



Newsletter Wet Notes

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The quarterly newsletter of the Pakistan Wetlands Programme (PWP) is published to inform donors, scientists, academics, researchers, environmentalists and environmentally concerned individuals of all qualifications and ages about the Programme, its projects and upcoming events while giving insights and updates on research, education and habitat management activities. The PWP's objective is to conserve the globally important wetlands biodiversity in Pakistan while alleviating poverty. It is a progressive initiative of the Federal Ministry of Environment and is being implemented by the World Wide Fund for Nature, Pakistan (WWF-P). It is funded by a consortium of national and international donors including, the Global Environment Facility (GEF), United Nations Development Programme (UNDP), the Embassy of Kingdom of Netherlands (EKN) and WWF Global Network.

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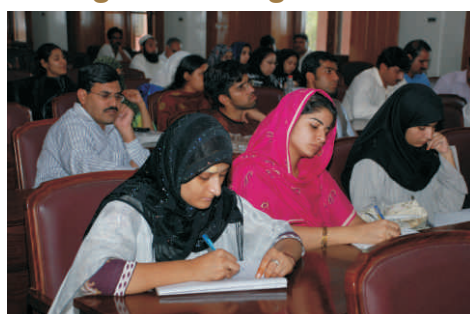
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Programme updates

» Launch of M.Sc Wetlands Management Programme



The Pakistan Wetlands Programme has one of the major achievements of Training and Capacity building section was to launch the M.Sc in Wetlands Management for the first time in Pakistan in collaboration with the University of Veterinary and Animal Sciences, Lahore and with the support of national and international partners. The national partners include Government College

University Faisalabad, Agriculture University Peshawar, Centre for Biodiversity and Conservation-Shah Abdul Latif University Khairpur and Natural Agricultural Research Centre, whereas the international partners are UNESCO-IHE, AIT Thailand, WWU-UK and Wetlands International China.

» Installation of Solar equipment under WWF-P / UNDP COFRA funded project

The Pakistan Wetlands Programme in partnership with COFRA funded UNDP project, started installation of solar equipment in the selected districts of Muzaffargarh, Dera Ghazi Khan, Layyah and Sukkur in the Central Indus Wetlands Complex, and Charsadda and Swat. The COFRA Foundation funded the US\$ 2.0 million equipment in response to the study on "Rapid Environmental Impact of

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Floods in 2010", conducted by the Pakistan Wetlands Programme for UNDP Pakistan. The UNDP provided solar equipment composing of solar geysers, solar street lights, solar household modules, solar water pumps and solar lights. A total of 135 solar street lights, 35 water solar pumps, 720 solar household modules and 5700 lanterns were provided to flood affected communities under this project.

» Qurumbar National Park notified in Gilgit Baltistan

The Northern Alpine Wetlands Complex in coordination with the Saving Wetlands Sky High Project and the Forest and Wildlife Department, Gilgit Baltistan, was successful in notifying the Qurumbar Valley as a community based "Qurumbar National Park". Geographically the park extends between longitude 73° 38' 18.36"E, latitude 36° 54' 12.57"N to longitude 74° 19' 09.17" E, latitude 36° 37' 47.4" N at an elevation of 7500 feet up to 17000 feet at Challenge pass. It is one of the highest altitude parks in Pakistan. The area covered by the Qurumbar National Park is 74,055 hectares (Approx,740 sq km).

The Gilgit Baltistan Government declared the Valley as "Qurumbar

National Park" on August 02, 2011 under section 5 of Gilgit-Baltistan Wildlife Preservation Act 1975. The Qurumbar lies at the extreme northern part of Ghizar District, falls in Western Tibetan Plateau Alpine Steppe. It spearheads its boundaries with Hindukush range as it meets the Karakoram along the Bar valley catchments. The valley starts from Bargangal down below the meeting point of Qurumbar and Baru Rivers and stretches up to Qurumbar Pass along the boundary of Wakhan Strip. A beautiful perennial water body situated at an elevation of 14121feet ASL is Qurumbar Lake which is counted among one of the unique high altitude wetland spot in Pakistan. This is adjacent to the already established Broghil National Park in Chitral with the same efforts by PWP. This development will also pave the road to establishing first ever inter provincial transboundary protected area in the country.

