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NATIONAL MANAGEMENT SYSTEM OF BAIKAL PROTECTION

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Abstract: the relevance of the article is conditioned by the need to improve management efficiency in the area of environmental management and conservancy in the conditions of a federal state. The purpose of the article is to analyze the current system of relations in the regulation of the protection of Baikal lake as a World Heritage object and identification of the reasons behind the impaired efficiency of state efforts to reduce impact on the lake's ecosystem and ensure sustainable development of the adjacent territory. The analysis is targeted at the allocation of authorities by management levels – from federal to local. The study methodology rests on the analysis of empiric materials and structured-functional approach that makes it possible to single out discrepancies in the exercise of control and executive functions at various levels of environmental protection management. The main discrepancy is the predominance of prohibitive and conservative approaches, which hampers coordination of objectives of the protection of the unique ecosystem and sustainable development of coastal territories. The federal focus of main executive powers results in the ignorance of interests of local communities and passive participation of regional authorities in the implementation of the main tasks related to the recovery of disturbed ecosystems. There are no management bodies in charge of a comprehensive approach to the territory development and there are no established horizontal ties between interested regions. This brings about the expansion of shadow economies related to the use of natural resources. It is proposed to enhance the regional level of decision-making by establishing a system of accommodation of interests of federal subjects concerned and a higher focus on the development of ecologically-

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oriented economic activities. The article materials may be of use when working out approaches and methods of the management of sustainable territory development and when improving the system of the national ecological policy as a whole.

Keywords: Baikal natural territory; sustainable development; unique ecosystem; allocation of authorities; local community.

1. Introduction

In Russia, the year 2017 has been announced the year of ecology, during which the main focus has been on Baikal lake and care for the preservation of the unique ecosystems of the lake and Baikal natural territory. The Baikal situation has mirrored the entire state of the environmental policy of the country, its drawbacks and advantages.

Baikal is the world's deepest lake and largest freshwater tank (some 80%) [1]. In 1996, Baikal was included in the UNESCO World Heritage List and in 1999, the national law on Baikal protection was passed in the Russian Federation. The law was intended to protect the unique ecosystem against destructive factors of human impact and it determined the control and monitoring system. Pursuant to this law, a special zone was designated around the lake – Baikal natural territory (BNT), inside which special requirements to economic management apply.

By virtue of the same law, the Baikal natural territory was divided into three ecological zones of various functional purposes. The central ecological zone (CEZ) comprises the basin of Baikal lake, water protection zone of the coast and adjacent specially protected natural territories. The primary function of the zone is to preserve the unique ecosystem of Baikal lake and prevent adverse impact of economic and other human activities on its condition. The buffer zone covers the Baikal drainage basin outside of the central ecological zone. The zone's functions are determined by its boundaries – preservation of the aquatic habitat and water balance of the lake. The third zone – the zone of atmospheric influence – occupies the remaining part of the Baikal natural territory and deals with the task of decrease in air pollution. Each of the zones has its own set of regulations and rules in line with the listed functions.

However, the main focus of the environmental state policy being implemented is the central ecological zone.

One of the main issues of the protection of a unique natural territory is the system of management of nature protection activities in a certain territory and the role of regional and local levels in its implementation. The task of natural potential preservation shall go together with a need to enhance economic and social well-being of local communities. The role and responsibility of the state in the attainment of these targets is absolute and the way the nature management system is arranged will determine the possibility for the state to perform its obligations in the natural heritage preservation and sustainable development of the territory both before its citizens and global community.

The questions of the management of nature protection activities in the territory of World Heritage objects, centralization and decentralization of decision-making in this area have been raised in scholarly disputes [2-4]. One of important lines of the dispute is the need to get local communities involved in the management of these objects as their inherent right [5, 6], which has been recognized one of five strategic objectives of the movement by the World Heritage Committee [7]. This study intends to contribute to the discussion of this subject by analyzing the arrangement of the environmental protection management and sustainable development in Baikal where this system has been established within a federative state with well-developed legal framework and considerable economic potential. Baikal lake has attracted the attention of the world community as a unique ecosystem and field for the study of its transformation under human impact, while the legal matters and the course of establishment of the institutions regulating these processes have stood on the sidelines of the general debate. The establishment of the Baikal protection system has been discussed in the Russian scientific literature [8-12] and now one may draw the conclusions of the efforts made and identify the main issues of the system operation that affect the implementation performance of the ideas of sustainable development for the benefit of the local community at the Baikal natural territory.

