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# Social Challenges of periodic floods in the Yakutia



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#### Abstract

In recent decades due to climate change in the territory of the Republic of Sakha (Yakutia) increases the number of flooded settlements. In this arti-

cle author research addresses problems of social adaptation of people which live in the annually flooded village Kyllah.

Keywords: climate change, indigenous people, socio-cultural problems, adaptation.

All over the world, including in Russia, there is a trend of significant growth of damages from flooding, which is the main cause of global warming. Noticeable increase in temperature also link with the frequency and size of floods. Of the 142 years of meteorological observations ten hottest years have fallen for the last fifteen years. The top three warmest years were 1998, 2001 and 2002. [1]. In these warm years (1998 and 2001). Catastrophic floods occurred in Yakutia. By the constant threat of inundation by flood waters are subject to 92 localities of 619, representing 14.9% of the total number of settlements<sup>1</sup>. Total in flood-prone communities living 136,4 thous., Or 7% of the total population of Yakutia. The floods in 1998 were flooded 205 towns in 23 encampments (districts) of the country and affected 50.5 million people<sup>2</sup>. The floods in 1998 were flooded more than 80% of the settlements located on the banks of the river. Lena below Lensk, more than 70% of the settlements, standing on the banks of the river Aldan.

As a result of the catastrophic flooding is a problem protecting communities from flooding, and for localities prone to flooding every year, the question of their shift. One of the annual flooding of settlements on the territory of the Republic of Sakha (Yakutia) is an island village Kõlli Olekminsky district. The village is located on the same island of the Lena River. The island is 98 km2, length 15 km, width of 7 km. In the administrative-territorial structure naslega enter the village and Kõlli Dapparai site, which is located on the right side of the bank Lena. This article summarizes the results of the expedition in a. Kõlli undertaken in the course of the project RFBR № 09-06-98503 «Peoples of the Arctic in global climate change: stability, transformation, adaptation." During the expedition, project staffs were able to learn about the history of flooding and the problems of the social improvement in the consideration of the village to the new conditions.

<sup>1</sup> The concept of protecting settlements and Economy of the Republic of Sakha (Yakutia) by floods and other adverse impacts of water.

<sup>2</sup> Spring floods in 1998 in the Republic of Sakha (Yakutia). Stat. Collection. - Yakutsk, 1998. - P. 2-6.

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The old inhabitants of the village were named several years of disastrous floods in the village: 1903, 1937, 1949, 1969, 1998 and 2001. The largest of these was a flood in 1903: "At that time, the island Eker old man lived with his wife. Their house was in the middle of the island. In that year, came a lot of water. She claimed their home. Since then, the "big water" is called "Eker uuta." Subsequent flood compared with it. People ask each other: "How much water came? Whether it reaches the level of the times, "Eker uuta? ". In memory of people left a tragic event associated with a flood in 1969 during the floods this year, with the evacuation of people fell into the river Mi-2, in which there were two crew members, two employees, including head of the kindergarten and 27 children - children of the kindergarten. But one member of the crew no one was able to save<sup>3</sup>.

Following the floods in 1998 and 2001 was accepted by the Government of the Republic of Sakha (Yakutia) from 15.01.2002 to postpone the most affected by the flooding of settlements. The organization works to transfer the village Kolli began after the publication of the decision of the Government of the Republic of Sakha (Yakutia) № 333 of June 9, 2005. These regulations have led to the development of a "Feasibility Study of the village carry Killah Olekminsky ulus (district) of the Republic of Sakha (Yakutia)"<sup>4</sup>. The decision to postpone the village on the right bank bank of the river. Lena's site Soloohun located opposite with. Kõlli 3 km to the high flood-terrace, east of the village of historically Dapparai, was taken at the village meeting February 17, 2003. The total amount of funding the transfer of the village is Kölli 952 million 752 thousand rubles. The construction is designed for six years and be completed in 2012. The official transfer of the village-island Kölli due to regular flooding of spring floods began in 2006. Prior to that, in the budget of the republic did not have enough funds. General plan of the village was developed by the institute "Yakutagropromproekt." Plan living area provides a rational distribution and organization of neighborhoods, obscheposelkovogo center, service establishments, places of leisure, as well as the structural unity of the existing selenium Dapparai. The designers have provided a clear division of the territory of the village for residential, industrial, road transport, sanitation and security zones, construction: high school for 250 students, the administration building, two kindergartens, creches for 50 people, a hospital with 10 beds, cultural and sports center, bakery at 1.5 tons per day, two shops, boarding with 50 seats, 10 seats in the bath, garage for 5 cars, a fire station for 2 cars. Residential development in the new village is mostly one-story single-family wooden houses with garden plots area of 0.15-0.20 ha. It is also planned to build a professional public institutions and veterans 4 semi-detached, 7 vosmikvartirnyh buildings and a dormitory with 54 seats.

Despite the annual flooding, the population of the village has remained stable: at the beginning of 2001 was 1,055 people, in 2010 - 1181 people. In the area Dapparai home to about 100 people. <sup>5</sup>. The plan will introduce a total of 120 homes. In view of the fact that in a family. Kölli more (about 400 yards) to the state program included not all. The rest will have to build republic takes on so-cial and cultural facilities, the training base for the transfer, the entire infrastructure. Houses in

<sup>3</sup> Field data. Informant U.N. (1946 p.), V. Dapparai Olekminsky ulus, in September 2010.

