactarius D.C. ex Gray
Genus Russula Pers.	Genus Russula Pers.
Genus Calocybe (Fr.) Donk	Genus Calocybe (Fr.) Donk
Genus Marasmius Fries.	Genus Marasmius Fries.
Genus Cantharellus Fr.	Genus Cantharellus Fr.
Genus Agrocyte (Brig.) Singer	Genus Agaricus L.ex Fr.
	Genus Melanopus (Huds.) Pat

* this is not a complete list of available mushrooms and plant species.This list only represent species which local people listed in that moment (during the interview), but they know much more about species and especially how to use them (J.T., personal observation).

Tab. 5.5-4: The survey results pertaining to the knowledge of medicinal plants in the villages Jagoštica and Rastište (n=sample size)

Jagoštica (n=37)	**Rastište (n=65)**
Crataegus oxycantha L	Crataegus oxycantha L
Tilia L.	Tilia L.
Sambucus nigra L.	Sambucus nigra L.
Teucrium montanum L.	Teucrium montanum L.
Rosa canina L.	Rosa canina L.
Hypericum perforatum L.	Hypericum perforatum L.
Achillea millefolium L.	Achillea millefolium L.
Thymus serpyllum L.	Thymus serpyllum L.
Mentha piperita L.	Mentha piperita L.
Juniperus communis L.	Juniperus communis L.
Colchicum autumnale L.	Colchicum autumnale L.
Urtica dioica L.,	Urtica dioica L.,
Matricaria chamomilla L.	Matricaria chamomilla L.
Primula veris (L.), Huds.	Primula veris (L.), Huds.
Althea officinalis L.	Althea officinalis L.
Teucrium chamaedrys L.	Teucrium chamaedrys L.
Mentha pulegium L.	Mentha pulegium L.
Orchis militaris L.	Centaurium umbellata Gilib.
Melissa officinalis L.	Polygonum aviculare L.
Tussilago farfara L.	Geranium macrorrhizum L.
	Gentiana lutea L.
	Origanum vulgare L.
	Equisetum arvense L.
	Centaurea cyanus L.
	Artemisia vulgaris L.
	Salvia glutinosa L.

The role of forestry sector is an important factor for local communities. We found that local people are very aware of the ecological functions of the forest, especially for biodiversity conservation. Additionally, local people are traditionally aware of the importance of the forest from their collection of medicinal plant species as well as mushrooms. Also, the knowledge of local people related to the utilisation of these species represents a important source of knowledge and social value, and therefore helps to support why the local people are important partners in management of natural resources.

However, collection of natural products is more widespread in Jagštica village, while in Rastište local people today are involved in some activities which are forbidden in Tara National Park.

With the relatively low level of production of the local community, they need to exploit more natural resources to have enough money to fulfil their various living necessities. This can also be detected from a relatively high percentage of illegal limekilns. Actually, according to personal observation and literature sources lime production was typical for another villages in Tara area, namely Rača village, but was not a traditional activity in Rastište until recently. Unfortunately, the poor economic situation of local population is leading to activities detrimental to the forest.

5.6 Local Communities and the National Park

In its World Conservation Congress resolution 1.53, the IUCN recognised that indigenous people have the right "to participate effectively in the management of the protected areas established on their lands or territories", and therefore agreements should be reached with them "prior to the establishment of protected areas in their lands or territories". Also, this resolution requests all components of IUCN to "endorse, support, participate in and advocate the development and implementation of a clear policy in relation to protected areas established in indigenous lands and territories". 'This action is to be based on the recognition of land/territorial and resource rights, the necessity for prior agreement on the establishment of new protected areas on their lands or territories, and rights to effective participation in protected area management' (BELTRÁN, 2000, p.4).

In the case of the Tara NP, the process has run contrary to the resolution quoted above. Inhabitants of Rastište and Jagoštica did not accept the proposal to include their villages within the territory of the national park. In spite of this fact, Tara was proclaimed a national park, and included the territories of Rastište and Jagoštica. The aim of the survey was to determine the prevailing attitudes of the local community towards the national park (see annex 1, *questions concerning the national park*). The aim was to find any connection with the national park on the part of the

locals, potentials for improvement and to establish whether there was any conflict between the community and the national park.

The results of survey: The answers of the questions related to the NP revealed that 39 interviewees from Rastište (60%) gave a negative response to question No. 4.1 ('Do you have any relationship with the Tara National Park?'). Alternatively, there were 26 (40%) who replied affirmatively. In Jagoštica, 23 interviewees provided an affirmative response (62.2%), whereas 14 gave a negative answer (37.8%) (tab. 5.6-1).

Tab.5.6-1: The survey results pertaining to the relationship with the Tara National Park (n=sample size)

Jagoštica (n=37)	Frequency	Percent	Rastište (n=65)	Frequency	Percent
no	14	37.8	no	39	60.0
yes	23	62.2	yes	26	40.0
Total number of interviewed people	37	100.0	Total number of interviewed people	65	100.0

(Question No. 4.1: Do you have any relationship with the Tara National Park?)

The answers provided by the inhabitants of both villages to question No. 4.2 ('How could the relationship be improved?') revealed that their primary concern was the improvement of the relationship with the NP (see tab.5.6-2).

Tab. 5.6-2: The survey results pertaining to the improvement of the relationship (n=sample size)

	Rastište (n=65)	Jagoštica (n=37)
a) better connection with the NP	64	36
b) better connection with the tourist agency	30	28
c) better connection with Institute of Nature Protection	23	17
d) others (specify)	…..	…..

(Question No. 4.2: How could the relationship be improved?:)

As the question had a semi-open character, the interviewees also offered their suggestions and opinions with respect to a better relationship with the National Park: 'better cooperation is necessary'; 'better collaboration with the National Park'; 'roads are needed'; 'development of tourism'; 'rural tourism'; 'road repairs are necessary'; 'young people should be provided opportunities to work for the National Park'; 'purchase of plants and cattle' and 'if there were more jobs (employed people), more people would probably stay'.

In relation to the question about conflict (question No.4.3: 'Do you have any conflict with the National Park?') nine interviewees in Rastište answered 'yes, a conflict exists', representing 13.8% of the total number, and in Jagoštica all 37 interviewees answered 'no, there is no conflict', which is 100% (tab. 5.6-3).

Tab. 5.6-3: The survey results pertaining to conflicts with the National Park (n=sample size)

Rastište (n=65)	Frequency	Percent	Jagoštica (n=37)	Frequency	Percent
no	56	86.2	no	37	100.0
yes	9	13.8	yes	0	0
Total number of interviewed people	65	100.0	Total number of interviewed people	37	100.0

(Question No.4.3: Do you have any conflict with the NP?)

During the course of the interviews the word 'conflict' was described as 'the wrong word', so the term 'problem' was introduced. Interviewees provided the following answers: in Rastište the problems were confiscated forests, the problem of limekilns*, limited felling of trees, wild animals, prohibitions and taxes.

* Namely, because of poor standards of living, the local population is forced to undertake activities besides agriculture. One of these activities is the production of lime, which due to the use of natural resources, endangers the environment very much. 'If only ten limekilns worked permanently and with full capacity the consumption of limestone is 10,000 t annually! Also, it is evident that during the continuous work in the season altogether more than 100,000 m3 of wood can be consumed, i.e., burned' (ZAVOD ZA ZAŠTITU PRIRODE SRBIJE, 2002b, p.3).

In Jagoštica no limekilns were registered, so there were no problems in that respect. However, wild animals (for example, wild boar) were named as a major problem with the NP, and also felling restrictions. In order to identify potential aspects of future development, some questions concerning the local people's investment plans, their attitude to the development of tourism, and their prediction (opinion) for the future of their village were posed.