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2. Study methods

The work is based on empiric study methods (observation, comparison and description) using the structured-functional approach. The environmental management and conservancy system at the Baikal natural territory is the study subject. The structure of environmental protection and regional development management bodies and its regulatory framework has been analyzed, individual elements of the management system and their functions have been studied and their variations with time have been traced. Comparatively short history of the operation of the Baikal natural territory as a statutory area of special protection (fewer than 20 years) has, nevertheless, allowed to trace down the evolution of external (man-made) impact on the Baikal ecosystem as part of the tasks set before the management system and reveal state regulation results and the role of individual levels and links of the system in their attainment. Information on the exercise of the functions of control, supervision, regulation of economic relations by regulatory authorities and the challenges that regional and local communities face when performing economic activities at the Baikal natural territory has been used as empirical materials.

3. Results

3.1. Allocation of legislative authorities by levels of power

Russia is a federal state and the overall allocation of authorities by level of management of the Baikal natural territory is defined by the Constitution of the Russian Federation, according to which (article 72), the matters of environmental management, conservancy and specially protected natural territories in their entire broad range are under the joint supervision of the Federation and its constituents. In fact, the laws in this sphere and their enforcement system via the allocation of authorities by various levels of executive power are established by the federal power. The framework federal law that establishes the environmental policy at the Baikal natural territory is the Federal Law dated 1 May 1999 “On Baikal protection” adopted pursuant to the UNESCO regulation on inclusion of the lake in the World Heritage List.

The main tasks of the state regulation of Baikal protection on the federal level are the establishment of the

common ecological monitoring and control system of BNT, mechanism for the resolution of issues in this area, accountability for task performance and meeting expenses on the work performance and control.

Delineation of human impact on the Baikal ecosystem is the main and most important sphere of regulation that attracts most of the attention during rule-making and control as it deals with physically tangible and measurable values. This delineation is spatial and technological, i.e. it includes territorial projection and standardization of impact.

The principles of allocation of the territory and its ecological zones (central, buffer and atmospheric influence) are embedded in the framework law "On Baikal protection". The delineation rationale and general boundaries were presented to regions by the Ministry of Natural Resources based on the developments by Sochava's Institute of Geography (Irkutsk). Regional authorities marked the boundaries afield.

Apart from ecological zone boundaries, water protection zones are very important for the spatial regulation of human activities. The Water Code of the Russian Federation prescribes 50 m as the water protection zone width; however, Baikal is subject to an exception. The Baikal water protection zone boundaries were marked virtually along watersheds to have covered the entire CEZ, which is why the zone is up to 60-80 km wide off the bank line in certain areas.

Apart from the general allocation of the Baikal natural territory and its ecological zones, there are other delimitations of areas with a special legal status and protection system – specially protected natural territories (SPNT) and areas of traditional use of natural resources by indigenous peoples. There are also a few levels of powers in line with the status of a special territory – federal, regional or local. This determines the levels of executive bodies that make decisions on the establishment of special territories, their delineation, setting up of management bodies and identification of sources of financing.

Categories of specially protected natural territories differ in protection conditions. State nature reserves – zapovedniks and national parks are federal SPNT, state nature reserves – zakazniks, natural landmarks,

dendrological parks and botanic gardens are federal and regional and nature parks are regional. Principles and conditions of protection of all types of conservation areas, boundaries of state SPNT and the system of their management and financing are established on the federal level. Decisions as to the allocation of SPNT of a relevant level, delineation and approval of boundaries and establishment of management and financing systems are made on the regional and local levels.

Baikal natural territory exposure limits are also established on the federal level. The main tools for the restriction of activities are the regulation of Baikal water regime, rationing of acceptable exposure limits (discharges and releases of harmful substances), public accounting of the objects that generate a negative impact on the environment, environmental impact audit.

The list of the activities prohibited in the central ecological zone was approved by the Government of the Russian Federation in 2001. It has been amended since then to mitigate certain bans with regard to special economic zones for tourism and recreation (civil engineering, road construction), waste storage and neutralization and to exclude certain consumer activities, local agriculture and wild growing plant processing, Baikal water filling from the list.

In 2010, the Ministry of Natural Resources and Environmental Protection of the Russian Federation approved exposure limits on the Baikal ecosystem including rationing the content of certain substances in effluents discharged into Baikal and Selenga river, air emissions over the southern dish of the lake, permitted man-made burden during the crop season and recreational use and cattle grazing in the central ecological zone.

