

POLICY CONSULTATION ON HIMALAYAN WETLANDS

PROCEEDINGS REPORT

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LEH, JAMMU AND KASHMIR



विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY





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Setting the Context

Wetlands are among the most productive ecosystems on Earth, and provide many important benefits to all life forms on the planet. Wetlands are vulnerable to both human use and climate-change related impacts. However, there are significant gaps in our knowledge about the implications of climate change on wetlands, and the impact of these changes on biodiversity. Although wetlands play a vital role in mitigating some of the impacts of climate change, for instance, by buffering hydrological fluctuations, we are yet to fully comprehend the varied nuances of these dynamics.

The Himalayas, with its varying topographies and climatic regimes, support unique and diverse wetland habitats across a range of altitudes. High-altitude lakes, located 3000 metres above mean sea level, play an important role as wildlife habitats for many rare and endemic species, and support livelihoods through the provision of pasture. In addition, many of these wetlands are sacred sites for the communities who live in the region. These wetlands face pressures on account of unregulated tourism, inefficient garbage disposal, as well as intensification of grazing.

The Policy Consultation on Himalayan Wetlands held in Leh, Ladakh, Jammu & Kashmir on August 29, 2018, is the first in a series of site-specific policy consultations planned across the country in critical wetland and grassland habitats, organized by the Ashoka Trust for Research in Ecology and the Environment (ATREE), Bengaluru, with the support of the Department of Science & Technology, Government of India. The purpose of these consultations is to review existing management issues of these habitats, prioritise issues for conservation and management, and identify policy gaps and blocks facing the conservation and sustainable use of these landscapes. Attention will be paid to community-based measures to address vulnerability due to climate change, as well as the perspectives of local government departments and bodies.

Although the importance and fragility of mountain wetlands have been discussed previously at national and international fora, it is envisaged that a focussed consultation that would lead to a policy-action map would be an impactful contribution. These real time, national, state, and site-specific policy-action recommendations shall be placed before high-level national policymakers in New Delhi in order that it leads to more effective policies and strategies being put in place for the protection, conservation, and sustainable use of wetland and grassland landscapes across the country. This first Policy Consultation in Leh was organized in partnership with WWF-India.

Session I: Introduction



Dr Pankaj Chandan, WWF-India welcomed the delegates to the Policy Consultation on Himalayan Wetlands, and informed the gathering of some changes to the programme on account of the visit of a Union Minister to the district. As a result of this unforeseen event, the Hon'ble Chief Executive Councillor, Ladakh Autonomous Hill Development Council, Leh (LAHDC), would be joining the gathering later in the day than planned. Dr Chandan proceeded to request the delegates for a round of introductions before moving forward with the agenda.



Dr Sarala Khaling, ATREE began the proceedings by setting the context for the policy consultation to follow. Dr Khaling provided an overview of the consultation, and located it within a series of policy consultations being undertaken in wetlands and other critical habitats across the country by ATREE, with the support of the Department of Science & Technology, Government of India (DST).

The consultation in Leh builds on the work ATREE has previously undertaken in Dal Lake, Jammu & Kashmir, and also on the years of work that WWF-India has done on high-altitude wetlands in the region. ATREE and WWF-India is therefore jointly steering this first policy consultation on account of their shared interests and efforts. Climate change is a key component of these consultations, especially in relation to its impacts on these critical habitats.

The purpose of the consultation will be to collate the knowledge that we have on the subject, drawing on the experiences of the diverse stakeholders gathered, including government agencies, practitioners, community members, and tour operators. The consultation will also discuss the various policy issues pertaining to wetlands, strategically identify policy actors and actions, and potentially advance policy solutions that can be initiated at a local level. Dr Khaling also highlighted that the outcomes of the Leh consultation would feed into a larger policy deliberation at a national level, before national-level policymakers. Therefore she urged all the delegates to participate in earnest as their efforts would be valuable contributions towards influencing policy relating to wetlands.



Mr Suresh Babu, WWF-India, thanked ATREE for taking the lead to organize the policy consultation and pointed out the timeliness of the event given that wetlands are a neglected ecosystem, across the country. Himalayan wetlands are hardly discussed in Delhi, and receive very little policy attention or investment. Mr Babu noted that the discussions for the day would be tailored towards issues that can be taken up and turned into actionable agenda.

WWF-India began its work on high-altitude wetlands in 2000, and many of the delegates gathered have been partners in its initiatives. There have been many workshops conducted, and many recommendations put forward, but implementation has been lagging behind, except for some bits and pieces. This policy consultation is different in that its focus is detailed discussion among the delegates, in order to draw on their shared experience of the region, and develop an actionable road-map for the conservation and sustainable management of wetlands.

Mr Babu drew attention to the tremendous spurt in tourism in the region, which has vast potential to strengthen the economy and livelihoods of people in Ladakh. What started with a few hundred thousand tourists, has now expanded to upwards of 2 lakhs and is likely to head in the direction of 3 lakhs in the current year. This is a great opportunity, which also carries a lot of risks. There have been examples from other regions where tourism has degraded the ecosystem to such an extent that it eventually killed the tourism industry. There are more positive examples, for instance from Sikkim, where a robust eco-tourism policy protected the ecosystem and supported a sustainable tourism industry. There are lessons to learn from these examples, which can be adapted to suit the needs of a region like Ladakh.

In 2009, WWF-India produced a report titled 'Voices of Change' which captured community voices around climate change. One gentleman noted that he has been witnessing a drastic decline in crows in his area owing to the changes in temperature that caused them to migrate to formerly cold regions. Another person pointed out that the thickness of snow has been decreasing, and it has been melting at a faster pace than earlier. Therefore, we know about these issues, yet we do not yet have an adaptation strategy in place. Mr Babu raised the question of whether we can together build such a strategy, and how we can make a beginning in this regard.

It is also important to be cognizant of national policy changes with regard to wetlands. The Wetland (Conservation and Management) Rules, 2010 was replaced by the Wetland (Conservation and Management) Rules, 2017. High-altitude wetlands no longer feature in the revised policy. In light of

this development, and given LAHDC's autonomous position, Mr Babu posited that we could explore whether a Ladakh-level wetland policy can be formulated.

Efforts were made to inventorize high-altitude wetlands in 2010. This needs to be brought up to date. Mr Babu posed a question to all the delegates whether they could pool together their resources to make a fresh stab at developing an inventory of wetlands, which could look at some of the changes that have occurred since 2010 and suggesting management interventions at a landscape-level, starting with a few priority wetlands.