Question No. 7.1 referred to investments. The results from Rastište revealed planned investments in the following categores: raspberries, raspberries and apiculture, raspberries and cattle breeding, none, apiculture, cattle breeding, cattle breeding and fishing, cattle breeding and apiculture, cattle breeding and fruit production, tourism, tourism and fruit production, fruit production. Actualy all named categores belonging to agricultural activites except of the tourism investment. The results show that 'cattle breeding' is the most common category with 40.0%, followed by 'none' with 21.5%, and then 'raspberries' in third place with 12.3% (see tab.5.6-4).

Tab. 5.6-4: The survey results pertaining to planned future investment by the inhabitants of Rastište (n=sample size)

Rastište (n=65)	Frequency	Percent
raspberries	1	1.5
raspberries and apiculture	8	12.3
raspberries and cattle breeding	3	4.6
none	14	21.5
apiculture	1	1.5
cattle breeding	26	40.0
cattle breeding and fishing	2	3.1
cattle breeding and apiculture	2	3.1
cattle breeding and fruit production	5	7.7
tourism	1	1.5
tourism and fruit production	1	1.5
fruit production	1	1.5
total	65	100.0

(Question No. 7.1: What kinds of investment do you make or would like to make on your lands?)

The reasoning behind selecting category that 'none' was explained as follows: 'there is no one to carry out the work', 'that's hard work for women'. In Jagoštica the most common forms of investment planned were the following: potatoes, raspberries, raspberries and cattle breeding, none, cattle breeding, cattle breeding and potatoes, cattle breeding and fruit production, tourism, fruit production. The most frequent category with 67.6% was cattle breeding (tab.5.6-5).

Tab. 5.6-5: The survey results pertaining to planned future investment by the inhabitants of Jagošica (n=sample size)

Jagoštica (n=37)	Frequency	Percent
potatoes	2	5.4
raspberries	2	5.4
raspberries and cattle breeding	2	5.4
none	1	2.7
cattle breeding	25	67.6
cattle breeding and potatoes	1	2.7
cattle breeding and fruit production	2	5.4
tourism	1	2.7
fruit production.	1	2.7
total	37	100.0

(Question No. 7.1: What kinds of investment do you make or would like to make on your lands?)

We can summarize results from the both communities, that investment in agricultaral sector, especially in livestock production is the highest percent represented.

In answer to question No.7.2, which was related to income from tourists, all (100%) of the interviewees from both villages claimed they received no income from tourism. And in answer to question No. 7.3 ('Would you like to have more tourists here?') 100 % of the interviewees in both villages said they wanted more tourists.

The question relating to the development of tourism (question No. 7.4), which concerned the willingness of local people to participate in tourism development: in

Rastište 49.2% of local population gave a positive answer and in Jagoštica 54.1% of the interviewees also gave an affirmative answer, see tab. 5.6-6.

Tab. 5.6-6: The survey results pertaining to people to participate in tourism development (n=sample size)

Rastište (n=65)	Frequency	Percent	Jagoštica (n=37)	Frequency	Percent
no	33	50.8	no	17	45.9
yes	32	49.2	yes	20	54.1
Total number of interviewed people	65	100.0	Total number of interviewed people	37	100.0

(Question No. 7.4: ..., are you prepared to participate in tourism development?)

The results also show that the local population is most interested in 'offering healthy (organic) food'. The main problems cited in relation to the development of tourism are: the 'age problem' and 'lack of conditions for prosperity'.
In response to the final question (question No. 7.5: 'Are your hopeful for the future in the Tara area?') 54 interviewees in Rastište said 'there is no future in the village', which represents 83.1%: In Jagoštica the answer was even more pessimistic. A total of 97.3% interviewees expressed this view (tab.5.6-7).

Tab. 5.6-7: The survey results pertaining to inhabitants' hopes for the future in the villages (n=sample size)

Rastište (n=65)	Frequency	Percent	Jagoštica (n=37)	Frequency	Percent
no	54	83.1	no	36	97.3
yes	11	16.9	yes	1	2.7
Total number of interviewed people	65	100.0	Total number of interviewed people	37	100.0

(Question No. 7.5.: Are you hopeful for the future in the Tara area?)

The following answers explain the negative attitude of the local community in Rastište: 'only the old people remain', 'migration is constant process', 'there is no future because there are no children'. Only 16.9% of the interviewees had positive

expectations, and they believed that 'the future is in the market', 'with the help of the state, investment and credit the potential for prosperity exists' and 'young people should be encouraged to stay'. In Jagoštica the main reasons for this negative attitude are also explained by problems such as the 'migration of young people', 'dying out of households', 'large numbers of single people'. The most dramatic prediction was that 'in 10 years time the village will disappear'. One positive attitude expressed was that the 'development of tourism would positively affect the village'.

This study examines the role of local people in the management of natural resources, relationships with National Park authorities, including the questions of participation and cooperation in different sector activities, and finally their attitudes toward a future life in the Tara area. In summary, while the local people were marginalized when Tara National park was formed, they are willing and interested in working with the Park administration in the conservation and management of the region. Surprisingly, only 13.8% of local population in Ratište expressed a lack of willingness to cooperate with the National Park managers. Our understanding of this conflict is that it is still related to the confiscation of forest land in the past and continuing lack of clear ownership structure between the state and local people.

Another problem was correlated with production of lime which is a forbidden activity in Tara area. Since these problems are not present in Jagoštica village, they were more positively oriented toward the managers of Tara national Park. In general, the positive perceptions in both communities are related to access to job opportunities with and benefits from the Tara National park enterprises.

However, in terms of local investment plans, our survey results clearly showed that the main focus of these people is still agricultural, especially livestock production. On the other hand, the local people in both villages are aware of and interested in participation in tourism development. The quality of human resource is a very significant factor in various processes and stages of sustainable development in Tara area.

In conclusion, the local people of Tara share a generally negative expectation about the future for their lives in the Tara area. We have partly explained these views as due to economic hardship in general, which has prevented them for implementing this motivations in their daily lives. But the main reason is the low quality of human resources given the high rates of emigration of local people to urban areas. The real challenge for park managers and local people is to strengthen the local economy so as to achieve sustainable development in Tara. Without people, there is no future in Tara area.

5.7 Summary

The people of Tara generally know how important it is to cooperate with National Park authorities and how important it is to achieve sustainable development. This is indicated from their willingness to cooperate with Tara National Park authorities in implementing any idea of environment improvements, as well in development processes.

In terms of motivation, economic aspects remain to be their main focus. This is a difficult challenge to answer in the process of planning and developing sustainable tourism development, for example. The main problem regarding the motivation is to find solutions on how to make the community aware of the indirect economic benefits of tourism, and how two distribute economic benefit evenly.

The relative high investment frequency in agricultural sector, can be probably seen as an indicator for a difficult change from the agricultural sector to tourism. Finally, the human resources is one of the key features which is occur as a main difficulties in achieving the sustainable development in area or furthermore to achieve the future existence of these villages in Tara area.

In the long-term, political stability and environmental protection as well as tourism and local economy will be considerably enhanced if the Tara system can be considered as a whole. Zoning is essential, so that sensitive or fragile areas may be

highly protected and development encouraged only where it can be integrated into planned and sustainable system.

6 Discussion

6.1 The expert interviews and policy implications

This chapter will focus on the results of the expert-interviews and the part of the results from the household questionnaire, in particular on that part of the results directly correlated with the questions of stakeholders attitudes towards Tara National Park as well towards future for life in the Tara area.

