

Special Article: Environmental Protection

Save Lake Balkhash International Research Project

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In March 2017, when the risk of lake Balkhash evaporation was as high as never before, the whole biodiversity ecoculture was put under the threat triggered by climate change risks and industrial pollution. Staying apart from political disputes, mainly concentrated on the ecological agenda and water security I founded a digital open data research project - Save Lake Balkhash International which aims to preserve a unique ecosystem of lake Balkhash, the largest inland lake in Kazakhstan and 14th largest in the world [5]. Lake Balkhash is a savior of harsh arid climate of Kazakhstan. The breadwinner for thousands of fishing families, a shelter for birds and animals that migrate to Balkhash from Mongolia, China, Russia and Europe [4]. Aged more than 35,000 years [5], Balkhash is the only lake in Kazakhstan with sufficient volume of water, located entirely on the territory of the country. According to the global experience and studies which I have been providing since 2017, the fails of saving lakes and rivers across continents are pretty much the same. Number one reason of such fails is lack of support from local government and academics. The social experiment which I conducted in 2020 [6] using social media, research findings and literature review proved the bias against civil activism in Central Asia, statement of which is clearly defined by the words of one governmental ex-manager: "There is no point in saving a nature if you are not getting paid and support from authorities, only stupid enthusiasts will do such rubbish thing." To reasonably question this statement it is useful for international organisations and associations to be integrated into one stakeholders' working scheme, or map. Only joint protection measures of ecological projects and initiatives can become an effective leverage to manage and prevent negative consequences of climate change, when local input is not enough.

Some questions I examined during my study and project activities are the following: 1) How to justify the direct effect of the lake on local climate 2) The impact of the lake Balkhash on Kazakhstani economy 3) The value and bias against civil ecological initiatives in modern Kazakh society 4) What are local water risks? 5) How to effectively build communication channels between all stakeholders? [6].

In order to understand how to evaluate an ecological project I came up with the idea of creation a set of criteria, as per following: The level of integration between ecological values and social development (people, business, government, academia, science, world community) SROI (Social Return on Investment) factor Short-term impact on the country's welfare Long-term impact on the country's welfare Each criteria is to be measured by several experts, using Delphi technique [4].

Ecological projects are becoming landmarks of new approaches and techniques as well as innovations in green energy transition. They are based on saving nature capital and providing benefits to stakeholders (which are basically all human beings) whilst creating a new value of social integration and collaboration inside the country of operations [6]. After hours of online sessions and discussions with my colleagues and ecology mentors, I proposed to replace the classical ROI (return on investment) approach with SROI (social return on investment) explained by the following formula: $SROI = (\text{Social Impact Value} - \text{Initial Investment Amount}) / \text{Initial Investment Amount} * 100\%$ where 1) Social Impact Value is an integral factor, consisted of different indicators, basically they are total comprised benefits from saving / preserving a unit of nature capital 2) Initial Investment Amount - total sum of invested capital, such as monetary funds, human and social energy, time, knowledge [6].

I have analyzed water management strategies of some countries in order to mitigate risks in my homeland, Kazakhstan. I found out that in Germany there is a preference of the rational water saving over the new water infrastructure. In Singapore it is popular to be ecologically informed and local industries effectively use high tech desalination plants, France successfully manages its water resources through legislation (taxation, primarily) and biodiversity preservation, and in Brazil local government pays high attention to the elimination of leaks in sewage and plumbing systems [6]. It is obvious that every country has its own issues with water and the importance of sustainable, result-oriented strategy is clearly proved by live experience. If wealth of each country is defined by the purity and safety of

natural resources it possesses, then the link between ecological projects and GDP is also obvious [6].

During Fall 2020 I have asked myself and other ecologists additional questions which, as I found out later, no one asked before. I named these questions the "Top Strategy Qs of Ecological Project" based on Save Lake Balkhash Case: 1. How many external factors do influence your path to success? 2. What percentage of these factors comes from policy makers / government agents? 3. Are there any conflicts of interest between main stakeholders? 4. Is the system ready to accept ecology consciousness of your project and its value? 5. Have you succeeded to create a precedent?