» Improvement in Watch and Ward system by NAWC

The established community based watch and ward system was maintained in Broghil Valley Chitral. Out of the four Wildlife Watchers, one received advanced six month training course as Forest Guard and Wildlife Watcher at Sarhad Forest School at Thai in Abbottabad. Following the successful model in Broghil Valley, NAWC also supported the local community based organization's watch and ward system in Qurumbar Valley through appointment of two new watchers. These watchers were selected by the custodian

community organization while keeping in view the required criteria proposed by the programme. These new appointed community watchers will help to further enhance the conservation efforts within the adjoining two wetlands based National Parks in the region.

» Studies on flora of Broghil National Park

In partnership with Snow Leopard Foundation-Pakistan efforts were made to plan and undertake carnivore research studies in Broghil National Park, with the objective to estimate population status of different carnivores especially of Snow Leopard, Brown Bear, Lynx etc. The study aimed to analyze the community perceptions towards carnivores. The surveys included studies in Human-Carnivore Interactions and occupancy surveys.

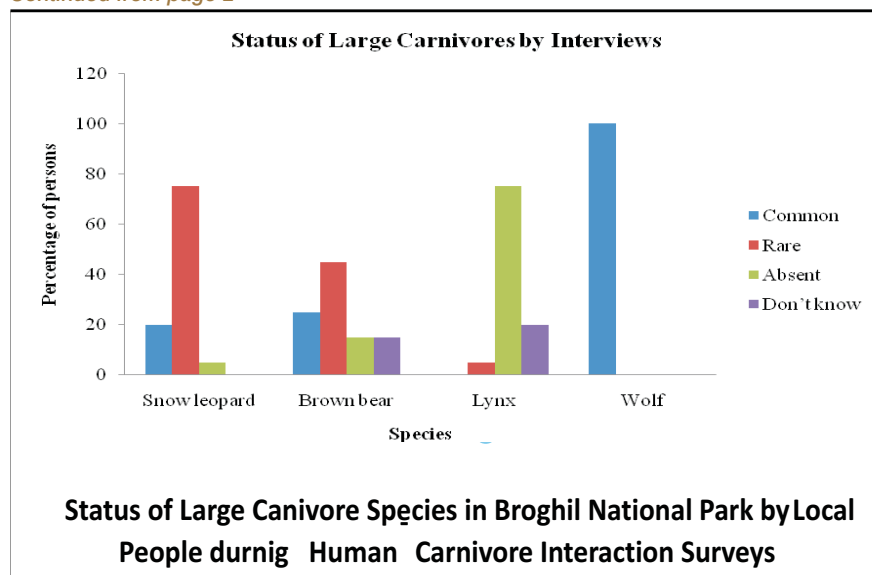
» Human-Carnivore Interaction survey conducted

A detailed survey was carried out based on Human-Carnivore Interaction in Broghil valley, by using specially designed questionnaires. It was conducted in order to understand the nature of interaction between human and carnivore, especially the Snow Leopard, Brown Bear, Lynx, Wolves etc and also the human-carnivore conflicts which emerge from this interaction. Due to small population (nearly 150 households), whole Broghil was taken as a single unit and data was collected from 33 (~20%) households. Additional information about household livestock was also documented. During human



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carnivore interaction surveys 46% respondents confirmed sightings of Snow leopard (Fig. 1) and 40% confirmed the sighting of Brown bear in the area, but Lynx was not reported by the people, as no one confirmed its sighting in the area. When people were asked about the status of large carnivores, 20% people believed that Snow leopard is common in the area, 75% reported it as rare and 5% people believed that it is absent. Status of Brown bear was considered common by 25% people, rare by 45% people and absent by 15% people while 15% people did not know about its status. Lynx was not considered as one of the common species in the valley by any of the respondents, 5% people said it is rare while 75% people marked it absent and 20% people did not know about its status. Attitude of the community towards carnivores was mixed; 73% people wanted to increase snow leopard and 9% wanted to eliminate it. About 60% people favored population of Brown bear and 5% people wanted to eliminate it, while 10% people wanted to increase Lynx population and 5% wanted to eliminate it. According to the local perception 95% people listed Wolf as the most dangerous animal threatening livelihood means in the area, 55% people considered Snow leopard as the second most dangerous animal. Brown bear was third most dangerous animal according to 40% people while Lynx was not

considered as a dangerous animal by 95% people. Depredation occurred in 82% households. Wolf was the dominant predator as it was accused for 96% depredation cases in the valley while snow leopard stood second with 4%. No depredation report was recorded against Brown bear or Lynx.