In recent years, conservation policies that take into consideration the participation of the stakeholders have been promoted. An understanding of the stakeholders' attitudes towards conservation and existing policies are critical in designing new policies and sustainable conservation strategies. This thesis examines the attitudes of stakeholders (local people, management authorities, a nature conservation agency and government ministries) to Tara National Park. Although attitudinal surveys can provide guidance for policy and management decisions, as well as baseline data to assess the efficacy of new policies (GILLINGHAM & LEE, 1999), they have been few and far between in Serbia to date. A change from a 'preservation-oriented' approach to a more 'integration-oriented' approach requires not only a better understanding of the attitudes of those affected by the conservation of natural resources, but also a deeper understanding of the nature of the relationships amongst resource users (INFIELD & NAMARA, 2001). The aim of this study was, therefore, to investigate the attitudes and perceptions of the main stakeholders towards Tara National Park and the current nature conservation policy in general. The following questions were addressed:

1) What are the attitudes of local people, park managers, nature conservationists and government ministries regarding Tara National Park?
2) Are there differences in the main stakeholders attitudes to the national park and the conservation policy?

3) What factors (for example perceived benefit, employment with the national park enterprise, education, etc.) influence local people's attitudes about the national park?
4) What form should the future management strategy for Tara National Park take?

The major challenge facing protected areas in Serbia is to develop management systems that deliver both environmental sustainability and tangible long-term benefits for the local people. In case of Tara National Park we try to identify which elements are important for achieving the sustainable management of protected areas.

A large body of literature supports community management processes (MUKHERJEE & GANGOPADHYAY, 1997; NHIRA *et al.*, 1998; PRATIMA & JATTAN 1999; WILY *et al.,* 2000), and the successful empowerment of rural communities to manage their natural resources sustainably lies in the governments' ability to devolve management to the local level (MURPHREE, 2000; WILY & MBAYA, 2001). However, these processes are often complex.

In this section we will first focus on the expert-interviews and their attitudes towards the Tara National Park. In the following section, we will focus more on the attitudes and perceptions of local people.

When summarising the results from expert-interviews, we found that the experts identified Tara National Park as a very valuable asset to the area, mainly in terms of biological and geological diversity. More precisely, the report 'Proposal to support the Tara Mountain Biosphere Reserve nomination' focused on "*the features of the Tara ecosystems, primarily their conserved conditions and their high diversity in terms of landscape, ecosystem characteristics, species and consequently, genetic attributes, that make this part of Serbia a region of international importance for conservation of biodiversity*".[15]

[15] INSTITUTE FOR NATURE CONSERVATION (2003) Proposal to support the Tara Mountain Biosphere Reserve nomination, p. 1.

As discussed in terms of case study selection (section 4.2), Tara National Park was proposed for designation as a Biosphere Reserve by a Serbian Institute for Nature Protection, therefore, the concept of the Biosphere Reserve was broached in the expert questionnaire. The results showed that only people from environmental authorities and experts from the nature conservation agency were aware of the of Biosphere Reserve concept. The same could not be said for national park managers and other government authorities. Due to their lack of familiarity with the Biosphere Reserve concept, and because the management option is decided by the state, the interviewees were not asked to compare the pros and cons of Biosphere Reserve designation for Tara, but were simply asked whether in their opinion Tara National Park should be proclaimed a Biosphere Reserve. Despite their unfamiliarity with the Biosphere Reserve concept, all of the experts answered affirmatively. Most of the experts agree that the nomination of the Tara area as a Biosphere Reserve is a means for integration of local people in management of natural resources, particularly positive expectations were for livelihoods of the local people in the Tara area. The experts from the nature conservation agency emphasised that in the local context, "*the re-designation of an NP as a Biosphere Reserve can represent for managers of protected areas and local communities the easiest way to succeed in their projects, which are in harmony with the strategy of sustainable development*" (Lidija Amidžić).

Additionally, the director of the nature conservation agency (see the annex 2 - List of interviewed experts) added, "*if local people have a better economic status then they will have a more positive attitude towards protected areas*" (Lidija Amidžić).

The data presented in section 3.12 reveals that the institutional framework is currently in a state of flux as a result of the ongoing economic transition process, and that the erosion of government ministries and the Tara National Park management authorities tends to accompany the democratisation process. It was

also seen that the institutions governing protected areas can and often do have negative consequences for the conservation of natural resources.

In an expert interview with the director of the Institute for Nature Protection of Serbia the fact that 'many responsibilities overlap' was emphasised. "A lack of institutional dialogue and insufficient collaboration exist and the fact is that the state should view protected areas more seriously, especially areas with international significance, because there is still no clear political attitude in relation to the functions and significance of protected areas"**.** Additionally, "the Republic of Serbia needs a new Law on Nature Protection. The old act does not provide for the sustainable development of Serbia" (Lidija Amidžić).

"A strategy for the protection of biodiversity does not exist", according to Lidija Amidžić and the director of the Forest Directorate (Aleksandar Vasiljević). Also, data obtained from different sources (expert interviews, written reports and literature) there are no overall strategic documents on biodiversity management and nature conservation policy.

Interviews with employees of the Ministry of Agriculture, Forestry and Water confirmed that there is still 'no clear demarcation between the different authorities' (Vukašin Ilić). Thus, the findings of the study show that attitudes towards the nature conservation policy are not clear and vary with the interests of the different stakeholders.

From a local perspective, the expert interviews with the director of the Public Enterprises Tara National Park (Delivoje Djurić), with an adviser for private forest (Miodrag Petrović) and the mayor of the municipality of Bajina Bašta (Boban Tomić) revealed, "*the Biosphere Reserve nomination is an additional challenge for us*". The mayor emphasised that such concept would "*activate a new decision making procedure and foster inter-institutional dialogue*" (Boban Tomić). The director's attitudes towards projects based on the concept of sustainable development are very positive, and he hoped that "*the flexible planning of the Biosphere Reserve model will allow us to negotiate new and more sustainable forms of implementing traditional activities*"(Delivoje Djurić).

He also added that such a model could be positive for local people who "*were left on the margin of events*". He claimed, "*the state does not ensure the sustainable development of these communities. The consequence of such policies is migration away from the region, and the mountain is lost to its own inhabitants*" (Delivoje Djurić).

The findings of this study indicate that all experts possessed positive expectations in relation to the future for life in Tara National Park, but that the level of communication and collaboration between stakeholders was poor. Participatory management or co-management systems will only be successful if there is strong institutional support from both government and the community.

6.2 Local communities' expectations for their futures in Tara National Park and attitudes towards the conservation policy

In chapter 5, the data from the household surveys were presented. While summarising the results from the household questionnaire, it became clear that the demographic and socio-economic conditions, which have changed in Tara National Park in recent years, have influenced people's attitudes towards the national park and conservation, and their attitudes on the future for life in Tara National Park. For the analysis to determine which demographic and socio-economic variables could help to explain why some respondents hold more positive attitudes towards conservation and the future for life in Tara National Park, the nonparametric test of rank correlation was applied together with the Spearman rank correlation coefficient (see tab. 6.2-1 and tab. 6.2-2).

Tab. 6.2-1: Correlations between variables[1]- Jagoštica village

Variable	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1. gender	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	-.367*	-.561**	ns	ns	ns	ns	ns	ns	ns
2. age		ns	ns	ns	-.507**	ns	ns	ns	ns	-.342*	**-.429****	ns	ns	ns	ns	ns	ns	ns	ns	.356*
3. number of household members			.931**	ns	ns	ns	ns	ns	.490**	ns	ns	.397*	ns	ns	ns	ns	ns	ns	ns	ns
4. ability to work				ns	ns	ns	ns	ns	.572**	ns	ns	.375*	ns	ns	ns	ns	ns	ns	ns	ns
5. education					ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	**.561****	ns	ns
6. single people						ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
7. work for NP							.537**	ns	ns	ns	**.507****	ns	ns	ns	ns	ns	ns	ns	ns	ns
8. work outside of the household								ns	ns	ns	**.491****	ns	ns	ns	ns	ns	ns	ns	ns	-.348*
9. migrations away from the household									ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	**ns**
10. migrations into the household										ns	ns	.484**	.337*	ns	ns	ns	ns	ns	ns	ns
11. migrations away from the village											ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
12.relationship with NP												ns	ns	ns	ns	ns	ns	ns	-.374*	-.400*
13. cattle breeding													.697**	ns	ns	ns	ns	ns	ns	ns
14. fruit production														ns	ns	ns	ns	ns	ns	ns
15. other activities															ns	ns	ns	ns	ns	ns
16. cooperation																ns	ns	ns	ns	ns
17. machinery (wealth)																	ns	ns	ns	ns
18. tourism																		ns	ns	ns
19. future																			ns	ns
20. land ownership																				.890**
21. forest ownership																				

[1] The gray colour indicates that the correlations between variables is significant. (ns = not significant).