These questions should help to save a self-esteem of ecological enthusiasts across the globe, because the only questions I got from some negatively predisposed people were: "Are you doing this all alone? Are you married? Are you getting paid for this?" My advice to others will be to ignore such questions and to concentrate more on those which I just mentioned above.

My favorite question is the last one. "Have you succeeded to create a precedent?" In cultures, like Kazakh, for example, precedent means everything, because the valued history starts with a story and each story starts with a case. While advocating the lake Balkhash in Kazakhstan, I have started to create a methodology of the ecology project conceptualization and implementation and I tried my best to figure out how to answer the following questions, it is still an ongoing process [6]. Everything starts with legislation and the local Water Codex plays huge role in monitoring malefactions within water regulations system in Kazakhstan. The question of how it should be changed and optimized and the real necessity of such changes remains crucial [6].

Accepting the power of social factor. Building effective and sustainable communication channels. This refers to the importance of clear and honest information exchange between involved stakeholders.

The necessity of cluster approach in ecological project management. As per my professional experience: People - Economy - Nature - Technology are all interrelated domains which constantly evolve and influence each other. Cluster approach in ecology management means not prioritising a particular domain, but providing equal and measured recognition of the importance of each and simultaneous coordination of the resources distributed between all of them [2].

Required organisational measures. Being ecologically proactive is a primary requirement of any ecological project. It means taking steps and providing actions towards saving a nature. It also includes organising certain events and leading communities [6].

Ecological passivity of the people and its true reasons [6]. Why people are so inactive when it comes to saving a nature? Is it necessary to pay in order to get promoted? And why it is so essential to find people whom you can trust and work with [2].

Importance of the trust in authorities. This is the biggest problem. Culture eats strategy everywhere, despite region or sector of economy / social integration. To survive any strategy must gain a support from authorities. It relates to business, government, public and ecology. How to balance between personal beliefs and authoritative restrictions? Is it possible to speak ecological truth, while communicating with government? [6].

Communication - Communities - Common sense. Communication creates communities and communities are based on common interests. It is quite obvious that nature has a common sense to everyone. We all are integral parts of the society and nature. Why then it is so hard to save it? Are human flaws stronger than virtues? Is corporate greed managing all top-level decisions or a good sense still has its guarding skills and wins custody against bad faith. The meaning of Save Lake Balkhash International Research Project is not only to create analytical documents, record observations, start a case, but to launch an information wave of such force that will create a story with happy ending despite the bullying and political retaliation. Clearly, nature and human capital always stay at the core of our planet's value [1].

Save Lake Balkhash International Research Project is now being integrated into a more sustainable and applicable methodology of global lakes preservation. 75 cases thoroughly studied, 50 international experts interviewed, 53,000 personal hours spent, 15 technical limnological volumes integrated in a modern set of data, 111 new research findings published and integrated, 36 scientific articles produced, 111 methodological pages written, national petition submitted in 2020 with over 300 signatures signed, international petition started in 2020 with over 4000 signatures collected across the globe, over 40,000 people educated globally on the subject of lake Balkhash importance, water ecology and sustainability, 107 inquiries sent to the top global ecological funds, universities and organisations, over 50,000 people from Kazakhstan, Ukraine, United States, Russia, China, Australia, Japan, Kyrgyzstan, Germany, Bangladesh, Kenya, Uganda, Egypt, Italy,

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2) Accepting the power of social factor. Building effective and sustainable communication channels. This refers to the importance of clear and honest information exchange between involved stakeholders.

3) The necessity of cluster approach in ecological project management. As per my professional experience: People - Economy - Nature - Technology are all interrelated domains which constantly evolve and influence each other. Cluster approach in ecology management means not prioritising a particular domain, but providing equal and measured recognition of the importance of each and simultaneous coordination of the resources distributed between all of them [2].

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