➤ Site Occupancy Survey conducted in Broghil / Qurumbar Valleys

Occupancy surveys were also conducted in Broghil Valley along with human-carnivore interaction surveys. GIS map of the area was developed and grids of 5x5 km² were plotted on the map (Fig. 2). These grids were accessed by GPS and random points searched for

snow leopard and other carnivore species. Total 17 grids were explored starting from Garam Chashma to Qurumbar Lake at one side and Chianter Glacier on the other side. Snow leopard and other carnivore signs were searched in their preferred habitats. At each point GPS coordinates and elevation were recorded. Additional information like topography, terrain brokenness, vegetation, signs of other species and prey signs were also recorded. Whenever a sign was found information like age and substrate type were also noted.

During occupancy surveys no sign (old or fresh) of snow leopard was detected in any of the sites surveyed. Lynx presence was also not detected by any confirmed sign. In two out of 17 grids lynx was expected to be present but it will be confirmed by genetic analysis of its fecal materials. However brown bear occupied 4 out of 17 sites and it was confirmed by its fresh footprints and feces. Scat samples of Brown bear and Lynx (expected) were collected for genetic analysis. And after next survey of remaining sites, genetic analysis and data analysis will be done to find the site occupancy and population status of snow leopard and other carnivores in the area. Due to difficult terrain and heavy snow 3 out of the total grids could be accessed for site occupancy survey.



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» Linkages maintained with community of Qurumbar Valley

A series of consultative meetings with representatives of QSWCDO and the CWSB were held at Broghil and Qurumbar valleys to discuss various planned activities and ongoing activities. The community was mobilized enough as they participated in every NAWC action plan including the establishment of skill development center, tunnel vegetation, engagement of community wildlife watchers, site selection for installation of wind turbine and most importantly managing the Broghil National Park and declaring the Qurumbar National Park in their respective valleys. The establishment of skill development center was supported through provision of space for the centers in both valleys. Such understanding between the programme and the custodian communities reflects the strong presence of PWP- NAWC within the communities.

» MoU signed with Pakistan Agricultural Research Council-Mountain Agricultural Research Centre, Gilgit Baltistan

A Memorandum of Understanding (MoU) is made and agreed between

the Pakistan Wetlands Programme-Northern Alpine Wetlands Complex and Pakistan Agricultural Research Council-Mountain Agricultural Research Centre, Gilgit Baltistan. Initially this MoU will remain effective till June 2012 as signed on June 22nd 2011. According to agreed contents in the MoU; both the parties will endeavour to assist each other's activities in the field of training for custodian communities, investment in seabuckthorn product processing, making, nursery raising techniques and other related income generation activities through enterprise development. In doing so, the PARC-MARC will collaborate in combining the available resources, skills and other assets to ensure that integrated efforts are made to enhance the income generating options for stakeholder communities of the Upper Yarkhun (Broghil valley) and the Qurumbar valley in Ghizer district. This MoU also have undertakings to co-ordinate the initiatives of work in wise and sustainable use of wetlands and the associated resources in Broghil and Qurumbar valleys of Chitral and Ghizer districts respectively.

» Skill Centers established in Broghil and Qurumbar Valleys

Empowering womenfolk and making them equal partners in decision making constitute the

cornerstone of development. Keeping this fact in view, efforts were made to establish skill center for womenfolk both in Broghil and Qurumbar valleys. In Broghil valley women contributes to household income helping mostly in agriculture, livestock; while in Qurumbar valley there is an impressive number of women who now work as teachers, health workers, handicraft makers besides owning their businesses. Unfortunately villages mostly in the upper catchments of valleys have no such facility due to limitations including the social and financial factors. Considering the need and demand of local people and through mutual consensus of the custodian communities, the Northern Alpine Wetlands Complex established five skill centers in both the valleys at easily accessible points for women folk. This initiative will provide them the opportunity to enhance their income through clothes and other handicrafts making.