Water regime of the lake is also regulated by the Government of the Russian Federation. 2001 saw adoption of a general resolution on water level limits during economic activities. However, recently, due to low-water inflows, resolutions adjust the limit downwards to ensure water intake by the cities located in the downstream pool of Irkutsk WPP on Angara river.

Environmental impact audits are also regulated by the federal law. It segregates the authorities of federal and regional bodies in the elaboration of

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audit provisions and its conduct and differentiates the objects subject to state environmental expert review of the federal and regional level. State expert review of design documents of Baikal natural territory objects is on the federal list. Since 2014, all BNT objects under construction or reconstruction have to undergo the review, including an extensive ecological zone of atmospheric influence.

Monitoring, control and supervision powers of Baikal protection are set on the federal level. They rely on the statutory system of environmental exposure limits.

State ecological monitoring procedure is defined by the Russian Government. It is implemented with the involvement of federal and regional executive bodies that set up a common system of observation networks and information resources and a state fund under the Ministry of Natural Resources and Environmental Protection. Ecological inspection is carried out by a federal entity and its local offices.

Regional legislative authorities only supplement law-making on the federal level. They adopt regulations pursuant to federal laws, take part in state ecological monitoring, set up territorial observation systems as part of the all-Russian network, establish environmental quality standards in line with federal limits. Their own law-making only addresses regional objects since, according to the Water Code, Baikal is federal property (Fig. 1).

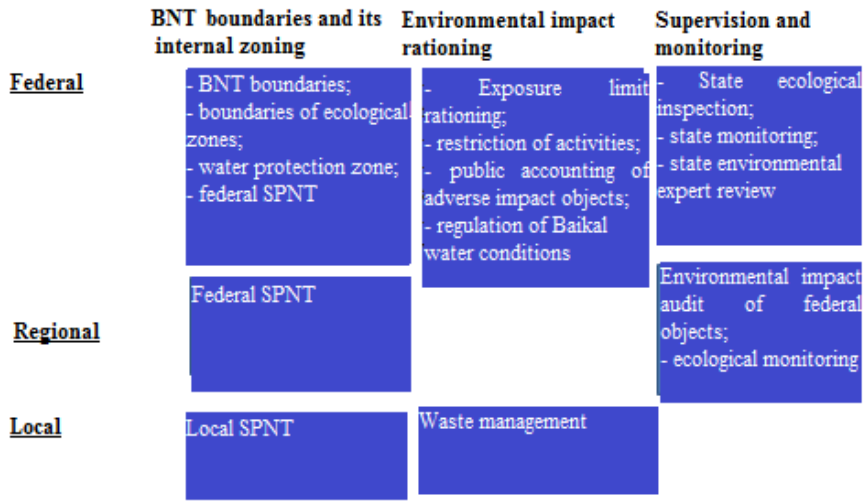

Fig. 1. Levels of regulation of

nature protection activities at the Baikal natural territory

3.2. Allocation of executive environmental protection functions

Overall, the established regulatory framework for the Baikal natural territory operation suffices to settle the environmental protection task. Building the regulation system "upside down" enables the establishment of a common and consistent regulatory framework targeted at the protection of national interests. However, its actual efficiency and performance is revealed during the practical implementation of the environmental policy at BNT. The principal solution of the task is the horizontal and vertical allocation of executive authorities, their agreement and coordination, establishment of the management bodies able to reach the environmental policy objectives set.

The Federal Service for Supervision of Natural Resource Management reporting to the federal Ministry of Natural Resources and Environmental Protection (Rosprirodnadzor) is a specially authorized federal executive body in charge of state regulation of Baikal protection prescribed by the Law on Baikal protection. The Service is engaged in federal state ecological inspection related to Baikal protection.

