

**J&K LAKES AND WATERWAYS DEVELOPMENT AUTHORITY  
MISKEEN BAGH, RAINAWARI, SRINAGAR-190003**

Minutes of the Scientific Advisory Committee Meeting held on 16.10.2017 at SKICC, Srinagar.

**Members of the Scientific Advisory Committee who participated in the meeting:**

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|--|----------|
| 1. Dr.A.R. Yousuf<br>(Ex-Member Green Tribunal, GOI)   | Chairman |
| 2. Dr. D.P.Zutshi<br>(Former Emeritus Professor, JNU, New Delhi.)                                  | Member   |
| 3. Dr. Sidharath Kaul<br>(Ex-Advisor Ministry of Environment and Forest)                           | Member   |
| 4. Dr.Manzoor Ahmed Shah<br>(Sr. Assistant Professor, Deptt. of Botany,<br>University of Kashmir.) | Member   |
| 5. Dr.Shakeel Ahmed Ramshoo<br>(Head Deptt. of Earth Sciences, Kashmir University)                 | Member   |
| 6. Dr. Farooq Ahmed Lone<br>(Associate Prof. Div. of Environmental<br>Science, SKAUST, Srinagar.)  | Member   |
| 7. Shri Mohammad Shafi Bacha<br>(Retd. Chief Wild Life Warden, Srinagar.)                          | Member   |
| 8. Dr. Abdul Hafiz Shah<br>(Vice Chairman, J&K LDA.)   | Convener |

**Special invitee:**

- |                                |                           |
|--------------------------------|---------------------------|
| 1. Shri Zaffar Shah            | Amicus Curie.             |
| 2. Dr. Masood-ul-Hassan Balkhi | Dean Fisheries, SKAUST-K. |



3. Mr. T.Sampath Kumar  
(Chartered Accountant)

Proprietor, Nualgi Nanobiotech.

4. Dr. Vikram, BDS  
(Maxillofacial surgeon)

Representative, Nualgi Nanobiotech.

**The officers of J&K LDA present in the meeting:**


- |                              |   |
|------------------------------|---|
| 1. Sh. Gh. Mohi-ud-Din Nazki | Superintending Engineer, J&K LDA                  |
| 2. Mrs. Sumera Shameem       | Secretary, J&K LDA.                               |
| 3. Sh. Raman Uppal           | Executive Engineer, Lake Division Ist, J&K LDA.   |
| 4. Sh. Fayaz Ahmed Patigaroo | Executive Engineer, Mechanical Division, J&K LDA. |
| 5. Sh. Mohd. Amin            | Watershed Manager, J&K LDA                        |

The Vice Chairman, J&K LDA (convener, SAC) started the proceedings with welcoming the members to the 4<sup>th</sup> SAC meeting. He gave a detailed description of the action taken on implementation of the decisions taken in the 3<sup>rd</sup> SAC meeting. He informed that all the decisions of 3<sup>rd</sup> SAC meeting were discussed in detail in the 12<sup>th</sup> Monitoring Committee Meeting. The Action Taken Report presented by the Vice Chairman, LDA was discussed by the SAC at length and further discussion taken on the subject are as under:

1. **Artificial wetlands:** The Vice Chairman, LDA informed that a comprehensive action plan is being formulated for augmentation/maintenance of these wetlands and the work will start within a week's time which will be completed within 3 months.

2. **Assessment of pesticides and conversion of deweeded material into compost:**  
The Vice Chairman informed the SAC members that a meeting of the committee constituted for formulating various activities for periodical assessment of different pesticides in Dal-Nigeen lake was held on 20.09.2017 followed by another meeting on 13.10.2017 and it has been formally decided that LDA will sponsor the study for





"Assessment of pesticides residue in Dal-Nigeen lake". In this context SKAUST-K will carry out a detailed survey which will be completed within 15 days and a DPR will be submitted within a month. He stressed that the study should be completed within a stipulated period of time.

Regarding conversion of deweeded material into compost, the members were apprised by the Vice Chairman, LDA that SKAUST-K will submit a DPR within 15 days following which the LDA will provide space for the purpose. He further elaborated that distribution and marketing of the final product will also be explored by the SKAUST-K.

3. **Water quality analysis report:** It was decided that a complete interpretation note will be finalized after receiving the comments of all the members of SAC and LDA on the interim report prepared by Dr. Manzoor A. Shah, Sr. Assistant Professor, Deptt. of Botany, University of Kashmir and Prof. D.P.Zutshi, Former Emeritus Professor, JNU, New Delhi.