» Distribution of Solar Rechargeable Lanterns in Qurumbar and Broghil Valleys

In Qurumbar valley a total of seventy three solar rechargeable lights were distributed among the community having no or low access to electricity in the valley. The distribution criteria was agreed with and developed through Qurumbar Social Welfare Conservation and Development Organization in August 2011. The enlisted beneficiaries were reached through the assistance of QSWCDO and delivery of lights processed accordingly.

The same distribution methodology was adopted in Broghil Valley while



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keeping in loop the community based Chiantar Welfare Society Broghil. The valley lacks electricity facility and uses peat for burning and lightning, as it is located at altitudes of 12000 feet above sea level. The solar lanterns were distributed among 85 households in Broghil valley in order to introduce clean and green energy. This activity will help the local community to conserve and minimize dependency on wetlands resources.

» National Children's Conservation Mountain Meeting

Pakistan Wetlands Programme nominated 13 school children as ambassadors of mountains ecosystem to participate in the annual National Children Mountain Meeting organized each year by the Adventure Foundation of Pakistan. This year each site was represented by three school children. This included Broghil and Qurumbar valleys NAWC, Sukkur and Kotadu CIWC, Gwader and Jiwini MCWC, Uchali and Khabbeki SRWC. More than 200 school students across the country joined the unique event, which provided them the opportunity to understand the

environmental issues, importance of wildlife, forest, soil, water and other such assets. This also taught them different conservation measures being adopted throughout the country.

» Free Medical Camp in Broghil Valley

Due to poor infrastructure, extreme poverty and physical isolation, the basic health facilities are neither available nor accessible for the Wakhi communities living in Broghil valley. The general condition of human asset in term of health is not satisfactory. In case of emergency, the local patients often have to travel to down towns of Chitral or Gilgit. Even the treatment of minor ailments cost them hefty sum of cash, leading them to increased burden on limited household income. Women are more prone to diseases as compared to the men, due to low mobility, lack of access to balance diet and low awareness level. Five day free medical camp was organized at different villages of the valley, in order to improve health condition of children, women and to create awareness on health issues. During the camp more than 200 patients were examined especially children and women, and free medicines were provided.

» Four men and four women community organizations got registered

Four men and four women community organizations were formed and registration as CBO, to create awareness and involvement of local community towards conservation of biodiversity and natural resources of Salt Range. This mobilization process will give rise to active and sensitized community groups helping in program replication. Similarly some other formal (CBOs) and informal community groups are also mobilized and sensitized to address current environmental issues. Women are also motivated to be an active part of environment rehabilitation process. To access the maturity and sustainability of these Male and Female CBOs, maturity indicators have been shared with office bearers of CBOs through a comprehensive workshop and group work. This not only built their capacity but also inspired them to be a well organized self reliance CBO.



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» Pony trail improvement plan for Broghil Valley



Due to the lack of proper infrastructure the mobility to and within the Broghil Valley is highly restricted. Undefined, roughly and season/weather bounded existing pony trail connects 12 villages of Broghil valley with each other, with neighboring areas and the pasture lands. Due to this poor infrastructure, the tourists are also to plan their visits for Broghil valley. As they have to travel either by feet or through ponies and yaks. As a part of the eco-tourism promotion initiative NAWC-PWP drafted and signed a detailed MoU with Chiantar Welfare Society Broghil (CWSB) regarding renovation and expansion of 34 km long pony trail within Broghil valley. Its objective was to enhance mobility and facilitate tourists to plan their visits easily to Broghil valley, especially during Broghil Festival. Through the MoU it was decided that CWSB will be responsible to implement the pony trail renovation and expansion activity. PWP will provide financial support to CWSB for the activity in three installments (40:40:20) and the community will contribute 20% through labor and food. The partner CWSB completed the entire work of pony trail renovation and expansion plan within two months period.