The **bold** numbers indicate the same correlation results between variables in both villages in relation to attitudes towards conservation and future for life in Tara National Park, whereas the non-bold numbers indicate a difference.

***. Correlation is significant at the 0.01 level (2-tailed).*
**. Correlation is significant at the 0.05 level (2-tailed).*

Analysis of correlations in respect of attitude towards conservation and future for life in Tara NP - Jagoštica village

The correlation between the work for NP variable and the relationship with the NP variable is: .507** (df=37, p<.01) showing that it is almost only the respondents who work for the NP who have a good relationship with the national park and a positive attitude towards conservation.

The correlation between the work for NP and the **work outside the household** variables is: .537** (df=37, p<.01). The correlation obtained shows that working for the NP represents one of the only activities being performed outside of the household. Due to this strong correlation between the work for NP and work outside of household variables, for further interpretation these two variables will be summarised as one single variable and will be referred to as the work for the NP variable in the discussion chapter.

The Spearman rank correlation coefficient between the number of household members in school, namely **education**, and the expectations for the future of life in the national park, namely the variable future, is: .561** (df=37, p<.01).

The correlation clearly demonstrates that households with children in school have a vision, that they can envisage a future for the village.

The correlation between the **age** of respondents and the relationship with the NP is: -.429** (df= 37, p<.01). The negative correlation means that the correlation is contrary to the set values of the variables, which in a concrete situation means that young people have more positive attitudes toward conservation than older people.

A difference between the two villages shows up in Table 6.2-1, namely that the variables **land ownership** and **forest ownership** have a significant influence on attitudes towards conservation.

The correlation between the relationship with the NP, or the attitude towards conservation, and the land ownership variables is: -.374* (df=37, p<.05). At the same time, there is a negative correlation between the relationship with the NP and the forest ownership variables: - .400* (df=37, p<.05). Both correlations show that respondents with more land and more forest have a negative attitude towards conservation.

Tab. 6.2-2: Correlations between variables[1] - Rastište village

Variable	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1. gender	ns	ns	ns	ns	ns	ns	-.339**	ns	ns	ns	-.251*	ns	ns	-.257*	ns	ns	ns	-.274*	ns	ns	ns
2. age		-.376**	ns	ns	-.429**	-.364**	-.277**	ns	ns	-.260*	**-.353****	ns	ns	ns	ns	ns	-.369**	-.263*	ns	-.245*	-.293*
3. number of household members			.870**	.593**	ns	.426**	.382**	-.303*	.593**	ns	.430**	ns	ns	ns	.265*	ns	.268*	.492*	ns	ns	ns
4. ability to work				.470**	ns	.369**	.330**	-.311*	.624**	ns	.366**	ns	ns	ns	ns	ns	.277*	.339**	ns	ns	ns
5. education					ns	ns	.348**	ns	.361**	ns	.348**	ns	ns	ns	ns	ns	ns	.576**	.262*	**.262***	.359**
6. single people						ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
7. work for NP							.751**	ns	ns	ns	**.841****	ns	ns	ns	ns	ns	ns	.282*	ns	ns	ns
8. work outside of the household								ns	ns	ns	**.766****	ns	ns	ns	ns	ns	.291*	.337**	ns	ns	ns
9. migrations away from the household									ns	ns	ns	ns	ns	ns	ns	ns	-.271*	ns	ns	ns	ns
10. migrations into the										-.267*	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns,
11. migrations away from the village											ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
12. relationship with NP												-.327**	ns	ns	ns	ns	ns	.373**	ns	ns	ns
13. conflict													ns	ns	ns	ns	ns	ns	ns	ns	ns
14. land ownership														.797**	ns	ns	ns	ns	ns	ns	ns
15. forest ownership															ns	ns	ns	ns	ns	ns	ns
16. cattle breeding																ns	ns	ns	ns	ns	ns
17. other activities																	ns	ns	.325**	ns	ns
18. cooperation																		ns	ns	ns	ns
19. machinery																			.410**	.337**	.351**
20. tourism																				.294*	ns
21. future																					ns
22. limekilns																					

[1] The gray colour indicates that the correlations between variables is significant. (ns = not significant).

The **bold** numbers indicate the same correlation results between variables in both villages in relation to attitudes towards conservation and future for life in Tara National Park, whereas the non-bold numbers indicate a difference.

***. Correlation is significant at the 0.01 level (2-tailed).*

**. Correlation is significant at the 0.05 level (2-tailed).*

Analysis of correlations in respect of attitude towards conservation and future for life in Tara NP – Rastište village

The Spearman rank correlation coefficient between the gender of respondents and relationship with the NP is: -.251* (df=65, p< .05), which shows that women have a poor relationship with the NP, a negative attitude towards conservation, and that males have a more positive attitude towards conservation than women. The age of respondents and the variable relationship with NP correlate with: -.353** (df=65, p< .01), showing that older people have a poor relationship with the NP, and a more negative attitude towards conservation. A negative correlation means that the correlation is in the opposite direction of the set values of variables, which in a concrete situation means that young people have more positive attitudes towards conservation than older people. Also, the age of respondents has a significant influence on the perception of the future for life in the NP: -.245* (df=65, p< .05). The number of household members and the relationship with NP correlate with:. .430** (df=65, p< .01), indicating that large families, with more household members have a better relationship with the NP, and a positive attitude towards conservation. The correlation with respect to attitude towards conservation found between the variables ability to work and relationship with the NP: .366** (df=65, p< .01), and shows that households active in work have better connections with the NP and a positive attitude towards conservation. The variables education and relationship with the NP correlate with: .348** (df=65, p< .01), clearly showing that education has a significant influence on a positive attitude towards conservation. Education also has a significant influence on expectations for the future in Tara National Park: .262* (df=65, p< .05). The respondents who work for the NP have a good relationship with the NP and a positive attitude towards conservation, the correlation coefficient is: .841** (df=65, p< .01). The correlation between the variables work outside of household and relationship with the NP is: .766** (df=65, p< .01). The correlation results here were the same as in Table1, meaning that a strong correlation between the variables work for the NP and work outside of household exists, so that any further discussion these two variables will be considered together as a single variable, namely work for the NP, which influences a positive attitude towards conservation. In Rastište village we found that conflicts between local people and the national park exist and that the correlation between the variables conflict and relationship with the NP is negative: - .327** (df=65, p<.01) indicating that respondents who have a good relationship with the NP or a positive attitude towards conservation are not in conflict with the NP. Additionally, the results revealed a difference in the variables pertinent to the expectations for the future in Tara National Park. The variable wealth: .337** (df=65, p< .01) and the variable attitude towards tourism: .294* (df=65, p< .05) correlated significantly with positive perceptions of the future for life in Tara NP. Also, the variable wealth: .373** (df=65, p< .01) has a significant influence on the attitude towards conservation.

In general, local people have negative perceptions of future life in Tara National Park. In Rastište village, 83.1% voiced negative opinions, whereas in Jagoštica the answer was even more pessimistic, with 97.3% fearing for the future (tab. 6.2-3).