Mr Babu pointed out that there is a lot of talk around the United Nations' Sustainable Development Goals (SDGs). In the case of the Ladakh region, the realization of the SDGs will considerably depend on the sustainable management of wetlands. Whether the issue in question relates to hunger, water management, or governance, wetlands hold the key to how SDGs will be achieved in the region. Since we are getting close to the later years of LAHDC's Ladakh Vision 2025, it raises the opportunity to re-visualize how we frame the development goals of the region, keeping in mind the importance of natural resources like wetlands. Mr Babu expressed the hope that the discussions during the day would not only feed into broader policies for wetlands, but also lead to the development of action-plans and programmes to address the implementation blocks that wetland policies currently face.



Ms Mridula Paul, ATREE took over to set out the objectives of the policy consultation and explain the structure for the day. Ms Paul pointed out that the meeting was a gathering of those who knew a lot about wetlands. Therefore there was little need to emphasize the various problems pertaining to wetlands. More important would be to focus on solutions, which was the key objective of the policy consultation.

The purpose of the gathering is to pool together the diverse threads of knowledge from varied perspectives, and work towards jointly evolving a strategy for the conservation and sustainable use of wetlands. For long-term change we need to talk about influencing policy. Policy change implies a change in behaviour. A new law, for instance, is a manifestation of change in behaviour. If there is a new law, and that is not being followed, there has effectively been no change in policy.

Ms Paul noted that change in policy can be effected through legislation, investment in existing programmes, change in practices, and changes in perceptions or attitudes. Yet through all this, we need to be realistic. It is rare to be able to directly change policy. At most, what is possible is to



contribute to a process of policy change that contains a number of actors, including government agencies, NGOs, research bodies, media, and those present at the consultation. Policy does not mean something taking place in Delhi. It can occur at a district-level, village-level, and at various other scales. She noted that the day's efforts are therefore to be focused on how this can be achieved.

Ms Paul referred to the tools that would be used to structure the day's discussion, i.e. Policy Actor Mapping and Outcome Mapping. These tools would be explained in detail during the course of the policy discussion when they would be used. The discussions would identify key policy actors, who would be the starting point for the discussions to ensue. Ms Paul clarified that 'policy actor' referred to any person or institution who has the potential to impact policy relating to the thematic area under discussion, i.e. high-altitude wetlands. The discussions would subsequently aim to identify behavioural changes needed on the part of these actors, while also making note of how the delegates gathered could contribute to bringing about such changes.

Dr Pankaj Chandan, WWF-India thanked the speakers who had led the introductory session of the policy consultation, and announced the start of the technical session.

Session II: Technical Session



Dr Jagdish Krishnaswamy, ATREE, began the technical session with his talk on climate and global change in the Himalayas. He noted that wetlands are influenced by a variety of stressors, of which climate change is only one. Global change includes many other aspects like land-use and land-cover change, nitrogen deposition, urbanization, and many other issues which also have an impact on wetlands. Long before climate change was acknowledged as a crisis, we knew that land-use and land-cover change was an important stressor on wetlands throughout the country, and this continues to be the case at a much more accelerated pace today.

Today there is a lot of uncertainty associated with the Indian monsoon. Since the 1950s, there has been a decline in the mean monsoon or the annual monsoon in some parts of the country. However, while the proportion of the rain that is falling during small and moderate rainfall events has been declining, the rain that is falling in the more intense rain events, for example more than 100 or 150 mm per day, has been showing an increase. What is occurring therefore is an intensification of the hydrological cycle.

One of the things that global warming has done is that it has increased the carrying capacity of the atmosphere for moisture. It has also accelerated the rates of evaporation. When these two factors work in conjunction it means that while the capacity of the atmosphere to hold water has increased, it can also dump this water in a very short period of time. The evidence for this is overwhelming, as seen in parts of the Himalayas and other parts of the world.

There is also a lot of uncertainty associated with changes in precipitation regimes. Some parts of the Himalayas are expected to receive higher levels of precipitation under future climate change. At the same time we have higher rates of warming, which means that the snow melt will be faster, glaciers will recede faster, etc. The likely outcome of these contrasting events is hard to predict for any specific set of wetlands. Therefore while we have some certainty regarding temperature, the lack of certainty we have regarding precipitation is something we must keep in mind when planning adaptation strategies. Additionally, the Himalayas are the most poorly gauged of all regions of India. In the last 15 or 20 years, due to improvements in satellite data, through which we are able to detect precipitable moisture, though not the actual rainfall received, we are beginning to capture some trends in the Himalayas.



There has been a lot of work done on high-altitude wetlands by WWF-India and others in the past, and much of their work has focussed on other stressors on wetlands, i.e. the non-climatic stressors. There is a good reason for this, for there is only so much anyone can do about climate change. At least at a local and regional scale, we are not in a position to do anything about climate change directly. What we can do, however, is focus on the other stressors, i.e. land-use and land-cover change, pollution, degradation, urbanization etc. Therefore while we acknowledge that climate change is a big phenomenon, and is likely to affect wetlands in many ways, the thrust of our focus on wetland policy should be directed towards non-climatic stressors. Doing so is likely to ameliorate climatic stressors, as they occur.

Across the Himalayas, studies have revealed that trees are showing signs of temperature-induced moisture stress. In such a scenario, there are two possible responses. The trees can shut down transpiration, which is a conservative response. The other response is that the tree takes a risk, and continues to keep photosynthesis active. The species that follow the latter approach recognize that if they shut down transpiration too often, it may lead to carbon starvation which can affect the tree's ability to reproduce and produce new foliage later in the season. We are still unclear where on this spectrum Himalayan trees fall. Going forward, understanding how Himalayan forests, especially those in the catchments of many of our wetlands, respond to these changes in moisture will be a priority.

Our knowledge relating to climate change is thus filled with complexities and uncertainties. It is very likely that under future climate and global change, wetland ecosystems are going to change. These changes may give rise to novel ecosystems. It could mean a changed wetland structure or changed vegetation structure. Adaptation to changing ecosystems is something that should be part of our policy strategy. We must prepare ourselves and communities to be able to adapt to this. In the process, we must look for opportunities, although we may currently see them only as challenges.

Dr Pankaj Chandan thanked Dr Krishnaswamy for his insightful talk, and opened the floor for a discussion. With Dr Krishnaswamy as the moderator, the delegates began the discussion addressing community-centric climate change adaptation strategies and how they can be integrated into management of mountain wetlands. Dr Krishnaswamy requested Dr Brij Gopal, Centre for Inland Waters in South Asia, to share his insights relating to the topic.



Dr Brij Gopal noted that the changes taking place in the catchments of wetlands, and changes to the vegetation will influence the adaptation strategies of the communities. In most places, communities are yet to adapt to the uncertainties, particularly in relation to precipitation. The changes in vegetation have not been intensively monitored either. Therefore we need to know a lot more about the changes that are happening before we can suggest community adaptation strategies.