» Upgradation of four Tourists Camping sites

In order to encourage and promote tourism four camping site were established by the programme at selected places in Broghil valley. These camping sites were further renovated and equipped with basic required infrastructure and materials. The Khyber Pakhtunkhwa Wildlife Department managing the

Broghil National Park has contributed in the sector through construction of kitchen and bathroom facilities within the camping sites. To ensure the sustainability and smooth operation of camping site the MoUs were signed with site owners in the valley. There are four camping sites operational now at key locations including Kishmanjh, Chikar, Chilmarabad and Lashkargaz villages of Broghil valley.

» Alternate diversified livelihoods initiative

PWP program introduced cultivation of fruit orchards and increase in vegetation cover in the surrounding of lakes. Therefore a comprehensive workshop was organized on "Olive cultivation and fruit processing techniques". More than 100 farmers attended this informative workshop and shared their experiences and problems. Different olive fruit products were also presented in order to demonstrate the real picture. They were given guidelines that how successfully they can cultivate olive or other fruit orchards, which will help in environmental upgradation.

» Capacity building initiative for Women

One vocational center was established in Dhadhar village to enhance the skills of women, which will help them to earn money through sewing, stitching and embroidery. The rural women are confident that they will contribute in

their household economy after completion of this three months course and will improve their life standard. They will not only be able to stitch their own dresses but can also prepare them for sale.

» Installation of solar geysers at Dhadhar

Two Solar water geysers and three HH solar lighting systems were introduced as an alternate energy source. Solar water geysers were introduced to reduce the pressure on tree cutting that becomes more extensive in winter season. The families use wood fire for water heating and then use it for different washing purposes and taking bath in winter season. Solar lighting systems have been introduced in remote areas of Dhadhar village where electricity is not available. This intervention has been linked with Punjab Urial protection in Dhadhar forest and protection of migratory birds at Khabeki lake.

» Ecotourism promotion programme

Salt range is blessed with variety of eye-catching natural sites and landscape a series of beautiful lakes and their biodiversity, a unique pattern of mountains and some historical places, is much interesting for tourists. To make this activity environment friendly, eco-tourism is introduced that not only will increase the value of area but will create livelihood opportunities of local community. Local communities are sensitized in



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promotion of eco-tourism, they are treated with orientation workshop on eco-tourism and then a comprehensive training conducted to train eco-guides. They also practiced camping in wilderness at Kanhati Garden and demonstrate their profession as an eco-guide. Three camping sites also have been selected and being developed as camping sites for eco-tourists. Similarly a tourists hut has also been constructed at Khabeki Lake to facilitate the tourists sighting activity. This site is facilitated with resource center and a bird watch tower equipped with information material of local flora & fauna, binocular and spotting scope is developed to update the tourists and facilitate them in bird watching and other exploration activities.

» **Soil and Water**

conservation at Dhadhar

Dhadhar forest community is marginalized and living a hard life facing problems because of water scarcity. Water ponds are precious storage structure and need regular management because heavy rains and some other physical stresses lose their structure leading to loss of water. A water pond in Dhadhar forest area has been upgraded with solid protection wall minimizing the threat of erosion/ demolishing of mud block. Now more safe water storage structure is being used for their domestic need, Live-stock and wild life

» **Two male and two female CBO's got registered at Leyyah and Ehsan Pur**

All required documents were submitted to Social Welfare Department Punjab for their registration as CBO's under 1961 act of government of Pakistan. The receipt of documents submission was received from SWD, Muzaffargarh and Leyyah on 25th August, 2011. The registration certificate will be issued by SWD after completing the legal procedure as per rule and regulation of Social Welfare

Department, Government of Punjab.

» **Four Camera traps installed**

Four camera traps were installed for consecutive two nights for monitoring Hog Deer in the selected sites of Taunsa Barrage Wildlife Sanctuary.