Tab. 6.2-3: The survey results pertaining to inhabitants' hopes for the future in the villages (n=sample size)

Rastište (n=65)	Frequency	Percent	Jagoštica (n=37)	Frequency	Percent
no	54	83.1	no	36	97.3
yes	11	16.9	yes	1	2.7
Total number of respondents	65	100.0	Total number of respondents	37	100.0

(Question no. 7.5. Are you hopeful for the future in the Tara area?

The findings of the study (tab. 6.2-1 and tab. 6.2-2) show that the level of education influences the attitudes of the local population with respect to the future in the Tara area in the case of the both villages. Education has also been cited elsewhere as a main reason for positive attitudes towards protected areas. Education is just one variable, but can have a powerful effect on attitudes towards conservation (FIALLO & JACOBSON, 1995; GILLINGHAM & LEE, 1999).

Table 6.2-2 illustrates some differences between the results obtained in the two villages. In the Rastište community the variables 'age of the respondents', 'wealth' and their positive attitudes towards 'tourism' also showed a correlation with positive attitudes towards the 'future for life' in the Tara area. FIALLO & JACOBSON (1995) found that in Ecuador attitudes were influenced by the 'age of the respondents'. As has been the case in other studies (e.g. MEHTA & KELLERT, 1998), the research carried out in Tara revealed that wealth is an important factor in people's attitudes towards conservation. The results revealed that positive attitudes towards conservation have a positive influence on people's perception of the future for life in Tara National Park, and that positive attitudes could possibly be caused by increased tourism-generated benefits. The influence of other demographic and

socio-economic variables on people's attitudes towards the future was not significant (see tab. 6.2-1 and tab. 6.2-2).

Positive attitudes towards Tara National Park and conservation in both villages were significantly influenced by the age of the respondents and whether or not they worked for the national park (see tab. 6.2-1 and tab. 6.2-2). The employment in the National Park variable was found to have a significant influence on attitudes towards conservation, possibly the result of benefits received from the Tara National Park enterprise. The findings suggest that benefits are an incentive for people to perceive conservation positively. A correlation between benefits and positive attitudes has been confirmed in many cases (DE BOER & BAQUETE, 1998; GILLINGHAM & LEE, 1999; HAMILTON *et al.,* 2000; ABBOT *et al.,* 2001; MEHTA & HEINEN, 2001).

Furthermore, some differences were evident in the results obtained from the two villages. In the case of the Rastište community, a greater number of variables were found to influence people's attitudes on conservation. Both gender and the number of household members also exhibited an influence on the attitude to conservation. Males had a more positive perception of the national park than females (see tab. 6.2-2). SAH & HEINEN (2001) showed that in Nepal, the variable gender has a significant influence on attitudes towards conservation.

Education again had a positive influence on the attitudes towards conservation. Surprisingly, only 13.8% of the population of Rastište village were opposed to Tara National Park or were in conflict with the National Park, whereas in Jagoštica no conflict was reported (tab. 6.2-4). This suggests that their responses may not only be a direct consequence of what they have actually experienced. However, complaints were made in relation to the restrictions on the use of natural resources. Therefore, increasing local people's involvement in the management of national parks may enhance their support and promote the sustainability of Tara National Park.

Tab. 6.2-4 The number and percentage of households in Rastište (n=65) and Jagoštica (n=37) mentioning conflicts with the NP

Rastište	Frequency	Percent	Jagoštica	Frequency	Percent
no	56	86.2	no	37	100.0
yes	9	13.8	yes	0	0
Total number of respondents	65	100.0	Total number of respondents	37	100.0

(Question no. 4.3. Are you in conflict with the NP?)

Positive attitudes towards Tara National Park were common in both communities. The data contained in Tab. 6.2-4 indicates this, which is surprising, especially when the forced establishment campaign carried out in the 1980s is taken into consideration. As we mentioned in section 4, local people were left marginalized in the decision making process leading to the establishment of the national park. In this case, the state took a very strong top-down approach in establishment of Tara national park despite the fact that local people hold private land within the boundaries of Tara area.Therefore, since 1980s local people have been antagonistic towards Tara National Park management. Nonetheless, the results (see tab. 6.2-2) indicate that respondents who have a good relationship with the National Park or a positive attitude towards conservation are not in conflict with the National Park in any way. Additionally, in the Rastište community, the variable wealth has a significant influence on attitudes towards conservation. This is consistent with other researcher's findings, for example, MEHTA AND KELLERT (1998) found that wealthier people express more positive attitudes towards conservation compared to poorer people.

The variables land and forest ownership have had a significant influence on lcoal attitudes towards conservation. INFIELD & NAMARA (2001) found that in Uganda attitudes were influenced by land ownership, actually the people who owned land had more positive conservation attitudes than those who did not. Our findings indicate that despite of poor social economic status of these local communities, some factors could be a source of increased hopefulness about their attitudes towards the Tara national Park. Locals from Jagoštica are more dependent upon

natural resources, where the standards of economic and social development are constrained by the isolation of the area and its lack of a transport infrastructure, a market and other public facilities. Even of all of these constraints, today our survey results showed that local people from Jagoštica village were more positively oriented toward management of Tara National Park and in general these positive perceptions that occur today in both communities are related with job opportunities for the Tara National Park enterprises as well as received benefits from the work for the Tara National Park enterprises, as we already described in section 5.6.

The natural resources of the Tara area contribute significantly to the different needs of the rural people.The survey of the two study sites illustrated that the population of Jagoštica village is more dependant on natural resources and subsistence agriculture, supplemented by gathering medicinal plants and mushrooms. The collection of medicinal plants and mushrooms are just two of the traditional activities still carried out by the Jagoštica community, but the small local market and the organisational setting, characterised by the lack of transport facilities and isolation, means that any income from commercial sales is very low. Women are generally very involved in the collection of natural products and have a more expansive traditional knowledge of the utilisation of medicinal plant species and mushrooms than males. In Rastište the locals rely more on the exploitation of limestone and we found these activities as more as a means to survive, because the traditional activities in this village were cattle breeding and fruit production, and today these activities are less perform because of all social and economic changes which influenced caused the changes in traditional performance of local people.

The findings of the study (fig. 6.2.1) show that local people have positive attitudes towards cooperation/participation with the National Park authorities and expressed a desire to be included in the management of Tara National Park. A number of authors view the participation of local communities as key to a successful conservation strategy (KISS, 1990; DURBIN & RALAMBO, 1994;

HAPPOLD, 1995; RIHOY, 1995; ALPERT, 1996; HEINEN, 1996), although actual successes would appear to be rare (SIBANDA, 1995; RICHARDS, 1996).

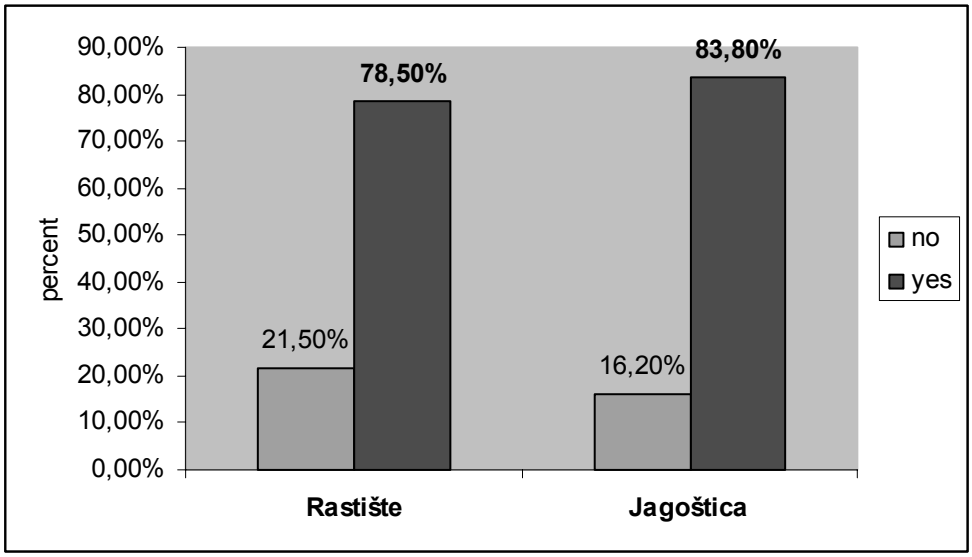


Fig. 6.2.1: The survey results pertaining to the cooperation between the locals and the NP