Other protection functions vested on the federal level are exercised by parallel ministries and agencies. For example, Baikal state ecological monitoring is allocated between a number of services according to environment component observed. The Federal Service for Hydrometeorology and Environmental Monitoring inspects air and water quality at BNT via its units in Baikal region, the Federal Agency for Water Resources monitors water bodies via its local offices, the Federal Agency for Forestry monitors forests of the Baikal natural territory together with forest departments of Baikal region constituents, the Federal Service of State Registration, Land Register and Mapping monitors BNT lands, the Ministry of Agriculture monitors agricultural lands, the Federal Agency for Subsoil Use monitors the subsoil, the Federal Fishery Agency monitors fish stock. All the services engage competent authorities of Baikal region constituents in monitoring. Data on individual

components shall be integrated into the common system of state ecological monitoring. Thus, horizontal interaction of federal agencies for natural protection at BNT is mostly implemented at the level of the agencies subordinate to the Ministry of Natural Resources and Environmental Protection of the Russian Federation and it covers control (supervision) and observation (monitoring) functions. Other functions related to the integrated management of the processes in the catchment area shall be coordinated by the Interdepartmental Committee for Baikal Protection.

The Interdepartmental Committee shall coordinate efforts of both federal and regional authorities in a wide range of matters including normative legal regulation, state ecological monitoring, elaboration and implementation of target programs for the protection of the lake's ecosystem and sustainable development of the territory and implementation of the investment policy within its borders. Its members are representatives of federal and regional ministries and agencies, the Committee holds its meetings as required, as soon as there are points at issue to be considered (at least 2 times a year).

Federal authorities manage the federal target programs related to Baikal. Both programs – "Baikal protection and social and economic development of the Baikal natural territory for 2012-2020" and "Development of the water economic complex of the Russian Federation in 2012-2020" have the same direction – Federal State Budgetary Enterprise "Information Analysis Center for Water Economic Complex Development" ("WEC Development Center"). The same center orders research on the matters related to the protection of the Baikal ecosystem and development of the Baikal natural territory. Specially protected natural territories are also managed by federal state budgetary institutions.

Regional authorities have their own pool of objects of regional importance to environmental protection and impact, with regard to which they conduct regional ecological inspection and ecological monitoring, keep a record of adverse impacts, adopt and implement regional environmental protection programs, establish regional specially protected natural territories and manage

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them. Management is ensured by relevant ministries as part of regional governments. In Irkutsk region, this is the Ministry of Natural Resources and Environmental Protection that comprises the Nature and Baikal Protection Service. The service is engaged in regional ecological inspection and control over environmental impact audit at regional objects. The region has adopted the state program of Irkutsk region "Environmental protection for 2014-2020" that comprises subprograms related to the preservation of biodiversity and SPNT development, production and consumption waste management, mitigation of adverse environmental impact, development of the water economic complex. It is financed by the regional budget and federal funds from federal target programs.

In Buryatia, the regional environmental agency is represented by the Ministry of Natural Resources of the Republic of Buryatia. It is in charge of the Service for Wildlife Conservancy, Control and Supervision of the Use of Natural Resources engaged in regional ecological inspection. Budgetary institution "Environmental Management and Conservancy of the Republic of Buryatia" regulates activities of regional specially protected areas.

In Zabaikalye, the Ministry of Natural Resources deals, among other things, with environmental protection, ecological inspection and specially protected natural territories. The area has adopted the regional state program "Environmental protection" for 2014-2020 that includes subprograms for the development of specially protected natural territories and improvement of environmental component protection.

In all the three constituents of Baikal region, regional services focus on regional public supervision and regional specially protected areas. Regional monitoring systems are not institutionalized; no uniform monitoring system has been set up for BNT. Most of monitoring activities, other than hunting and fishing, are conducted by nature reserves, national parks and scientific organizations.

Local government bodies deal with the matters of local significance that, as far as environmental protection is concerned, include collection, transportation, neutralization and disposal of solid domestic waste in urban and rural areas.

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3.3. Baikal ecosystem behavior

Efficiency of the current Baikal protection system is reflected by its ecosystem behavior after the adoption of the framework law "On Baikal protection". State reports on the Baikal condition and its protection measures published by the Ministry of Natural Resources and Environmental Protection of the Russian Federation [13] were used to trace down changes in the key parameters of economic and other impact on the Baikal territory environment – air emissions, wastewater discharges and waste accumulation. Most pollutants (over 83%) come with Baikal inflow waters with Selenga river being the main source of pollution [14].