The Scientific data regarding the water quality of Dal-Nigeen lake for the year 2016-17 (Sept.2016 to Aug. 2017) was also provided to the members for their perusal and interpretation. The members were also provided with the data collected by NEERI for the year 2014 and SPCB for the months of August and September 2017. It was resolved that the R&M scientists will prepare a note on the papers published on Dal water chemistry by scientists from other organizations / institutions and submit the same to the SAC at the next meeting.


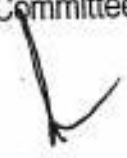
4. **Vegetation mapping:** The vegetation mapping for the summer season prepared by Dr. Manzoor Ahmed Shah, Sr. Assistant Professor, Deptt. of Botany, University of Kashmir, was provided to SAC members for their perusal. The members desired that instead of black and white the coloured copies of the maps annexed with the report



may be provided to them for its better interpretation. The Vice Chairman, LDA assured that the same will be provided in the next meeting.

5. **Portable Eco-sounder:** The Vice Chairman, LDA informed the committee members that representatives of "PAN INDIA Company" have reached Srinagar for "on spot demonstration" of Portable Eco-sounder fitted with Global Positioning System. The results of the experiment shall be shared with the SAC members in the 5<sup>th</sup> SAC meeting.
6. **Decline in the native species in fish:** The Vice Chairman, LDA apprised the SAC members that the Director, Fisheries agreed in the 12<sup>th</sup> Monitoring Committee Meeting that there has been decline in the native fish species in the Dal lake and in this context he will submit a detailed affidavit before the Hon'ble High Court.
7. **Vision Document:** The Vice Chairman, LDA brought to the notice of the SAC members the decision of 12<sup>th</sup> Monitoring Committee meeting wherein it has been decided that in order to incorporate the suggestions of SAC members, the TOR of allotted work for the vision document will be expanded. During the discussions on the subject some members wanted to know the details of TOR provided to Dr. A.A.Kazmi for framing the Vision Document. The Vice Chairman, LDA assured that a copy of TOR will be provided to all the members within a week's time.

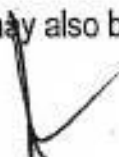
The Learned Amicus Curie while addressing the meeting asked the members to recommend both short and long term measures which can prove beneficial for the conservation of Dal lake and can help in changing the perception of common man. He further added that the decisions taken by the SAC members are taken seriously and thoroughly discussed by the Monitoring Committee. He informed the meeting that a



strong legislation for preservation of all water bodies in the state of J&K is ready to be tabled before the state legislature for approval.

**Decisions on the agenda points of the 4<sup>th</sup> SAC meeting.**

**A. Deweeding and uprooting of lily pads:** While initiating the discussion on the uprooting of lily pads, the Vice Chairman informed that the water expanse of lake covered by lily earlier supposed to be 4sq.km is now estimated as 5 sq.km. He informed that besides machines 400-500 skilled labourers have been pressed into service and for the first time payment is being made by DBT mode. However, it has been observed that the progress achieved by manual extracting is slow and not as was expected before the start of operation. The committee was further informed that 1.5 sq.km area has been cleared manually since 07.08.2017 as cutting and uprooting the rhizomes is a cumbersome process which reduces the net progress. Since the working hours in lake per day are less, therefore, longer time will be required to achieve the set target. Participating in the discussion Prof. Manzoor Ahmed Shah, expressed his fear that if the rhizomes of lily are not totally uprooted there can be huge burst of these patches in the coming March-April which can prove deadly for the lake. The Vice Chairman, LDA assured the members that Authority will start the process of extracting rhizomes in April itself next year which can prove beneficial in stopping its spread. He added that the extraction process needs to be aided mechanically as well achieving the progress and therefore, new machines have to be procured which can later on be put to use in other lakes like Gilsar, Khushalsar and Anchar. Dr. D.P.Zutshi, Former Emeritus Professor, JNU, New Delhi opined that mechanical harvesting of lily patches will result in starving the stem and roots from getting food and will ultimately result in its decay besides the use of biotechnology for its control may also be explored.





**Decision:** It was decided that in addition to harvesting the option of biological control will also be explored and Dr. Massod-UI-Hassan Balkhi, Dean Fisheries, SKAUST-K assured that he will provide the details of a Bangalore based Institute dealing in biotechnology to LDA in a couple of days time. Further, one patch where lily has been removed mechanically will be earmarked to monitor its re-growth.


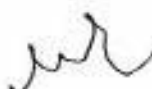
**B. Occurrence and infestation of Azolla in the lake:** Initiating the discussion on the topic Dr. Farooq Ahmed Lone, Associate Prof. Division of Environmental Science, SKAUST-K informed that as per the Status Paper on Azolla prepared in collaboration with LDA, the main source of this water fern is the hinterlands. Therefore, in addition to controlling its spread in the lake, effective steps have to be taken to stop its flow from hinterland. Dr. Massod-ul-Hassan Balkhi, Dean Fisheries informed the SAC members that two years case study regarding Azolla is available with SKAUST-K and will be provided to LDA for reference.