A balance must be found between conservation and sustainable utilisation. It will be necessary to quantify resource availability, production and use in a carrying capacity analysis (see tentative approach of DE BIE *et al.*, 1987). The sustainable utilisation by the rural people of medicinal plants, mushrooms, fruit, honey and other natural products might potentially offer a new basis for collaboration with park administrators as well with nature conservation agency. The acceptance of a certain level of exploitation of these resources by both the local people and the Tara National Park authorities could result in the formulation of a mutually acceptable resource use plan, corresponding with the sustainability concept. An awareness of the benefits that can be derived from Tara National Park, together with education programmes encouraging the sustainable use of natural resources through traditional conservation practices could result in the local acceptance of restrictions on use. The creation of rural people's associations or cooperatives to market local products could provide substantial benefits for the participants.

6.3 Summary

Most of the experts agree that the nomination of the Tara area as a Biosphere Reserve is a means for integration of local people in the management of natural resources, particularly positive were expectations for improved livelihoods of the local people in the Tara area. The findings of this study indicate that all experts expressed positive expectations in relation to the future for life in Tara National Park. Furthermore, study shows that attitudes towards the nature conservation policy are not clear and vary with the interests of the different stakeholders and the level of communication and collaboration between stakeholders was poor.

On the other hand, while summarising the results from household interviews, it became clear that the demographic and socio-economic conditions, which have changed in Tara National Park in recent years, have influenced people's attitudes towards the national park and conservation, and their attitudes on the future for life in Tara National Park. In general, local people have negative perceptions of future life in Tara National Park. We already described these attitudes in section 5.6.

The most important findings in our study are that demographic and socio-economic variables help us to explain why some respondents hold more positive attitudes towards conservation and the future for life in Tara National Park. Therefore, our findings thus confirm that level of education influences the attitudes of the local people with respect to the future life in the Tara area in the case of the both villages. Additionally, we found that in Rastište community the variables 'age of the respondents', 'wealth' and their positive attitudes towards 'tourism' also showed a correlation with positive attitudes towards the 'future for life' in the Tara area. The results revealed that positive attitudes towards conservation have a positive influence on people's perception of the future for life in Tara National Park, and that positive attitudes could possibly be caused by increased tourism-generated benefits. Positive attitudes towards Tara National Park and conservation in both villages were significantly influenced by the age of the respondents and

whether or not they worked for the national park. The findings suggest that benefits are an incentive for people to perceive conservation positively.

Furthermore, some differences were evident in the results obtained from the two villages. In the case of the Rastište community, a greater number of variables were found to influence people's attitudes on conservation. Both gender and the number of household members also exhibited an influence on the attitude to conservation. Males had a more positive perception of the national park than females.

The findings of this study show that local people have positive attitudes towards cooperation/participation with the National Park authorities and expressed a desire to be included in the management of Tara National Park. As we already emphasized, the participation of local communities is a key to a successful conservation strategy, therefore, National Park management authorities should consider the issue of participation as a strategy in achieving the sustainable development in Tara area.

7 Conclusions and recommendations

An understanding of the relationships between local people and protected areas, as well as knowledge of conflicts between people and protected areas, is required for the design of sustainable conservation strategies for the management of most protected areas (WELADJI & TCHAMBA, 2003). Ensuring local support for protected areas is increasingly viewed as an important element of biodiversity conservation (WALPOLE & GOODWIN, 2001). Furthermore, participation by local communities in management is widely considered a means of sustaining protected areas (DE BOER & BAQUETE, 1998). Further, new policies have emerged, seeking to promote public participation in planning, decision-making and management of protected areas (WELADJI *et al.,* 2003). The success of individual policies typically depends on whether various stakeholders are positively or negatively affected by conservation (WALPOLE & GOODWIN, 2001). Thus, the attitudes and perception of the stakeholders towards a conservation area and the policy being implemented are an important element for sustainable conservation (WELADJI *et al.,* 2003).

Therefore in this study we included not only local people but also the park administrators, nature conservation agency officials and ministry authorities. Firstly, we will summarize our finding on the relationships and attitudes of local people and different stakeholders towards Tara national Park and future life in Tara area. Thereafter, we will point main conclusion and recommendation towards improvement of relationships for the sustainable management in Tara National Park.

Demographic changes resulting from the emigration of local people have resulted in changes to social structures, economic opportunities and natural resource use. Emigration is the main cause of the low quality of human capital. As we adopt the definition of human capital from MESER & TOWNSLEY (2003) from our findings we select the following indicators of human capital: aging population, increasing number of single men, decreasing number of educated people, in case of both the local communities these factors caused the low quality of human capital in the Tara

area. There is no doubt that the quality of human capital can be influential means in achieving sustainable development. There is also no doubt that the factor education is one of the main factors that can increase the quality of human capital of the local people. The results of this study indicate that conservation attitudes are influenced mainly by education.

Local people were found to hold relatively positive perceptions of Tara National Park, despite experiencing serious economic losses and deprivation since its establishment. This can partly be explained by the recognition by the local population of the intrinsic value of Tara's natural resources, and also by access to certain benefits from the Tara National Park enterprise.

However, in terms of local investment plans, our survey results clearly showed that the main focus of these people is still agricultural, especially livestock production. On the other hand, the local people in both villages are aware and interested in participation in tourism development. From this survey, it appears that local community empowerment in relation to tourism development can be achieved as soon as the local communities are ready to participate in tourism development processes. Thus, an initial attempt to achieve this target is an attempt to increase the quality of the human resources who are or might be involved in tourism development. It is then possible to create the Community Based Tourism Development. Through the community based tourism development the local community can: get involved in tourism industries in Tara area as widely as possible, increase the income through the tourism development, and increase the quality of the human resources simultaneously and proportionately.

Thus, the fulfilment of the need of tourism supporting facilities and services such as telephone network, transportation network must also become a supporting factor for the developing communities region either directly or indirectly. The improvement of the transportation facilities and services from urban areas to the service centres in each of the communities can contribute to manage the visitor flow. The quality of human resources is a very significant factor in various processes and stages of sustainable development in Tara area.

Despite having positive attitudes towards Tara National Park, the local population's perceptions of the future for life in the Tara area reflects in general the influence of the poor socio-economic circumstances in the country and the very turbulent process of transition. The primary reasons, however, were the demographic changes influenced by the emigration of local people. Therefore, the findings of our study shows that positive attitudes of local people toward the park can be a source of increased hopefulness about their future if they are engaged with the management and decision making for the National Park through a more participatory process.

Education and awareness programmes should focus on local people in order to increase participation in conservation and management activities and to improve people's attitudes towards conservation and local environmental issues. Participatory approaches have proved to be most successful in situations where the goals of the process are clear and there are positive attitudes towards conservation (GRUMBINE 1994; JACOBSON, 1995). The implementation of participatory approaches is proposed as a means of promoting sustainable resource use and helping to ensure the ongoing involvement of local people in conservation.

The findings of this study indicate that the other stakeholders in the region have positive expectations in relation to the future for life, particularly for livelihoods of the local people in the Tara area.