Changes in Baikal ecosystem impact intensity reflects differently directed trends at either side of the lake (table 1). The total amount of air emissions at the Baikal natural territory from fixed sources has accrued 28% over 10 years while wastewater discharges have accrued 45%. The maximum level of air exposure was observed in 2012 – the year when the FTP "Baikal protection and social and economic development of the Baikal natural territory for 2012-2020" was launched (maximum wastewater discharges in 10 years were observed in 2007). Air emissions from fixed sources across BNT gradually increased with certain fluctuations. In the Irkutsk side of BNT, emissions went up, while in Buryatia they went down. In the central ecological zone, there was an expressed decrease in emissions, which was mainly due to the shutdown of the Baikal pulp and paper plant (BPPP). Wastewater discharges also increased, but this increase was attributed to the Republic of Buryatia, while in Irkutsk region, they went down. Discharges in the central ecological zone also decreased. Steady rise in waste both at BNT and in the central ecological zone even after BPPP shutdown indicates that the solution to the problem has not been found.

Table 1. Changes in man-made impact on the Baikal natural territory environment [13]

	2005	2007	2009	2011	2013	2015
Emissions from fixed sources, th. t						
BNT overall	333.7	441.2	402.2	380.7	456.4	426.6

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including Irkutsk region	252.9	315.4	309.0	305.4	368.5	349.2
- Republic of Buryatia	66.9	114.5	83.6	67.5	80.7	71.6
- Zabaikalye	13.9	11.3	9.6	7.8	7.2	5.8
BNT CEZ	13.1	11.0	6.6	7.9	10.2	4.6
including Irkutsk region	8.7	8.0	4.0	5.4	7.5	2.7
- Republic of Buryatia	4.4	3.0	2.6	2.5	2.7	1.9
Surface impoundments, mln m^3						
BNT overall	350.7	448.5	335.5	400.5	510.6	507.1
including Irkutsk[1)] region	38.8	46.7	4.7	27.8	21.7	2.8
- Republic of Buryatia	310.2	399.9	329.5	370.6	485.3	503
- Zabaikalye	1.7	1.9	1.3	2.1	3.5	1.3
BNT CEZ	40.4	48.1	6.1	28.9	22.5	4.9
including Irkutsk region	38.8	46.7	4.7	27.8	21.7	2.8
- Republic of Buryatia	2.6	1.4	1.4	1.1	0.8	2.09
Waste generation, th. t						
BNT overall	9,144.0	11,786.6	33,376.9	75,319.4	110,069.0	111,499
including Irkutsk region	294.4	289.1	489.8	476	583.6	3039[2)]
- Republic of Buryatia	8,435.1	11,077.2	11,247.4	15,722.4	51,057.7	47,860
- Zabaikalye	424.5	420.3	21,639.7	59,121.0	58,428	60,600.8
BNT CEZ	294.3	289.1	489.8	476	583.6	535.5
including Irkutsk region	121.6	150.1	15.8	56	39.9	4.4
- Republic of Buryatia	18.7	68.9	17.2	258	297.3	354.3

[1)] Since discharges and production and consumption waste of the enterprises located in the ecological zone of atmospheric influence of BNT produce no impact on the Baikal ecosystem, indicators for Irkutsk region in the lines “BNT overall” are represented by the enterprises situated in the central ecological zone.

[2)] In 2015, data on waste generation in BNT of Irkutsk region are provided with regard to the ecological zone of atmospheric influence.

Observations of the lake’s hydrobiological condition reflected in annual reports evidence the expansion of the zones of presence of Spirogyra sp.

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green filamentous alga indicative of water "bloom", depletion and decrease in the zoobenthos biomass. Hydrochemical characteristics of individual parts of the lake where long-term observations are conducted (source of the Angara, Selenga shallow waters, area of BPPP, South Baikal stations) and the state of bottom sediments evidence preservation of pollution level and its increase in some indicators. Since 2003, decrease in spawning populations of omul – the main commercial species in the Baikal fish fauna – is observed. Both total allowable catches of omul set by the Federal Fishery Agency and statistically recorded catches go down. Thus, despite the reduction in certain impacts (emissions and discharges), especially in the central ecological zone, the condition of the Baikal ecosystem remains tense and requires new approaches to the implementation of the environmental policy at the Baikal natural territory.

4. Analysis

The main issues of the current Baikal protection management system are as follows.

Firstly, considerable predominance of protective and prohibitive functions in the absence of land development mechanisms. The lake ecosystem state monitoring system is quite comprehensive and it is implemented jointly by federal and regional executive bodies. The entire central ecological zone of the Baikal natural territory is under protection, which eventually results in the increased burden on Baikal nature due to independent implementation of local interests or household demands. Despite all the declarations about the importance of sustainable development, the existing management system lacks functions and relevant powers to regulate economic and social matters in terms of the local communities and their demand for appropriate living standards. These demands are considered on a case-by-case basis, when problems occur, rather than systemically.

