

Short Communication

The Climate Change Impact on The Lifestyle of White Storks

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As the biblical Mount Ararat, the white stork is also a symbol of Armenia coming from the depths of centuries. There is still information about the storks in the historical sources of the 4th century. The white stork has earned the love and confidence of the Armenian rustler for his effort to save the harvest from pests, so killing him was considered a sin. For the Armenian man it has become a symbol of fortune, kindness and success, as well as a strong and healthy family.

18 species of storks are known. The European white stork is familiar to Armenian residents. It is noteworthy that not all the storks leave Armenia in winter. In the 1970's a wintering population was formed. This is due to the availability of food and climate change. A source of food can be served either by fish farms that have started to develop in recent years or open water areas. Our climatic conditions have started to coincide with the mild winter that the stork is adapted to. Anyway, there is a wintering population and it fluctuates within the number of 200-250 birds (according to the studies of the Hakobian Environmental Center). The number of wintering birds continues to grow. The total population of the stork in Armenia is about 650 pairs and more. The stork lives on average for 20 years, although there are cases that the storks live up to 39 years.

Today, the nests of storks change due to climatic changes, drying of wetlands and the reduction of yield, as a result of which these birds have changed their lifestyle and have become sedentary. Residents of the Surenavan and Armash villages told that the stork nests on the electric torches were often burnt up and over the last one year 15 cases have been registered. Bird lovers from Albania, Russia, and Bulgaria are united and develop ways to make the storks' nesting places safer. Not few cases have been reported also in connection with household garbage when the nests were covered with various polyethylene materials. According to the latest report of the "White Bird Defense Program" ("Bird Lovers Center", S. Adamyan, 2014-2015) [1], most of the nests were made from household wastes, which could be terrible for the young. The latter can swallow and get tangled into those wastes.

On July 13, 2017, representatives of "Civil Voice" and "Bird Lovers" NGO were in Hovtashat and Darnnik villages, where massive regression of storks was noticed, the reasons of which were incomprehensible. Related to the case, "The Civil Voice" and "Bird Lovers" NGOs have applied to the Ministry of Nature Protection and Healthcare, but received a response mainly from the Ministry of Health and the "Acopian Center for the Environment" of the American University of Armenia. The Ministry of Health as a result of inspections did not find any infection between animals and people. A study by the "Acopian Center for the Environment" American University of Armenia showed that the cause of the bird's fall was that the feathers were covered with oil as a result of which the storks could not fly and then died. The areas where the birds were damaged could not be found.

The stork is a useful bird: it destroys agricultural pests. It is noteworthy that the stork is sensitive to changes in the environment, for example, the white stork may be the indicator of the wetland ecosystem. Taking into account the problem of stork nests in the Republic of Armenia, "Civil Voice" and "Bird Lovers" NGOs made it possible to continue the EuroForest "White Stork Defense" program. Within the framework of the project, in the Armash and Surenavan villages in 2014-2015, in defense of white storks, for about 10 nests of white storks were installed. In the first year 7 were nestled, and in the second year already there were 3 more. By examining the contents of the nests, from 2 to 3 chicks were found in each one, which were interconnected within the framework of the project. But the program was suspended because of the lack of financing. The "White Stork Protection" program became continuous as a result of "Civil Voice" NGO. On March 13, 2018, with the active participation and funding of "Civil Voice" NGO, another 6 new ones were installed.

Studying the stork nests in the village of Armash, it was found out, that there was a problem of nesting sites. In the village of Armash there are approximately 30-35 inhabited nests, 10 of which were placed in the years of 2014-2015, and all are inhabited, while the remaining 6 were placed by the "Civil Voice" NGO in spring 2018 of which only one has been nestled. Nests for storks had not yet been installed because they were settled late and storks could not manage to nestle. "The White Stork Protection" program will be of continuous nature because the storks in Armash continue to winter and also white stork populations are growing [2].

One of the goals of the installation was to provide security (installing higher than electric torches). The goal of the project is not only to add nests to the mentioned sites but to explore the white stork populations. Within the scope of the project, the nests are installed in adjacent settlements so that people can follow the nests. Thus, being in touch with the local population, within the framework of the project it will be possible to find out the beginning and dates of these birds nestling, which, as for me, has changed due to climate changes. It will also be possible to understand the causes of death among younger storks and the impact of climate changes on the lifestyle and

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population of storks.

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