Most of the experts agree that the nomination of the Tara area as a Biosphere Reserve is a means for integration of local people in management of natural resources. We also observed, however, that the government conservation policy was not clear to the different stakeholders. The experts from the environmental authorities want to strengthen and enforce conservation policy. The park managers and other government authorities consider the present government conservation policy inappropriate, especially in relation to the involvement of local communities and the establishment of inter-sector relationships in protected area management. Thus, the findings of the study show that attitudes towards nature conservation policy vary with the interests of the different stakeholders. This study also suggest

the importance of institutional issues for the future progress of participatory approaches to conservation with development, especially if these stakeholders wants to win the support of local communities for long-term conservation goals.

The findings of this study indicate the need to strengthen the current nature conservation policy, promote the involvement of local people and empower the national park management, in terms of resource use, but also in terms of the skills required in the interaction with local people. It is necessary to promote communication and collaboration between the stakeholders on an appropriate level. The policy must ensure that real power and authority are devolved to local people and existing and appropriate local institutions. Park-related resources must generate increased incomes for local people and reduced costs. Such measures will increase both the legitimacy and efficiency of conservation efforts. An environmental education programme is recommended to encourage the sustainable use of natural resources in the area. Park management enterprises must offer training in working with local people and must be made to realise through experience that local participation is a slow and long-term process of social change.

Of course, these processes are often complex. In Tara National Park, there is an urgent need for:

1) an improved connection between rural communities and the national park management authority,
2) improved communication between the national park management authority, the nature conservation agency and the environmental authorities,
3) increased local awareness of the roles and activities of these external institutions as partners in the co/management of natural resources.

The key to successful implementation of co-management strategies is in actively addressing relevant factors with local people who have so far been ignored, but who are increasingly being recognised as key stakeholders in the process.

In this regard, environmental education programmes could be usefully combined with the participatory management goals of the future project. Overall, the developing relationships between the communities, the Tara National Park management authorities, the nature conservation agency and the environmental authorities need to be grounded in a clearly-defined framework, particularly in the context of the nomination of Tara as a Biosphere Reserve. This demands institutional linkages, which ensure, and are perceived to ensure, the transparency and accountability of project implementation at and between the various levels involved. In the absence of such effective institutional structures, providing local people access to natural resource-related benefits, a strong foundation for the achievement of conservation with development objectives, which is the main goal of a Biosphere Reserve, is unlikely.

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9 Annex I

9.1 Household interview

NATIONAL PARK TARA 2003

Municipality: **Village**:

1. Who is interviewed:

Members of the household and its workforce _____

a) Age-groups in the household

up to 6 years		7-14		15-19		20-34	
female	male	female	male	female	male	female	male
35-49		50-64		> 64 year		total	
female	male	female	male	female	male	female	male

b) Education-currently in school_____

up to 14 year		15-19		>19 year		total	
female	male	female	male	female	male	female	male

c) Work outside of the household

Location	permanent	seasonal	temporary
1. National Park Tara			
2. elsewhere (where?)			
Total			

d) Migration

Migration away from the household

Relationship to the Family*	where he/she has moved to	age	sex	qualification

Moved into the household

Relationship to the Family*	came from	age	sex	qualification

e) Do you have any single people within the household? yes, no

2. Questions concerning life in the village:

2.1. How do you view your life in the village?

2.2. If you were to leave the village, what would be some of the reasons? yes, no

- family reasons,
- loneliness,
- lack of prospects,
- lack of job,
- lack of entertainment,
- lack of shopping facilities,
- lack of health insurance,
- poor traffic infrastructure,
- lack of visitors,
- other reasons: _____

- no answer

2.3 If you are not sure your children would be able to remain in the village, what would need to change for them to want to stay?:

_____

2.4. What has changed in the village in your lifetime?

2.5. How do you view these changes?

3. Questions concerning nature and landscape

3.1. Do you like your environment?

very much, somewhat, no,

3.2. When you compare the landscape with that of 20,30 or more years ago, can you see any changes:

yes, no

- Today there is more forest
- Today there is less forest
- Today there are more pastures and meadows
- Today there are fewer pastures and meadows
- Today there are more orchards
- Today there are fewer orchards
- other changes (please specify):_____

3.3. For what purposes do you use the forest?

- timber
- firewood
- fruits and nuts
- grazing
- other forest products (medical, honey, etc.)
- recreation / tourism
- others (specify)_____

3.4. Do you collect natural products?:

- medicinal plants (type?)
- mushrooms (type?)
- others (specify)_____

3.5. Do you know which plant species are exclusive to Mt. Tara?
yes, no, no answer,

3.6. If your answer is yes , please name the plants you know:

List_____

4. Questions concerning National Park

4.1. Do you have any relationship with the Tara National Park Tara? yes, no

4.2. How could the relationship be improved (in order to get more benefits)?

- better connection with the NP- administrations
- better connection with the tourist agency
- better connection with Institute of Nature Protection
- others (specify):_____

Indicate briefly your opinion, reasons and suggestions_____

4.3. Do you have any conflicts with the NP:
yes, no , no answer
specify (if conflict exists)……

5. Land resource and agricultural production

5.1. How much land do you have ownership of or access to?

agricultural land	_____ha _____are
arable land	_____ha_____ are
forest	_____ ha _____are
meadows	_____ ha _____are
pasture	_____ ha _____are
orchards	_____ ha _____ are
other	_____ ha _____are

5.2. Type of agricultural production:

cattle breeding	_____yes_____no;	partly _____
crops	_____yes_____no;	partly _____
fruit production	_____yes_____no;	partly _____

other production, e.g., apiculture (specify) _____

5.3. Livestock: How is it now and how changing?

If not stable, why?_____

5.4. What is the importance of livestock:

- major part of production system (milk, meat…
- minor part of production system
- investment/securing wealth
- traction source
- other (specify)_____

5.5. What are the main difficulties in agriculture and livestock production?

- wild animals
- diseases
- markets (e.g., distance, non-existence)
- climate (specify)
- poor infrastructure(specify)
- unsatisfactory soil fertility
- soil erosion/degradation
- labour
- bad/few -equipment
- nature conservation (National Park)
- others (specify)_____

6. Questions concerning production , market orientation and co-operation

6.1. What type of products do you produce?

- dairy products yes, no
- meat yes, no
- wool yes, no
- others (specify) _____

6.2 Market orientation of production system:

- subsistence (self-supply)
- mixed (subsistence and commercial)
- commercial /market
- other_____

6.3. How is the production system organized:

- through the farmers' cooperative _____ yes ___no;
- through the green market _____ yes ___ no;
- buying from (industrial) companies, manufacture enterprises _____ yes ___ no;
-sporadic sale from the households _____ yes ___no;

6.4. Equipment owned by the household**:** are there cooperatives or shared equipment within a family?

yes, no

type	number
tractor	
truck	
saw	
scythe	
combine harvester	
others (list)	…….