» **Community volunteers organized by CIWC**

The residents of the Basti Allah Wali and Shaikhan informed the CIWC site team about the ruthless killing of turtles along the river bank downstream of Taunsa Barrage. The CIWC team immediately informed the Deputy Director and District Wildlife Officer Punjab. In response to that the DWO, MG sent a team with support from the local police department. Three culprits involved in turtles killing were caught red handed and were arrested. This active involvement of the community for nature conservation is one of the examples of CIWC team efforts in the social mobilization process. The CIWC team with support of URS PAKISTAN Sialkot based, local NGO distributed 200 school children uniforms among the Taunsa Barrage flood affected community.

» **Gender Equality project by ILO**

ILO is currently implementing a project Promoting Gender Equality for Decent Employment (GE4DE), funded by the Canadian International Development Agency (CIDA). A major objective of the project is to enhance the skills of 6300 poor women and men in rural and urban areas of Pakistan. Based on the evaluation of WEC-PK and interactions with stakeholders, GE4DE has taken a sectoral approach, especially for skill development initiatives in urban areas, where the access to waged formal sector employment is high. Therefore a community based approach will be adopted to identify a range of economic opportunities, formal and informal, waged and self-employment, for which women and men can be trained.

» **Community development projects at Gwadar by PWP**

PWP Gwadar in collaboration with ILO-Pakistan initiated a pilot project for Gender Equality for Decent Employment. This project is focused on women development in business and enterprise. PWP has identified community need for eco-tourism and Seafood business with the consultation of wetlands user group (VWCC). The Seafood training activity has contributed in poverty reduction and empowered women through income generation. The 6 trainees groups of Women VWCC Gwadar are now engaged in seafood business and they want to involve poor families to earn money for themselves.

» **Alternative Livelihood Initiative**

Pakistan Wetlands Programme aims to introduce alternative source of livelihood which has ultimate impact on wetlands resources. The women community of coastal areas are more liberal and are involved in enterprise business i.e. village level breakfast hut, small tuck-shop/mobile shops, small shops, sewing and embroidery (Balochi Doach), cooking and serving in social events and selling fishes in local markets. All these activities are done by women and they have ownership to her business.

» **Promotion of Eco-tourism**

The coastal area of Balochistan is diversified coastline which is distinguished by rocky island of Astola, sandy beaches, rocky shores, muddy coastline and mangrove swamps with rich biodiversity. The promotion of eco-tourism in Balochistan coast will contribute to enhance the economic support for country. The beautification of Balochistan coast has competence to attract local, national and international tourist. But it is necessary to involve native and existing community to own its resources and enhance their skills and awareness about tourism

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promotion expertise.

» **Initiating Seafood Business enterprise**

The seafood trainee groups of VWCC Gwadar (Female) has initiated an enterprise business of seafood in Gwadar city. This initiative was based on self help of female community while PWP supported in business guidance and marketing of their products in local market. PWP developed linkages with different bakeries and general store for introducing their products. PWP also prepared brochures and business cards for publicity and advertisement of their business. Initially VWCC introduced their products in one bakery and later on it was extended in two bakeries and one general store, i.e. Seraj Bakery, Baloch bakery and Al-Jawaad General Store. They used to prepare fish burger, fish role and fish sandwich during the holy month of Ramadan. They only prepared food items on order as they had no well equipped kitchen. But the result of this initiative was more encouraging and appreciable for trainees.

» **VWCC Future Plan**

- ◆ To conduct a seafood cooking training for 5-10 women for replication of seafood business.
- ◆ Establishment of seafood kitchen and business outlet.
- ◆ Media coverage for business development.
- ◆ Advance training for business and marketing

» **Exposure Visits of Communities to other intervened best Practices**



Exposure visits of communities to other intervened best practices sites are very important for any organization to organize communities. The Makran Coastal Wetlands Complex Site management team conducted



WVCC an exposure visit for men at NRM and Wildlife Conservation based interventions of PWP's MCWC selected sites. Fifteen male community members from different VWCC of Peshukan, Metaing, Zarenbug, Surbandar and Kallag nominated correspondents from Gwadar press club who actively participated.