Thus, there is no comprehensive approach that would combine the tasks of preservation of the unique ecosystem of Baikal and a need to improve the quality of living of local communities. This task was suppose to be addressed by the federal target program "Baikal protection and social and economic development of the Baikal natural

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territory for 2012-2020". However, despite its name, its tasks, objectives and expected results are limited to ecological aspects; social and economical aspects only include the use of the recreational potential of specially protected natural territories due to the development of the eco-tourism infrastructure. The system of prohibitions without regard to the interests of local communities brings about many areas for shadow activities. The most obvious of them are land use in the water protection zone where all the available bays are being developed starting from the bank line and illegal fishing in the lake and its tributaries.

Secondly, there is no management body that would bring these tasks together and elaborate the relevant comprehensive approach to the settlement of the land development issue. Rosprirodnadzor is unable to exercise these functions; it is only in charge of control and supervision and horizontal interaction with other agencies. The Interdepartmental Committee is a coordinator; it settles individual matters brought up for discussion by committee members without continuous management of the processes ongoing at the Baikal natural territory. This system lacks accountability for environmental policy results.

Thirdly, there are no well-developed connections between regions within the existing vertical hierarchy. This results, on the one hand, in the detachment of federal regulation of individual impact parameters from the specific features of the territory, which brings about, for example, the need to revise the size of the water protection zone or exclude BNT social objects from the list of the state environmental expert review. On the other hand, the activities imposed from above are not coordinated with all the interested regions. This can be exemplified by centralized regulation of the Baikal water level that prejudices one or another coast: either level decrease in water supply sources downstream the Irkutsk WPP dam or shallowing of the southern bank of Baikal where the sandy beaches that are most easily accessible to the local communities of both regions in warm bays are located [15, 16].

Fourthly, among various types of man-made impacts, ecosystem pollution with biowaste increases at the fastest rate [17]. The matters of collection and transportation of solid domestic waste

fall within the competence of local authorities (local government bodies) that have the least financial resources in the existing budgeting system. In the BNT nature protection system, waste management falls out of the federal financing system. In the central ecological zone, such activities, including waste disposal, require increased costs due to the restrictions and bans imposed by the above authorities, but these costs are not reimbursed. The same holds true for municipal wastewater discharge into the lake and its inflows in most lakeside settlements.

Detachment of regulation of individual impact parameters at the federal level from specific features of the territory brings about a need for constant legislative changes. For example, the width of the water protection zone is currently being revised downwards as the central ecological zone that coincides with the water protection zone houses 141 settlements, including towns of Slyudyanka, Baikalsk and Severo-Baikalsk where land turnover and new construction have turned out to be unfeasible. The territories of these settlements also have to be withdrawn from the water protection zone. Besides, at the meeting with the participation of the Russian President, local authorities raised a question of a need to exclude social objects from the list of the objects subject to state environmental expert review across BNT.

The study examined the way these tasks have been settled in other countries, in particular, the experience of restoring the ecosystem of the Great Lakes in the North America [18-20].

The existing system of management of protection of the Great Lakes was a response to the imminent ecological disaster in places with high density of population and economic activity at either side of the border, while Baikal undergoes incomparably smaller human pressure. Nevertheless, the experience of this organization helps single out the following moments. Individual priorities (a total of five) of application of the main funds of the federal and regional budgets were identified. Pollution reduction confirmed the correct choice in the ecosystem point of view when impact of regeneration efforts was targeted at key links of degradation processes. Next, areas of special concern were identified to ensure territorial concentration of efforts on

certain areas. This spatially determined approach is perfect when arranging recovery operations on Baikal where the high degree of water body pollution focuses in a few areas exposed to significant human impact – head of Angara, estuary of Selenga, area of the Baikal pulp and paper plant, Smaller Sea, etc. The provision of the special-purpose Committee under the federal agency and its interregional status localizes executive authorities in decision-making and allocation of funds at the level of the states and provinces engaged in problem resolution when coordinating and concentrating their resources and efforts.