6.5. Would you cooperate with the NP authorities (if they guarantees they'll buy your products at appropriate prices)?

yes, no

7. Final questions

7.1. What kinds of investments do you make or would like to make on your lands?

7.2. Do you have income from tourist?

yes no

7.3. Would you like to have more tourists here?

yes no no answer

7.4. If your answer is yes, are you prepared to participate in tourism development?

yes no no answer

7.5. Are your hopeful for the future in the Tara area: yes no

(specify)_____

Place, date

_____

_____

Questionnaire filled in by

_____

_____

10 Annex II

10.1 List of interviewed experts

1. Delivoje Djurić, dip. economist, Director of the PE National Park Tara
2. Miodrag Petrović, B.Sc. Eng., Adviser for private forest, PE National Park Tara
3. Boban Tomić, M.A., Prof., Mayor, Municipality of Bajina Bašta
4. Lidija Amidžić, PhD, Director of Institute for Protection of Nature of Serbia
5. Snežana Prokić, B. Sc. Eng., Head of Department For National Parks, Ministry for Protection of Natural Resources and Environment, Republic of Serbia
6. Aleksandar Vasiljević, B. Sc. Eng., Director of Forest Department, Ministry for Protection of Natural Resources and Environment, Republic of Serbia
7. Vukašin Ilić, Ph.D., Adviser Counsellor of the Minister, Ministry of Agriculture and Water Management, Republic of Serbia

11 Annex III

11.1 Expert interviews

1. What do you know about Biosphere Reserves (BR)?
2. What do you know about concept of BRs?
3. Do you think that NP Tara should be proclaimed a BR?
4. How will achieving the main functions of BR affect the current context of NP Tara and the life of people therein?
5. What kind of changes are necessary in order for NP Tara to become a BR?
6. How are these changes likely to affect the people?
7. How is the relationship between the people and natural resources in the NP Tara currently? Is their a trend towards:
8. utilization
   (specify)_____
9. protection
   (specify)_____
   or both
10. Are organisational/economic connections between the local people and NP/ hotels in place?
11. Do you think that institutional connections between private landowners and NP/ hotels are necessary?
12. Which authority is responsible for NP management: Ministry of Agriculture or Ministry of Environment?
13. Do you know which plant species are rare in the NP?
14. Do you have any officially endorsed (e.g., by parliament or government, or even the NP) biodiversity strategy and an action plan for its implementation?
15. Are there any development programmes for the NP officially endorsed (or being prepared) at the ministerial or lower levels? Provide basic facts and a brief description?

16. What is your opinion concerning development of agriculture?
17. Are there, or have there been any significant conflicts involving the local people and natural resources utilization? Please, list and describe briefly the most serious ones (year, subject, solutions)?
18. Would you describe the legislation and institutional support given to private land owners, including subsidies?
19. What do you think about the future of life in the Tara NP?

12 Annex IV

12.1 Plant and animal species as natural rarities

Plant and animal species as natural rarities protected by „Decree for protection of natural rarities" (Off. Gaz. R.S., No. 50/93) on the territory of the Tara National Park

Plant species:

II : Pteridophyta -

1. fam. Lycopodiacene -
1) Lycopodinm clavatum L. -

2. **fam.** Sinopteridacene
1) Cheilanthes marantae (L.) -

3**. fam**. Aspisliaceae
1) Dryopteris dilatata (H.) A. Gray –

II : Gymnospermae -

1. **fam.** Pinacea
1) Picea omorika (Panic) Purkine -
2. **fam.** Taxaceae
1) Taxus bacata L. -

III : Angiospermae -

1. **fam.** Rosaceae
1) Spirea cana Wal. Et Uit. -
2. **fam.** Aceraceae
1) Acer heldreichi Orph. -
3. **fam.** Aquifolaceae
1) Ilex aquifolium -
4. **fam.** Gentianaceae
1) Gentiana lutea L. -
5. **fam.** Liliaceae
1) Lilium martagon L. -
6. **fam.** Iridiaceae
1) Gladiolus imbricatus L. -

7. **fam.** Orehidaceae
1) Dactylarhiza cordigera (Fries) Soo. -
2) Orchis laxiflora Lam. -
3) Ophrys cornuta Steren -
4) Listera cordata (L.) R. Br. –

Animal species:

I : **Mammals -**

1. **fam.** Soricidae -
   1) Sorex minutus L. -
   2) Sorex araneus L. -
   3) Sorex alpinus Scliuz. -
   4) Neomys fodiens Peun. -
   5) Crocidura sauvedens Pall. -
   6) Crocidura leucodon Herm. –
2. **fam.** Talpidae -
   1) Talpa europaea -
   2) Talpa caeca Savi -
3. **fam.** Rhinolophidae -
   1) Myotis myotis Brazl. -
   2) Myotis oxygnathus Mont. -
   3) Myotis capaccinii Bouap. -
   4) Vespertilio murinus L. -
   5) Eptesicus nilssonii Keys. Et Blas. -
   6) Eptesicus serotimus Sehreb. -
   7) Nyctalus lasiopterus Kuhl. -
   8) Nyctaus noctula Schreb. -
   9) Pipistrellus pipistrellus She. -
   10) Pipistrellus nathusii Keys. et Blas -
   11) Plecotus austriacus Fiseh -
   12) Plecotus auritus L. -
   13) Miniopterus shreibersi Huhl. -
4. **fam.** Sciuridae -
   1) Sciurus vulgaris L. -
5. **fam.** Arvicolidae -
   1) Clethrionomys glareolus Sehreb. -
   2) Arvicola trevestis L. -
   3) Chionomys nivoalis Mart. -
6. **fam.** Spalacidae -
   1) Spalax leucodon Nord. -
7. **fam.** Muscardinidae -
   1) Muscardinus avellanarius Kaup. -
   2) Dryomys nitedula Pall. -
8. **fam.** Mustelidae -
   1) Mustela nivalis L. -
   2) Lutra lutra L. –

II : Birds –

1. **fam.** Corvidae -
   1) Micifraga Caryocatactes L. -
2. **fam.** Fringillidae -
   1) Seriimis serimis L. -
   2) Loxia curvirostra L. -
3. **fam.** Emberizidae -
   1) Emberiza cirlus L. –

4. **fam.** Certhidae -
    1) Certhia gamiliaris L. –
5. **fam.** Paridae -
    1) Paru montamus L. –
6. **fam.** Laniidae -
    1) Lanius collurio L. -
7. **fam.** Sylviidae -
    1) Sylvia communis -
8. **fam.** Turdidae -
    1) Turdus liscivorus L. -
    2) Monticola saxatilis L. -
    3) Phoenicurus phoenicurus L. -
9. **fam.** Cuclidae -
    1) Cuculus canorus L. -
10. **fam.** Picidae -
    1) Picus canus Gm. -
    2) Dryocopus martius L. -
    3) Dryocopus medius L. -
11. **fam**. Strigidae -
    1) Bubo bubo L. -
    2) Strix aluco L. -
    3) Aegolius funereus L. -
    4) Athene noctua Sco. -
12. **fam.** Falconidae -
    1) Falco peregrinus Tunst. -
    2) Falco tinnunculs L. -
13. **fam.** Accipitridae -
    1) Accipiter nisus L. –
    2) Milvus migrans Bodd –

III : **Fishes**

1. **fam.** Salmonidae -
    1) Hucho hucho -
2. **fam.** Thymallidae -
    1) Thymallus thymallus –

Endemic plant species on the territory of the Tara National Park

1. **fam.** Malvaceae -
    1) Althaea kragujevacensis Pan.
2. **fam.** Brassicaceae -
    1) Allyssum corumbosum (Gris) Boiss
    2) Allyssum markgrafii Schultz
    3) Allyssum jancheni Nyar
    4) Cardamine maritima F. serbica Pan.
3. **fam.** Asteraceae -
    1) Centaurea derventana Ket P. -
    2) Cicerbita pancicii Beavo -
4. **fam.** Hypericaceae
    1) Hypericum imbellatum Kerner

5. **fam.** Lamiaceae -
    1) Lamium bifidum Cyr.
    2) Stachys anizochila Vis. et Panc. -
    3) Thymus adamovicii Vel.
6. **fam.** Euphorbiaceae -
    1) Euphorbia subhastata Vis. et Pan.
    2) Euphorbia glabriflora Vis.
7. **fam.** Scrophulariaceae -
    1) Linaria rubioides Vis. et Pan.
8. **fam.** Boraginaceae -
    1) Havacsya sendtneri Dorf. -
9. **fam.** Apijaceaea -
    1) Pancicia serbica Vis. -
10. **fam.** Pinaceae
    1) Picea omorika (Pan.) Purkine -
11. **fam.** Thymelaceae
    1) Daphne blagayana Freyr. -

13 Annex V

13.1 Secondary data

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