» **Model unit of Biogas, Solar system and Tunnel off Season Vegetable Forming at Chatti**

Chatty is a village consisting of 4 small hamlets with population of 15-20 household. The population is mainly depending on livestock and agriculture. Participants visited two sites of Revenue Village Chatty where PWP representative Mr. Abdul Salam briefed participants

regarding Chatty village, its geographical proximity and socio-economic conditions. Then he introduced MCWC biogas intervention to participants. He described the process and benefits of biogas, and told that the community is responsible for its operational and maintenance expenditures. Mr. Dilmurad and Abdul Salam briefed the participants regarding interventions including solar system and tunnel off season vegetable farming. The visitor acknowledged PWP efforts and appreciated the community for adopting these interventions.

» **Installation of fuel efficient stove and solar wind hybrid system at Paleeri**

Paleeri is a village of union council



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Peshukan Gwadar, consisting of five small hamlets with population of 500 households. The population is mainly dependent on livestock, agriculture, border trade and deep sea fishing. PWP has introduced many green interventions like smoke less fuel efficient stoves, pitcher irrigation and solar wind hybrid systems. During the visit of Paleeri, Mr. Attahullah President of Peshukan VWCC briefed participants regarding these interventions and their benefits for local community. He illustrated that these interventions will save 40% fuel wood which reduces our cost on fuel. He also briefed the participants regarding PWP distinguished intervention of Solar Wind Hybrid system from which 40 to 50 households of Paleeri are being benefited. They use it for light and improved communication systems through internet browsing.

» Jiwani Wetlands Conservation and Information Centre (JWCIC)

The Jiwani information and resource center was established and renovated by PWP Gwadar Office. A whale skeleton was displayed for visitors for their recreation. The resource center attracted many officials and families as a source of information and recreation. Our staff is facilitating visitors and disseminating information about wetlands, turtles, whales, dolphins and Jiwani coastline. This activity will improve eco-tourism. Due to which media representatives also visited JWCIC. Abdul Salam briefed the participants regarding background and current status of JWCIC. He completely described the current activities and projects of JWCIC. The facilitator also briefed them regarding energy conservation through solar wind hybrid system at JWCIC.

Public events

» Celebration of International Day for Preservation of Ozone Layer

The United Nations (UN) International Day for the Preservation of Ozone Layer is celebrated on September 16th every year. This event commemorates the date of the signing of Montreal Protocol on Substances that Deplete the Ozone Layer in 1987. On this day PWP organized an event in collaboration with Environmental Sciences Department of Quaid-e-Azam University, Islamabad. Awareness raising section of PWP shared educational packages of UN Environment Programme (UNEP) regarding ozone layer. They coordinated classroom activities on ozone layer, climate change and ozone depletion. This special event also included Ozone Awareness Walk and seminar on Ozone and Climate change. Awareness raising Posters were displayed on the events centered on International Day for the Preservation of Ozone Layer; and the distribution of IEC material and appreciation was given to those who participated in the event to protect the earth's ozone layer.



» "Save Shandur" cleanup campaign organized during Polo Festival 2011

The centuries old traditional "Shandur Polo Festival" is held in the first week of July on top of the Shandur Plateau, almost 3700 meters above sea level. More than ten thousand local, national and international tourists visit Shandur on this occasion. As a result tons of solid waste generated there is threatening the fragile ecosystem of Shandur's wetlands ecosystem. Since 2007 PWP has started "Save Shandur" Clean up Campaign, in collaboration with its partners in Chitral and Gilgit Baltistan. This year PWP organized a Shandur Solid Waste Management and Awareness Campaign from July 6th-10th, 2011 during the festival. The purpose of the campaign was to create awareness among the visitors about solid waste issues and its impact on the aesthetics value, lakes ecosystem and the associated biodiversity through public participation in the activity. Almost 80 dedicated volunteers participated in the activity from Shandur Local Support Organization (SLSO), Teru, Shandur Area Development Organization

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(SADO), Luspur and Youth Advocacy Forum (YAF), Chitral. According to PWP-NAWC report 2011, a total of 3435.9 kg solid waste was disposed off during the festival 2011. This includes 2782.8 kg biodegradable and 653.1 kg non biodegradable. The composition of this total amount of solid waste was 80% biodegradable and 20% non biodegradable. Average biodegradable waste collected per bag was 21.9 and average non biodegradable waste collected per bag was 5.1 kg.