<sup>&</sup>lt;sup>4</sup> The current archive of the Office of Economic Development and Finance, MO "Olekminsky region".

<sup>&</sup>lt;sup>5</sup> The social economic passport of Killahsks nasleg in 2001 and 2010 years

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v. Dapparai erected in three programs<sup>6</sup>. The program "Milk rain" in spring 2009 were introduced the first 30 homes, including 15 homes designed for young professionals, and 15 - for the inhabitants of the village. These houses were built by the company of "Diamonds Anabara." Under this program, people could pay 30% of the equity of the value of residential homes through the Agricultural Bank at an interest rate of 12%. About 10 developers of "Diamonds Anabara" acted as a guarantor through the program "Milk House": for 5 years up to 5000 rubles. per month without interest over 72 m2 and up to 3,500 rubles 54 m2 for a house. According to the federal target program "Social development of village" (the construction is under co-financing: 30% of the federal budget allocates 40% - republican, 30% - means developers themselves), there are two directions. The first – is to improve housing conditions, and the second - providing housing for young families and young professionals. Under the program, which the customer is the Ministry of Agriculture of the Republic of Sakha (Yakutia), 50 houses are being built. Just a plot Dapparai put 70 houses, a school with 220 seats, modular boiler capacity of 6.0 megawatts (MW), overhead power lines, diesel power 400 kilowatts. Implementing a program of the socio-economic development of the municipality "Kyllahsky nasleg"<sup>7</sup>.

The transfer of the whole of the village, especially in the native shore of the island requires a lot of cost, effort, there are problems. On the one hand, the population has improved the living conditions, the number of square meters of housing, has introduced a new school, but on the other hand, there is a problem of the social adaptation to the new conditions of the residents. The main problem of the villagers, despite the introduction of the residential buildings is the provision of housing low-income families. 149 of 316 families in need of the social housing, 88 families have children of the school and pre-school age. 70 houses were introduced more or less well-off families. In autumn 2010, 50 houses were built (the general contractor "Almas"), but really the villagers did not have the financial and material opportunities to make any kind of credit for housing. Therefore, people are in limbo, limbo, which enters them into position of hopelessness, depression, loss of hope for a better future. There was also problems with the entered houses. The villagers complained that the houses can not overwinter. The system is designed for home heating central heating system, which is not yet connected. That's what the locals say, "We have decided to spend the winter in the new house winter 2009. But in the month of November, when the river rose, moved to her parents' house in the village. Kõlli, because the house was very cold, it was necessary to heat the oven every 3 hours. According to the stories of residents and wintered on our estimates for heating these homes a year needed 5 wood body car "Ural"8.

Among the social challenges – are aggravated housing problems. Socio downside is the risk of rupture and family ties, as well as artificially created gender tension. According to the experts, the rural labor in Yakutia is an active participation of men, but in partnership with women. [2] In this case, the mother with the children to move to. Dapparai and husbands are with. Kõlli look after

<sup>&</sup>lt;sup>6</sup> Field data. Informant D. C. (1964 p.), V. KIlah Olekminsky ulus, September 2010

<sup>&</sup>lt;sup>7</sup> The program of the socio-economic development of the municipality "Kyllahsky nasleg." URL: http://www. sakha.gov.ru/node/13170 (date of access: 12.11.2011).

<sup>&</sup>lt;sup>8</sup> Field data. Informant EL (1976 p.), V. Dapparai Olekminsky ulus, September 2010

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the cattle during the school year. The transfer of the school to a new site set financial and organizational issues to the families who have school children. Those who do not have their own homes in the village. Dapparai, forced to seek shelter with relatives or rent a room. The problem is exacerbated during the fall and spring thaw. Children whose families are homeless in a. Dapparai, fall and winter are coming to school out with. Kõlli. Administration ulus and naslega provide free transportation of pupils by ferry and bus.

The big drawback master plan for the village is a small area of land, which does not provide space for barns. It is keenly aware of the local population, the main occupation is cattle breeding. Family where all family members work in the school, forced to move in with. Dapparai without livestock. The reason why the local people not to move to earlier with. Dapparai is the lack of native grasslands on the shore. The island is rich in olden times grasslands and pastures for livestock. State Farm "Dmitrov" that existed on the island during the Soviet era, was famous throughout the country. In the village until 2008, there were farm "Ilge" reorganized from the farm. The government of the republic, the administration of the ulus and naslega found a solution to this problem. Was earmarked for the construction of a 200 pcs in Killah. Cowshed will hold a private entrepreneur, who for money will keep the cattle population is moving to a. Dapparai. For one head of cattle, he planned to get 500 rubles. month. Accordingly, as there is a problem with paying for lowincome families, where the average salary is about 5,000 rubles. If a family of 10 head of cattle, the whole salary will go to pay for the cattle. In p. Dapparai provided for the construction of the barn on 100 goals with Telyatnik skotopomeschenie and 200 calves in 2011-2012., Until then people have to take the cattle to the content of a private cooperative. Transfer of the land in the village Kölli Dapparai is a historic event not only for kyllahtsev Olekminsky and all the inhabitants of the area, but the country as a whole. The experience gained from the transfer of the village, will be an invaluable lesson for the rest of the inhabitants of towns, waiting for their turn on the transfer of their villages.

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