**Decision:** In respect of the log booms and mesh erected by LDA at various entry points of inflow channels for stopping the flow of Azolla into lake, it was decided that the pore size of these meshes has to be smaller. The area inside the lake particularly near Clearmount House boat needs to be immediately cleared off Azolla.

**C. Algal blooms in the Dal lake:** The members expressed their serious concern over the expanse of Microcystis bloom towards the open waters which they later on also observed during their visit to the lake.

**Decision:** The vigorous dewatering operation going on in the bloom affected areas should be carried out in a controlled manner.

**D. Effect of Bio-remediation:** Mr. T. Sampath Kumar, Proprietor Naulgi Nanobiotech gave a powerpoint presentation about the technology and its working. Initiating the

discussion Dr. Massod-UI-Hassan Balkhi, Dean Fisheries, SKAUST-K disagreed with the argument that Naulgi intervention which is supposed to increase the population of planktons will increase food for the fish and thus enhance the fish population. He stressed that none of the fish species in Kashmir exclusively feed on zooplankton and hence increased production of zooplanktons, may not be a viable option for managing of macrophytes / lily patches. He further suggested the need of selective deweeding of the lake pointing out that macrophytes play an important role in the fish production in the lake. On enquiry the Chairman was informed the macrophyte density in the experimental pond was not recorded by the Naulgi people prior to start of trial. The Chairman stressed the need of monitoring all important limnological features of the experimental as well as reference pond on regular basis so as to assess the impact of intervention.

**Decision:** It was decided that the effect of Naulgi dosing in the experimental pond shall continuously be monitored for another two months.

**E. Demarcation of lake boundary by way of constructing Western Foreshore**

**Road:** The Vice Chairman informed the committee members that LDA proposes to construct Foreshore Road for demarcating the lake boundary as it has a dual advantage of providing an alternate route for entering the city as well as preventing the encroachment from the western side of the lake. He informed the members that the new alignment of WFR proposed by LDA will only involve marginal land acquisitions which is affordable. During discussions on the subject, the issue of proposed four laneing of Boulevard was also dwelt upon at length by SAC members including its impact on the fragile lake ecology because such a mammoth activity on the fringes of the lake is bound to have an ecological fall out.

**Decision:** The committee advised that a detailed Environmental Impact Assessment Study of WFR needs to be carried out along with the four laneing

(elevated expressway) of Boulevard before any execution work is initiated. It was decided that the LDA should approach Centre of Research For Development (CORD), for the purpose, so that EIA of both projects is carried out immediately, since CORD has NABET accreditation.

The meeting ended with the Chairman SAC, Dr. A.R.Yousuf expressing his thanks to all the members for attending the meeting and having fruitful discussions.

After the meeting the members visited the lake to assess the progress achieved in lily extraction and also to examine the extent of lake area affected by the spread of Microcystis bloom.

Sd/=  
(Dr. A. H. Shah)  
Vice Chairman  
Lakes & Waterways Dev. Authority  
(Convener, SAC)

Sd/=  
(Dr.A.R.Yousuf)  
Chairman, J&K

No.: R&M/LDA/399-410  
Copy to:

Dated: 16-11-2017

1. Dr.A.R.Yousuf, Ex-Member, GreenTribunal, GOI.
2. Dr.D.P.Zutshi, Former Professor, JNU, New Delhi.
3. Dr.S.Kaul, Ex-Advisor, MoEF, GOI.
4. Dr.Ashok Pandit, Aquatic Ecologist, Kashmir University.
5. Dr.G.Balachandra, Trustee and Ex-Director, Ashoka Trust for Research in Ecology and Environment, Bangalore.
6. Dr.Pinki Sar, Associate Professor, Deptt. of Biotechnology, IIT Kharagpur.
7. Dr. Manzoor Ahmed Shah, Sr. Asstt. Professor, Deptt. of Botany, Kashmir University.
8. Dr. Shakeel Ramshoo, HOD, Deptt. of Earth Science, Kashmir University.
9. Dr. Mohd. Sultan Bhat, Prof. Deptt. of Geography and Regional Development, Kashmir University.
10. Dr. Farooq Ahmed Lone, Associate Prof. Deptt. of Environmental Science, SKAUST, Srinagar.
11. Shri. Mohd. Shafi Bacha, Retd. Chief Wildlife Warden, Srinagar.
12. Dr.Tapas Nandi, Sr. Scientist, NEERI, Nagpur.

  
Secretary  
Lakes and Waterways Development Authority,  
Srinagar.