Dr Krishnaswamy then requested Dr Adnan Abubakr, Sher-e-Kashmir University of Agricultural Sciences and Technology (SKUAST), to detail some instances of community-centric adaptation strategies being integrated into management. Dr Abubakr related some experiences of climate change in terms of the floods of September, 2014 and a number of incidences of cloudbursts and unprecedented rainfall in the Kashmir Valley. These events devastated vegetable cultivation of the floating gardens of the Dal Lake, as well as affected tourism, thereby having direct impacts on the livelihood of people.

In an effort to involve the community in adapting to these changes, a livelihood programme was instituted with the support of DST, through which Joint Liability Groups were established. Solar driers were provided to each of these groups which were engaged in fishing. Using these driers, the fish that was harvested by the group could be preserved for the winter months when there is shortage of certain food items. In this manner, livelihood improvement programmes can be built into climate change adaptation strategies.

Dr Abubakr also noted that there has been a rise in water temperature in lakes, which can be attributed to climate change. Another effect of climate change is the increase in algal blooms, many of which release toxins into the lake. People collect vegetation from the lake as fodder, and there have been instances of animals falling sick on this account. In Wular Lake there is a change in the oxygen regime of the water, which is affecting the population of carp in the lake.



These are some impacts of climate change that affect the livelihood of people living around wetlands.

Dr Krishnaswamy then requested Mr Stanzin Chonjar, Ladakh Ecological Development Group (LEDeG), to relate his experience of how different agencies can contribute to fostering climate-change adaptation among communities. Mr



Chonjar related an account of fodder houses that were established in Nubra Valley. He characterized this as a successful community-based project because it involved the community taking ownership, rather than be recipients of plans made elsewhere. The community needs to be involved in the formulation of the adaptation plans, as well as the execution. We need to stop seeing them as “beneficiaries”. They should instead be the promoters of these plans.

Dr Jagdish Krishnaswamy posed a question to Dr Brij Gopal requesting him to share his views on the scope for adaptation, given the kind of changes that are currently occurring in the Himlayan context. Dr Brij Gopal noted that the resources on which communities depend, in and around wetlands, are very limited in the context of Ladakh. This is one of the constraints to adaptation. There is little cultivation in the Ladakh region. Pashmina goats have been introduced here. But it is largely managed by government institutions. If there is variability in terms of precipitation or increase in temperature, it needs to be seen how these translate to changes to the grazing areas of pashmina goats or the location of cultivation. Further, much of the wetland area is saline. The freshwater wetland area has not been explored much. Discussions around adaption therefore have to be located within this context.

Dr Brij Gopal also noted that our knowledge of high-altitude wetlands is based on studies from the past 20 years or so. There is a lot that we are yet to fully comprehend. Across Tsomoriri Lake there are a pair of lakes which are separated only by a narrow strip of land. One of these lakes contains freshwater, while the other is entirely saline. In Tsokar, half the basin is freshwater, while half is saline. We are yet to understand how this phenomenon occurs, and the opportunities there may be for use by communities. It would seem that these issues are not a priority for any government agency.



Mr Rigzin Spalbar, Integrated Mountain Initiative and former Chief Executive Councillor, LAHDC requested the permission of the Moderator to contribute to the ongoing discussion. Mr Spalbar spoke about the extreme pressures on wetlands in Ladakh. He related three major issues primarily responsible for the degradation of these wetlands. The first being the large-scale presence of the Armed forces, the second being pollution on account of tourism, and the third being climate change.

While Pangong is a lake located along the international border, other lakes like Tsomoriri are far removed from border areas. Some years ago, the Armed forces established a camp in Tsomoriri, even bringing in boats for use on the lake. At the time, Mr Spalbar, who was heading the LAHDC



raised an objection to this before the Corps Commander who conveyed that the facilities had been established for training purposes. Eventually LAHDC was able to put a stop to these activities, but in a few years the Army had taken over a large extent of land across the lake. It is difficult for an autonomous council, such as LAHDC, to stand up to the might of the Army. Mr Spalbar pointed out that the LAHDC has limited powers. It has no legislative authority, and can only draft policies and regulations. He noted that environmental organizations should band together to raise these issues before the Armed forces.

Mr Spalbar then referred to the tremendous increase in plastic pollution due to the unprecedented growth in tourists visiting wetlands. He related from personal experience how, over the course of three years, lakes like Tsomoriri have been filled with plastic waste. The tourists in Ladakh now outnumber the local population. Most of them, particularly domestic tourists, are unmindful of the environment and the consequences of the waste they generate.

In many expert discussions around the topic of wetlands, much effort is spent deliberating the lifestyles and attitudes of those residing around the wetlands. Mr Spalbar noted that the degradation of wetlands cannot be attributed to pastoralists or other locals. The life modes of the locals have ensured that the wetlands have survived for thousands of years. Current degradation is a result of multiple external factors. In terms of adaptation strategies, we are only looking at what the locals ought to do. We need to shift this discussion to changing what others ought to be doing. We need to be talking about changing the actions of the tourists, and the Armed forces.

Mr Spalbar also pointed out that since this is a policy consultation, it is importance to raise the issue that there is no dearth of policies. It is at the implementation stage that most policies fail. This is a problem we need to first address. We need to examine the causes behind the failure to implement policies before we discuss the formulation of more policies. LAHDC alone cannot address these issues. It requires multiple actors to work collectively.

Dr Jagdish Krishnaswamy directed the attention of the gathering to similar issues of degradation that had faced Tsomgo Lake in Sikkim. Dr Sarala Khaling added that the communities and authorities of Tsomgo Lake managed to turn around its development model, and it is now a success story of how a lake can serve both conservation and tourism in a sustainable manner. Due to certain unfortunate events, the representative from WWF-India, Sikkim could not be present to give her talk on the lessons Ladakh can learn from the remarkable changes to the management of Tsomgo Lake. Dr Pankaj Chandan related from his experience of working in Tsomgo that it was a collaborative effort between the government, tour operators, and communities that lead to its success. The new model

also ensured that the community-managed lake conservation committees collect significant revenues from the Lake.

Dr Brij Gopal raised the question of whether camps around Tsomoriri could be moved a kilometre upstream. Mr Spalbar responded that it was not the locals or tour operators who had set up those camps along the banks, but the Army, and reiterated that pressure needs to be put on the Army to withdraw from these sensitive wetland areas where there is no threat to national security. Dr Jagdish Krishnaswamy noted that there have been instances in the past where the impacts of their activities in ecologically sensitive areas have been brought to the notice of the Army, who have responded positively. There may be a case for making a similar attempt with regard to the Army's presence around Ladakh's wetlands.