Co-operation of federal and regional authorities in the North America is based on the contracts approved by legislative authorities of both levels (Canada-Ontario Agreement, Tahoe Lake Agreement). In this case local communities are able to legally assert their economic rights against the background of national interests. One should also note that there are the ways to involve local communities in the discussion and implementation of actions of various plans and there is a wide system and a good deal of different grants available to activists of any level of organization and competence. Irkutsk region and Buryatia are characterized by a host of public environmental organizations related to Baikal and this approach would encourage them to take an active part in the sustainable development of the Baikal natural territory.

5. Conclusion

Improvement of the management system in the protection of Baikal and sustainable development of the Baikal natural territory continues at the federal and regional levels and this study is intended to contribute to the discussion of required measures. In our opinion, the focus has to be on the settlement of three main tasks and, correspondingly, changes have to take a few directions.

The first task is to implement the ecosystem approach to the protection and restoration of the Baikal lake environment, i.e. a set of measures that takes into account interrelated processes in the nature habitat in the allocated territory, which is required when the system of environmental component monitoring, supervision and conduct of activities prevails. The indicator showing that this approach has been

implemented is the restoration and maintenance of biodiversity in the protected territory with requirements to the quality of individual components preserved. The federal competent authority (Rospotrebnadzor) has to elaborate the structure and content of ecological monitoring of the unique ecosystem of Baikal lake as part of state monitoring, including uniform methodology of collection and processing of the data to be used by the federal services and agencies, regional executive bodies authorized to conduct monitoring as well as scientific and public organizations of Baikal region constituents [21, 22].

The second task is to bring the decision-making level closer to the impact territory, decrease in the centralization degree of authorities with regard to particular matters, which may also promote a faster response to different hindrances to the territorial development [23, 24]. Mechanisms of horizontal interaction with regard to environmental protection at the regional level as well as between administrative districts and municipalities have to be elaborated and improved in the context of this decentralization. This task may be settled by way of setting up the Interregional Committee for Environmental Protection and Development of the Baikal Natural Territory vested with powers of a coordinator to implement national and to elaborate and further on implement regional and municipal programs at BNT. The same body will be able to elaborate the basis for “interregional consensus” with regard to social and economic planning documents provided for in the new federal program titled “Baikal – the great lake of the great country” that has to supplement the earlier program.

The existing Interdepartmental Committee has to be preserved as the body with advisory and arbitration functions. It has to regularly consider certain issues at its meetings that Committee members could not agree upon or if their resolution is beyond regional powers. Supervisory bodies at the regional and interregional level engaged in the implementation of federal and regional programs have to be based on the infrastructure of scientific and public organizations not affiliated with executive authorities. This will ensure the recovery of the local level, which is

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currently most restricted in terms of both powers and financial means [25] and will foster such public resource as volunteer movement and non-governmental organizations.

This will raise involvement of the population, economic entities, local authorities and public organizations in environmental control and recovery activities at the Baikal natural territory, which is in line with the status of a World heritage object.

The third task is to combine environmental protection and social and economic development of the territory, improvement of living standards of the local community. The coastal belt is an attractive place for the settlement and temporary stay and the care of the government about reduced human impact has to be accompanied with promoting conditions for the development of particular settlements. These objectives are not mutually exclusive and they can only be brought together through the gradual change in the structure of economy, “greening” of economic activities in the coastal zone of Baikal and its development following “green” economy principles.

The BNT central ecological zone deserves special attention; its strategy and program of social and economic development should be established individually and as an organic whole from the very beginning. Economies of CEZ local communities have to take three lines of development [26]. The first one includes non-destructive use of high-quality natural resources of ecological importance. The most common ones are tourism and recreational activity. They also include the possibilities to set up the sports and therapeutic infrastructure, fishing, mineral water filling, gathering, hunting, etc. The second direction are the activities related to reproduction of natural resources of the territory, including reserved operations, reforestation, fish breeding, etc. The third direction is waste handling – collection, removal, processing and disposal. Currently, this sphere is considered to be the business of the state, local authorities or volunteers, but it is the most promising one for the development of local entrepreneurship subject to a proper system of service financing and creation of available infrastructure for effluents and waste collection and disposal.

Thus, the task of preserving the nature potential of the Baikal natural territory has to do not only with traditional activities to attract investment from other regions, but, mostly, with the development of local communities that have very few possibilities for economic activities, which results in the growth of shadow economy. Local communities have to become a subject of the economy "greening" process and be aware of the benefits of this process, which shall be fostered by the development of local entrepreneurship and targeted state support of the local business activities related to the natural capital reproduction.

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