Mr Lobzang Visuddha, Wildlife Conservation and Birds Club of Ladakh related the instance of the establishment of Army training camps in the lake basin of Tsokar over the course of the past 2 years. Many NGOs have approached the Wildlife Department to request their assistance in stopping the training camp in such a sensitive area. These camps have an impact on the wildlife as well. Birdwatchers report that the Little owl is no longer to be seen in the area. He

noted that it would require the banding together of small and large organizations to put pressure on powerful agencies that are affecting Ladakh's wetlands.



Mr Tseten Angchuk, President of All Ladakh Tour Operators Association (ALTOA) noted that despite its large membership base, ALTOA is not a law-enforcing agency. They contribute through their efforts to train tourist guides, drivers, and other members of the tourism industry. The number of wildlife tourists coming to Ladakh is increasing every year.

At the same time there are many domestic tourists who come in their expensive cars and drive right up to the edge of wetlands like Pangong. Their vehicles leach automobile oils into the waters of the lakes. Motorbike riders take their bikes on dirt roads and off-road routes around Tsomoriri, Tsokar, and other lakes. Their activities disturb wildlife, encroach on their nesting areas, and interrupt their mating seasons. Mr Angchuk pointed out that the government needs to step in with a concrete action plan for the conservation of wetlands.



With these observations, the technical session and the discussions around it drew to a close. Dr Pankaj Chandan announced the arrival of the dignitaries who would formally inaugurate the deliberations.



Session III: Inaugural Session

Dr Pankaj Chandan welcomed Mr Dorjay Motup, Hon'ble Chief Executive Councillor, LAHDC, for partaking in the session as an expression of his support for the deliberations underway at the Policy Consultation. He also welcomed Dr OP Chaurasia, Director of the Defence Institute of High Altitude Research, Leh and requested him to address the gathering.

Dr Chaurasia noted the efforts of the Institute to document the various plant species in high-altitude areas. Medicinal plants have been a particular area of focus. Additionally the Institute has done extensive research on cold-arid agro technologies and cultivation in high-altitude areas which has contributed to the food security of the Armed forces in strategic regions like Ladakh. Dr Chaurasia stated that seabuckthorn has great potential to contribute to the economy of Ladakh, and efforts are underway to develop it further.

Dr Chandan revealed to the gathering that the Hon'ble CEC hails from the Changthang Plateau of Ladakh, and is therefore keenly aware of the issues facing wetlands in the area. He requested the Hon'ble CEC's support for the outcomes of the Policy Consultation, and sought the views of the Hon'ble CEC on how the delegates could in turn support the LAHDC in their efforts to tackle the issues facing Ladakh's wetlands.



Mr Dorjay Motup, Hon'ble CEC began his address by welcoming the gathering on behalf of LAHDC, and thanked them for participating in this important discussion. Mr Motup expressed his views that the presence of tourists in Ladakh has been good for the region, since it opened to tourism in 1974. He also remarked on the good work by the tour operators of the region, who are appreciated around the world. There are a lot of benefits to tourism, and one must not maintain a view that all tourists present a negative prospect.

The Hon'ble CEC admitted that the government has not managed tourism as effectively as it ought to have. The reason behind this, he noted, was that the administration could not have predicted the huge rise in the number of tourists, who now far exceed the local population. Yet it must be borne in mind that tourists represent an opportunity to enhance the livelihood of the people of Ladakh. At the same time, we need to take seriously some of the fallouts of tourism and prepare ourselves to mitigate it.

Mr Motup referred to life before the roads that connected Ladakh with other parts of the state and the country opened. There were very few creature comforts available, and people had access only to



basic consumer goods. Everyone had their own patch of land, and all food was locally produced. Every house harvested their own barley, and extracted their own oil for use. Although they were not formally educated, people knew when to harvest and sow, and how to live in harmony with the seasons.

Now many people have moved to other industries, so much so that Ladakhis are losing touch with agriculture. The opening of the roads to Ladakh has brought in chemical fertilizers, and introduced unsustainable methods of agriculture to the region. It has been the endeavour of LAHDC to promote organic agriculture in every village through dedicated schemes. The LAHDC is working towards declaring Leh an organic district. A start has already been made by declaring some village as organic zones. Efforts have been taken to slowly reduce dependence on chemical fertilizers. Mr Motup noted that by next year there will be a total ban on chemical fertilizers in Leh, even if that means agriculture faces some issues initially. Sustainable alternatives are widely available in the form of the manure produced by the animals maintained by pastoralist communities in Changthang area. This can be distributed to farmers as per their requirement.

With the support of the *Pradhan Mantri Krishi Sinchayee Yojana*, efforts have been taken to establish compost pits and other inputs for organic agriculture. In this way LAHDC hopes to bring agriculture back to the mainstream in the region. This does not mean the focus is on large holdings. The aim is to encourage organic agriculture in small parcels of lands, or whatever extent of land is available with a family. If every family has agriculture to fall back on, the question of unemployment vanishes. People can even employ others to do their farming, and get involved in the marketing and sales of their produce.

The people of Ladakh need to get back in touch with the sustainable lifestyles they once used to lead, where they maintained a healthy respect for the natural resources on which they depended. Only a few decades ago, people walked long distances to water sources to collect water according to their need. Now it comes out of a tap and so it is thoughtlessly wasted. Respect for these resources needs to be cultivated again.

Mr Motup urged the delegates to identify actionable plans that can be put to work. He related some instances of wetland conservation work already put in place by LAHDC in terms of restrictions on business establishments within 100 metres of lakes, and also creating stop-points to ensure that vehicular traffic does not reach the banks of lakes. Provision for transportation by yaks, horses, or other means is currently being considered to cover the last leg of tourist travel to wetland areas. He assured the delegates that LAHDC was seized of the importance of the matter, and would ensure the



conservation of wetlands receive utmost priority. The Hon'ble CEC concluded his address by once again thanking the delegates for their efforts in respect of Ladakh's wetlands.

The session closed with a vote of thanks proposed by Dr Aravind Madhyastha, ATREE who expressed gratitude to the Hon'ble CEC, LAHDC and other dignitaries gathered. He also conveyed his gratitude to the Department of Science & Technology, Government of India for providing the support to conduct the event.



Participants at the Policy Consultation



Session IV: Policy Discussion

The policy discussion began with the delegates dividing into four groups. Although the consultation was planned keeping in mind mid and high-altitude wetlands in Jammu & Kashmir, with a special focus on Ladakh, during the course of the policy discussions, the focus of the deliberations centred around the wetlands of Ladakh. During this in-depth group discussion, the two biggest problems identified in respect of the conservation and sustainable use of high-altitude wetlands in Ladakh were the challenges posed by defence installations and the unprecedented rise in tourism, with its attendant problems.

The discussants noted that while the presence of the Army around wetlands near international borders are critical and necessary in the interest of national security, there are a number of Army installations located around wetlands that are far removed from the border that pose a number of threats to wetlands and wetland biodiversity. A major issue is that these installations are not scientifically sited, and factors relating to wetland hydrology and zone of influence are not paid heed to. The first step in addressing this would be to take the Army into confidence and convey the importance of wetland conservation to them. This could be done through interactions with the General Officer Commanding (GOC) located in Leh. Additionally, representations could be made to the Ministry of Defence, especially the Ecology Cell, before which a suggestion could be placed that a 'Green Brigade' be established in Ladakh, similar to efforts in Uttarakhand. Alternatively, the issue could also be raised before the relevant agencies of the Ramsar Convention.

The next step would be to conduct a study to document the responses or influence of military activity on high-altitude wetlands in Ladakh, a task that can be collaboratively undertaken by research institutions, universities, and NGOs working in the region. Simultaneously, there needs to be an undertaking to document and demarcate key wetland areas and their zones of influence. Such an initiative would need to be led by the Wildlife Department of Ladakh. WWF offered to support the Wildlife Department in this endeavour, which is estimated to require about 2 years to complete, given that the wetlands would need to be studied over a range of seasons.

The second challenge posed by defence establishments around wetlands is the prevalence of free-ranging dogs that are seemingly encouraged by defence personnel. These dogs pose a direct threat to wetland biodiversity, particularly to birds that are resident or migratory. The nature of this problem is such that while all government agencies are aware of it, there is little concerted action to



find solutions. A preliminary study by the Snow Leopard Conservancy (SLC) found that there are about 3500 free-ranging dogs in the Changthang area. A beginning can be made by running a media campaign, using radio and print, to highlight the problem and to build a consensus to manage the dog population through various methods. The exact nature and content of the campaign will need to be worked out, and ATREE can be a knowledge partner for the Ladakh Ecological Development Group (LEDeG) which agreed to lead the campaign over the course of the winter months of 2018, with the involvement of the All Ladakh Tour Operators Association (ALTOA). Getting the support of spiritual leaders who head the monasteries around wetlands is likely to strengthen the campaign.

Tourism poses a significant challenge to wetland conservation and sustainable use. The population of Ladakh is 2.74 lakhs. It is estimated that in 2018 the population doubled during the tourist season, a large proportion of which is concentrated around high-altitude wetlands as they are popular tourist destinations. The presence of tourists brings with it pollution, and there is a large-scale increase in the prevalence of plastic waste in these areas. Additionally, motorbike riders are known to ride on off-road routes that bring them within close proximity of sensitive wetlands areas, in complete disregard of the ecology of the area.

There is currently an Eco-Tourism Policy document under consideration before the Ladakh Autonomous Hill Development Council (LAHDC). However this has not been ratified for the past 4 years, and is currently not operational. There is effectively no tourism policy in place to address the range of challenges posed by the large number of tourists visiting Ladakh. While a state-level policy would provide a broad framework, it would be necessary to develop an operational tourism policy for Ladakh. A fundamental component of wetland conservation and sustainable use would therefore be putting in a place an eco-tourism policy, which can be framed at the regional-level and that can subsequently receive authorization from the state government.

Sikkim has been successful in framing an eco-tourism policy, particularly in relation to Tsomgo Lake. Lessons from this initiative can be used to frame an effective eco-tourism policy for the wetlands of Ladakh. The Tourism Department could be the lead agency for this, supported by ALTOA, and NGOs like the Nature Conservation Foundation (NCF) and WWF-India. Exchange visits could be planned to Sikkim to draw lessons.

Developing an eco-tourism policy would require the support of LAHDC. Further, since many of the wetlands are located in designated wildlife areas, the involvement of the Wildlife Department would also be crucial. In addition to developing a tourism policy, Wetland Management Plans need to be developed under the Wetlands (Conservation & Management) Rules, 2017, starting with 3 priority



wetlands. WWF-India proposed taking the lead in supporting these developments in a participatory manner, beginning with Tsokar Lake in 2018. The proposed Wetland Management Plan could detail areas that are high priority for conservation, and where tourism activities will not be permitted.

LAHDC has developed a Ladakh Vision Document (2025). In light of the renewed understanding of the importance of the wetlands of Ladakh, it would be helpful to review this document in collaboration with various line departments, the Army, and NGOs to ensure that the conservation and sustainable management of wetlands find a place in the document. Additionally LAHDC's Agriculture Policy is in its initial stages of formulation. SLC undertook to organize a workshop that could feed into the Agriculture Policy and provide inputs that would ensure that the document is cognizant of wetland conservation and sustainable management.

An additional issue that was raised was the role of the pastoral community. They are key policy actors who are not usually included in policy deliberations relating to high-altitude wetlands. Given that many of the above recommendations require a range of policy deliberations around high-altitude wetlands, it would be appropriate to ensure that these communities are also involved in this process. NGOs and CSOs can create pressure groups, drawing strength from Panchayati Raj institutions, to create policy consultation platforms that involve pastoralists. Awareness, advocacy, and sensitization programmes are necessary, particularly targeting local government, religious bodies, and the media to create a more inclusive policy environment. Organizations such as SLC, ALTOA, WWF-India, and LEDeG agreed to collaborate in these efforts.

Session V: Conclusion



The session began with Dr Siddhartha Krishnan's presentation on a collaborative interdisciplinary study done by ATREE and the University of Kashmir, at Dal Lake, Srinagar, in 2013. Dr Krishnan began by drawing attention to the policy implications of the study "Strategy and Action Plan to Strengthen the Ecological Integrity of the Dal Lake". As academicians, while it is important to put forth knowledge to policy makers, one wonders how to engage with policy makers, as academicians often feel that policy makers tend to ignore reports and data presented to them. To provide context about this issue, Dr Krishnan mentioned a prominent journal, "Policy and Politics", which very recently published a special issue about how to communicate science and social science to policy makers.

Since 2013, millions of tourists have visited Dal Lake as well as other high elevation wetlands in Ladakh and have generated millions in revenue and profits. However, they have also passively polluted the lakes. Meanwhile, there has been flooding due to climate change, such as from glacial bursts. The policy circles now comprise of conservationists, development actors and conservation NGOs. They, as policy actors, wonder why bureaucrats such as IAS officers, IFS officers and elected representatives don't effectively engage with the policy actors' efforts to translate science and social science into policy. Policy scholars have also reflected upon these challenges, such as in the special issue of the journal "Policy and Politics".

Dr Krishnan then introduced the Dal Lake study, which was a one-year project supported by the United Nations Development Program (UNDP) between ATREE and the University of Kashmir. The major problem with the management of Dal Lake was that a piecemeal approach was followed through the partial implementation of management plans. The solution was an action plan based on an interdisciplinary study. Rapid ecological and social assessments were used. He then emphasized that policy scholars often criticize scientists and social scientists for using a lot of jargon and obfuscation, which makes it difficult for others to understand reports. To aid better clarity and communication across public policy, scientific and social scientific prose must be replaced with accessible democratic language.

There is a lot of buzz among conservationists about evidence-based policy-making. The stress is on rational policy making which privileges scientific knowledge and evidence. However, policy making is



a complex process and is often driven by cognitive bias – when too much information is presented, policy makers tend to use only what they can comprehend. Sometimes their decisions are based on intuitions, regardless of how much information or evidence is presented. Hence, instead of bombarding policy makers with evidence to reduce uncertainty, we must reduce ambiguity about how a problem is approached, as well as present strategic solutions or recommendations.

Another point made by Dr Krishnan was that policy scholars often point towards knowledge and empathy fallacy. This means that policy makers neither require universal acceptance of evidence (knowledge fallacy), nor can policy actors be presumed to rely on human forms of empathy (empathy fallacy). There needs to be a balance between the knowledge fallacy and empathy fallacy. To bring about this point, Dr Krishnan narrated the results of the Dal Lake study in three ways – a very technical and factual way, a very emotional narration and a mix of facts and emotion.

An excerpt of the first (technical) narrative was – “We measured outflow, flow quantity and estimated pH, conductivity, COD, FC and ammonia. We administered semi-structured questionnaires using stratified random sampling. According to 72% of the lake community, there is significant decrease in native fish and bird communities. More than 50% of the respondents felt that pollution is a major factor that influences the invasion of microphytes.”

Similarly, an excerpt of the second (emotional) narrative was – “Despite several decades of research and the crores of rupees spent on addressing the iconic Dal’s degradation, it is today a pale shadow of what it was. Our interdisciplinary research reveals that the lake, its fish, its birds and people are suffering.”

Lastly, an excerpt of the third (mix of facts and feelings) narrative was – “The Lake is today polluted, silted and shrinking. In spite of several decades of research and the crores of rupees spent on addressing the degradation of the iconic Dal Lake, it is today a pale shadow of what it was. We believe piecemeal, disciplinary approaches and partial implementation of management plans have done little to address the problem of pollution, siltation, and loss of biodiversity. If the lake, which supports the livelihood of almost 30% of the population of Srinagar is not to die, a new action plan is called for.”

Dr Krishnan concluded by saying that although it is important to map policy actors, it is also very crucial to learn how to interact with them.

The session ended with an overview of the day by Ms Mridula Paul and Mr Suresh Babu. Ms Paul mentioned that it is important to create a community among those present, to be in touch and figure



out how to establish partnerships to take forward the action points that emerged in the earlier session. Mr Babu also reiterated the need for coming together within a month and begin individual advocacy with the policy actors brought up in the prior discussions. The immediate plan of action was to meet representatives from the Armed Forces stationed at Ladakh (the General Officer Commanding) and the Wildlife Department the following day.



Annex I: Participants

| No | Name | Organization | Email ID | Phone |
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Annex II: Policy Actor Outcome Mapping

Group A

Members: Ajay Bijoor (NCF), Dr Aijaz Ahmad Qureshi (Islamic University of Science and Technology), Dr Siddhartha Krishnan (ATREE), Dr Adnan Abubakr (SKUAST-K), Tsetan-Dolma (Ladakh Family Tour and Travel Agency), Rinchen (WWF),

Facilitator: Rubin Sagar (ATREE)

| Policy Actor | Current Action | Proposed Action | Tools for change | Responsible Actors | Timelines |
|--|--|---|--|---|---|
| Ladakh Autonomous Hill Development Council (LAHDC) | Limited/Inadequate powers for implementing policies to control the adverse impacts of tourism and the army | Conservation of wetlands in consultation with all stakeholders including the army | Developing a roadmap to initiate conservation of Ladakh wetlands. Identify personnel to prepare the roadmap (such as a committee) | NGOs such as ATREE, WWF, NCF, ALTOA, members from the community - to form a committee | Before the beginning of the next tourist season (March, 2019) |
| District Administration - Deputy Commissioner | Implementation of plans by LAHDC and the govt. and the state tourism policy | Improved regulation and implementing powers especially with respect to the Army. Cater to the current number of tourists or reduce to a manageable level to maintain the quality of lakes and surrounding areas. | Personnel to review the mission, vision and mandates of LAHDC and identify limitations. Going through current state policies relevant to tourism and suggesting revision. Metrics to dictate future policies to manage tourism | Same committee created must bring forth findings to the DC. NGOs and academicians to consult with the relevant govt. departments to suggest changes to existing policies and prepare new policies. | 6 months (March, 2019) |



| | | | | | |
|---|--|--|--|---|-----------------------------------|
| | | | (such as carrying capacity) | | |
| Armed Forces of Ladakh | Encroachment into the lakes. Unreasonable occupation near and along the lakes boundaries. | Relocation from lakes (where unrequired, such as inland lakes far from the border) and participate in conservation | Consultation and engagement with the Army strategically (possibly in a top-down approach). Capacity building where required to understand concepts of conservation, climate change and high altitude wetland management. | Suggesting the formation of a "Green Brigade" similar to other regions of India. Strategic involvement of personnel from the Ministry of Defence for long term action. Involving the Ecology Cell of the Indian Army. | 8-12 months |
| Research Institutions (NGO's, universities) | Lack of or limited interdisciplinary research in the Ladakh area. | Develop a Strategic Action Plan for restoration and management of the Ladakh Lakes. | Initiating rapid assessments of current lakes followed by detailed studies. Preparing proposals to receive funds for these assessments. Base research on successful precedents (such as the Dal Lake study by ATREE). Designate personnel from relevant govt. departments to facilitate research. | NGOs, Universities, DST, State tourism dept., Wildlife Dept., Forest Dept. | 6 months from receipt of funding. |



Group B

Members: Tseten Angchuk (ALTOA), Tsewang Namgyal (SLC), Dr Aravind Madhyastha (ATREE), Mohd. Aneyes (ALTOA), Dr Amit Dubey (WWF-India)

Facilitator: Dr Sarala Khaling (ATREE)



| Policy Actor | Current Action | Proposed Action | Tools for change | Responsible Actors | Timelines |
|-----------------------|--|--|---|--|-----------|
| Pastoralist Community | No role in policy action-making and implementation - Feedback about policy impacts - Identify issues that need policy action - Insights on how policy affects them? | Invoke the Panchayati Raj Institutions/Traditional Governance systems/Grassroots Governance/Goba system Create a platform for policy consultation for a "Bottom-Up" approach where communities are involved in policy dialogues. Conduct awareness and outreach and sensitisation on policies and implementation | Advocacy with Councillors through workshops, festivals, religious heads | LAHDC | 2 years |
| | | | Create Pressure Groups | Pressure groups NGOs, CSOs SLC, ALTOA, WWF, LEDEG | 2019 |
| | | | Policy Consultation platform | ALTOA with other NGOs | 2019 |
| | | | Organise policy sensitisation events at grassroots level | | |
| | | | Sensitise the media | | |
| LAHDC | Ladakh Vision Document (2025) | Review the Vision Document for performance appraisal, lessons learnt, new recommendations focusing on conservation and sustainable management of wetlands and related sectors | Consultative meetings Academic review and reassess | WWF with the tourism sector, Wildlife, Agriculture, Army, LAHDC | 2019-20 |
| | Ecotourism Policy document. (This has not been ratified since the past 4 years) | Review the Policy Document with changed environment in tourism from a wetland | Consultative meetings Academic review and reassess | ALTOA to take the lead with sectors like tourism, wildlife, agriculture, local | 2018 |



| | | | | | |
|---|--|--|---|---|--------------------------------------|
| | | conservation and sustainable management perspective | | communities and LAHDC | |
| | Agriculture policy in its initial stage of formulation | Reach out to LAHDC, Agriculture Department, Animal husbandry and Agriculture University Identify persons involved in formulation Organise 1 advocacy workshop | Workshop to propose wetland sensitive/smart policy especially related to wetland conservation and sustainable management | SLC in collaboration with multiple stakeholders | 6 months |
| District Administration – Wildlife Department (other relevant line departments) | Management of PA (Changthang WLS) Conflict with tourism due to restrictions Collect revenue as environment fees | Wetland Management Plans to be developed for 3 priority wetlands as part of Wetlands Rules 2017 | Research -Consultations at all levels -Multiple stakeholders -Trainings | WWF-India to take the lead in pushing for developing these plans in a participatory way | Initiate for Tsokar in 2018 |
| Tour Operators | Advocacy on environmental issues particularly on waste management Advocacy on feral dog management Awareness raising about responsible tourism | Empower them to contribute to policy actions Pool in resources both financial and technical from NGOs for all the activities they do Focus on preventing feeding of wildlife by tourists | Sensitisation events -Outreach and communication materials -Training -Exchange visits -Garbage disposal bags for taxi operators -Sensitisation of tourists and tour guides | ALTOA lead with support from WWF, SLC, ATREE | Activities to be initiated from 2019 |



| | | | | | |
|--------------------|---|---|--|--|------|
| | | Regulate off road biking in critical habitats around wetlands | | | |
| Tourism Department | <p>Renew registration of tourism business sector</p> <ul style="list-style-type: none"> -Building infrastructure -Tourism policy -Marketing destinations | <p>Drive actions towards responsible tourism</p> <p>Capacity building of actors all along the supply chain</p> <p>Highlight the importance of wetland responsible tourism in national and international platforms for marketing or empower ALTOA</p> <p>Conduct carrying capacity studies</p> | <p>Regulations like Dos and Don'ts</p> <ul style="list-style-type: none"> -Setting up infrastructure in sync with local culture -Training -Media and social media -Research work | <p>ALTOA with WWF</p> <ul style="list-style-type: none"> -SLC -Tourism -ALTOA -Lead by Tourism Department with research institutions to be pushed by WWF and SLC | 2019 |



Group C

Members: Dr Jagdish Krishnaswamy, Mohd. Abbas (DFO Leh), Stanzin Chonjar (LEDeG), Thinlas Chorol (Ladakh Womens Tourism Company), Lobzang Visuddha (Birds Club), Daya, (Birds Club)
Facilitator: Mridula Paul (ATREE)



| Policy Actors | Current Action | Proposed Action | Tools for Change | Responsible Actors | Timelines |
|--|---|--|--|---|-------------------------|
| Local NGOs - Birds Club - NCF - Snow Leopard Conservancy - WWF | Preliminary studies attempted | Develop a detailed study | ? | ? | ? |
| Wildlife Department | Has not taken action on existing dog census citing 3500 free ranging dogs in Changthang by Snow Leopard Conservancy | Cull dogs Develop dog sanctuaries | Support to be given to scale up existing dog sanctuary in Nam Village Gain support of spiritual leaders, as done by Hemis monastery | District Administration? | ? |
| Media - Radio - Leaflet (separate communication targeting to rural and urban areas) | Awareness exists at all levels, but no sustained engagement on the issue | Build consensus to manage dog population | Awareness campaign - Use existing documentary - Generate content - Targeted at locals - District Administration - Army | LEDeG+ ATREE (knowledge partner) | 3 months |
| Grazing communities | Unsustainable growth of pashmina goats Dying out of traditional grazing systems | Revive traditional grazing systems, which are ecologically sensitive | Develop a model for nomadic tourism, which will - Encourage local economy - Motivate locals - Balance ecosystem | Wildlife Department? Tourism Department? WWF? | 3 years? |
| Tourists – bikers | Ride across sensitive wetland areas, destroying | Regulations needed to ensure that there are | Identify sensitive routes, and ban travel on such routes | ALTOA? | 6 months, have in place |



| | | | | | |
|--|---------------|------------------------|--|------|-----------------|
| | the ecosystem | restrictions on travel | Identify non-sensitive routes on which biking is allowed Fix GPS devices on all bike rentals to ensure that there is no violation of restrictions on travel | RTO? | by next summer? |
|--|---------------|------------------------|--|------|-----------------|



| | | | | | |
|---------------------------|---------------------------------------|---|---|--|----------------------------|
| <p>Tourism Department</p> | <p>No Ladakh-level tourism policy</p> | <p>LAHDC develops a tourism policy</p> <p>Study on the carrying capacity for tourists</p> <p>Garbage bags should be kept in taxis and drivers must educate tourists about garbage</p> | <p>Tourists must be accompanied by registered tour guides</p> <p>Interaction with Sikkim and other areas which have successfully implemented this.</p> <p>Organize exchange trips</p> | <p>Tourism Department, LAHDC, NGOs, Tour Operators</p> <p>?</p> <p>RTO</p> | <p>?</p> <p>?</p> <p>?</p> |
|---------------------------|---------------------------------------|---|---|--|----------------------------|



Annex III: Meeting with the GOC

Attendees: Dr Pankaj Chandan, Suresh Babu, Dr Amit Dubey (WWF India) **Note taker:** Rubin Sagar (ATREE)

Mridula Paul, Dr Sarala Khaling, Rubin Sagar (ATREE) **Date:** 30th August, 2018

Dr Brij Gopal (Centre for Inland Waters in South Asia) **Location:** Leh HQ Army Base

Minutes

Agenda item: Presenting key outcomes (pertinent to activities and presence of the Indian Armed Forces) of the Policy Consultation on Himalayan Wetlands, held in Leh on 29th August, 2018.

Discussion:

Dr Chandan and Ms. Paul began the conversation by briefing the General Officer Commanding (GOC) Yash Mor, about the objectives of the Policy Consultation on Himalayan Wetlands. Dr Chandan mentioned some of the key issues identified which were – unplanned boom in tourism, climate change and its impacts on the landscape, particularly the lakes and pollution, as well as identifying solutions for the same.

Ms. Paul added on to Dr Chandan's statement and briefed the GOC about the Ashoka Trust for Research in Ecology and the Environment (ATREE) and the series of policy consultations that ATREE has planned for wetlands across the nation.

Mr. Babu mentioned that the Hon'ble CEC LAHDC, Mr Dorjay Motup attended the policy consultation and that he had emphasized Leh's eco-tourism policy. The recent boom in tourism in Ladakh has put immense pressure on the resources. It is necessary to gauge the region's carrying capacity and we must act accordingly.

In response, the GOC expressed his support by requesting the participants for a brief report about the key findings of the Policy Consultation which he can then pass on to the stationed units in Ladakh.



Dr Brij Gopal mentioned that the Army can indirectly play a significant role in wetland conservation. The presence of the Army can act as a deterrent against the degradation of the precious wetlands of Ladakh by the lakhs of tourists visiting.

The GOC agreed but also stated that the Army has limited responsibilities for controlling tourist activities and it is the main responsibility of the police to act on unlawful activities such as littering and rash driving, and gave the example of Khardungla. However, the Army has been successful in moving liquor shops away from the main roads within Leh, which is a major achievement.

Dr Brij Gopal raised the issue of campsites situated on the banks of lakes such as Pangong. They provide multiple facilities to tourists, but are a disturbance to the ecology of the region, especially the lakes.

In response, the GOC said that campsites are not permitted to be established at such close proximity to the lakes. Moreover, they release untreated waste directly into the lakes. Regulations must be imposed on hotels, particularly for Solid Waste Management. The inflow of tourists has and continues to improve the economy of the region, but it should be in the right manner.

Dr Brij Gopal raised an important point that the Army must play a major role in regulations. In response, the GOC and Dr Chandan said that setting up meetings with hotel owners, the Army, and NGOs can facilitate regulation.

GOC Yash Mor stated that the boom in tourism could potentially make Leh like Shimla, Himachal Pradesh. Problems related to water security of the people will become more severe, especially since they are prohibited from drawing water from the Indus River that flows through Ladakh, on account of international obligations. Numerous bore wells have come up in the recent past and there is an urgent need for effective water rationing and storage.

In response, Dr Khaling asked about the depth of bore wells. Dr Chandan said that the wells are not too deep.



Mr Babu then raised the second major finding, which was the issue of stray dogs in the region, especially in the vicinity of Army units. The dogs pose a serious threat to wildlife such as the Black-necked crane as well as the ecology of wetlands.

GOC Yash Mor completely agreed and was in favour of controlling stray dogs. He mentioned that even in the Siachen base camp, dogs are an issue. Earlier, the Army had dog culls which was banned some years ago. In addition, dogs thrived on the food waste from the Army units. Unfortunately, sterilizing the dogs is not a practical solution as it is expensive and time consuming.

Dr Babu asked whether something can be done to regulate food waste. The GOC stated that all units have strict instructions on food and other solid waste disposal. However, the dogs manage to survive and are reproducing rapidly. They have become a menace in Ladakh. Sterilization is not an option, and culls face serious opposition from NGOs and animal rights organizations. The Army has a Dog Unit, and they even had modified cars and jeeps to catch the dogs, but that turned out to be quite impractical as well.

Dr Chandan and Mr. Babu said that stray dogs are an issue all over the country. WWF-India and ATREE will present the issues (tourism and stray dogs affecting wetlands) in a detailed report to the Army, vide the GOC.

The GOC responded positively and said that a detailed report would be very helpful. He will make sure that it goes to every unit in the region and will add conservation in the training and education curricula. However, certain practices such as carrying packaged food and burning fossil fuels (by the Army in remote places in Ladakh) is very difficult to replace and national security cannot be compromised. The Army is facilitating setting up two new Sewage Treatment Plants in Leh. It would be helpful if other organizations could focus on cleaning up the region.

Next, Mr. Babu raised the third key issue that arose from the consultation – army unit camps that have been established on the lake boundaries. He asked if something can be done about them, considering that the lakes are situated in Hemis National Park.



The GOC stated that as per a 1985 regulation, any wildlife zone within 100 km of the LOC or international border must consult the Ministry of Defense (MoD) setting up. However, the MoD was not consulted before the establishment of Hemis National Park. Someone has raised the issue legally recently. Moreover, the units are temporary and will last for 8-10 years, as constructing permanent structures is banned. Their presence on the banks also acts as a deterrent to tourists. If WWF and ATREE can provide suggestions for alternate locations for setting up units, keeping wetland ecology in mind, the Army is open to making arrangements to move the units from the banks of lakes.

Dr Brij Gopal responded by saying that in Tsokar and Tsomoriri, which are far from the India-China border, the unit camps can be shifted as far as possible without compromising security and the Army's influence. The GOC agreed and affirmed that new plans will consider suggestions to maintain the ecology of the lakes as well as conserve them. All participants unanimously agreed with the GOC.

Mr. Babu said that WWF-India and ATREE would provide a list of recommendations to the Wildlife Department and will require the Army's participation and support. The GOC agreed with this. Dr Chandan emphasized on the expertise and experience of Dr Brij Gopal on wetland and water conservation.

Dr Brij Gopal elaborated on his work in region, which began in 1996, when Ladakh was first opened to the public. He made multiple visits to Ladakh as well as the Changthang region but surprisingly researchers are still not interested in studying the region. Ladakh is very important geologically. The GOC agreed and said that it is also a very fragile region. Dr Gopal continued and said that the water issues in Ladakh are very pertinent but the wetlands are not studied. Certain lakes are partially saline and partially freshwater. Moreover, there are saline and freshwater lakes that are separated by barely a hundred metres.

The meeting ended with the GOC promising full support from the Army, and assistance towards the conservation of wetlands, as well as for conducting research in the region.

Conclusions:

Send a concise report to the GOC with outcomes of the policy consultation and suggestions to facilitate conservation of wetlands in Ladakh.