» Celebration of Broghil Festival

The NAWC in continuation of its efforts to promote eco tourism in Broghil Valley has provided technical, financial and logistic support to the Chiantar Welfare Society Broghil in organizing and celebrating the Broghil festival. Posters were developed and distributed widely to attract

maximum number of tourists for the event. The established camping sites facilities were also used by the tourists during the festival. And the improved Pony Trail was source of attraction for the visitors to enjoy pony and yak riding throughout the length of the valley. This annual event is helping the locals to enhance their income as well as creating awareness to safe guard the natural beauty and wisely utilize the natural assets including the unique wetlands of the valley.

» Nature photography organized

During the recent visit to Broghil efforts were made to capture the unique biological contrasts of Broghil and Qurumbar Valleys through camera eyes. Both the valleys are now enjoying the protected status as National Parks. Efforts were also made to photograph each and every aspect including the social and biological uniqueness.

» Eco-tourism event organized at Taunsa Barrage

The CIWC team organized an eco-tourism event at Taunsa Barrage in collaboration with local partner organization and communities. A

total of 44 already registered people participated in the events including representatives from local partner organization, school children, local hunters, electronic and print media personnel, local influential, representatives from Women Madni Welfare Society and community representatives.

The main objective of organizing this event was to raise awareness among the public and partner organization about the importance and significance of Taunsa Wildlife Sanctuary and to promote the concept and ethics of eco-tourism in the area among school children, local community and local partner organizations, to attract other partner organizations and local community based organizations for getting their support and attention in promotion of eco-tourism in the area and to provide a healthy opportunity to local people and school children. The participants, especially the children and female took active part in activities like birds watching. Most of the participants were of the view that this sort of awareness activities should be encouraged and replicated in future. Different representatives from local organizations showed interest in organizing such events in future in collaboration with WWF-Pakistan.



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Trainings

» Six Months Diploma Training Course of Community Watchers at Abbottabad:

Availability of local trained human asset plays a central role to ensure sustainability in the conservation efforts and prudent use of resources. In order to improve resource management initiatives in Broghil and Qurumber Valleys, better watch and ward system was introduced in the Valley. In this regard four community members were selected for 6 month training course as Wildlife Watcher and Forest Guard in Thai Forest School Abbottabad. The selection was done in consultation with community representatives of both Ishkoman and Imit Valleys of Ghizer district, Gilgit-Baltistan as well as the Custodian Forest Wildlife Department. These community representatives joined the school in February, 2011 and completed the course in August 2011.

Communities of both the valleys admire NAWC efforts towards conservation of nature and natural resources with a specific focus on conservation of fragile high altitude wetlands ecosystem of the area. To realize the need and demand of both the communities Northern Alpine Wetlands Complex site office Gilgit-Baltistan, initiated the capacity building training for local community watchers at Sarhad Forest School Thai. This six month training certificate course has enhanced the technical capacities of the trainees which in turn will award them livelihood opportunities as employee in the notified two National Parks in their respective valleys.

» Training on Social mobilization and organization at Broghil Valley:

By definition social organization is the ability of a community structure to realize the common values of its

residents and maintain effective social controls. The present world emphasizes a great deal on the participation of communities in development and conservation efforts. Accustoming representatives of community based institutions is mandatory for the sustainable operation of the institutions and especially in remote areas. One week social organization training was organized in Broghil valley, to ensure the sustainability in functioning of community organization. Office bearers, members of both male and female organization actively participated in the training. In total 35 community representatives including 12 females participated in the training session.

» Kitchen Gardening Training held at Qurumbar valley Ghizer District

The Northern Alpine Wetlands Complex, conducted a day long training for women folk on kitchen gardening. The demonstration was also made in the field through establishing a demo vegetable garden through womenfolk/trainees of both the valleys. Main purpose of the training was to train the womenfolk in kitchen gardening through practical demonstration in the field and to raise awareness among womenfolk while sowing of improved varieties of seeds while introducing innovative techniques. More than 50 women (Broghil 28 and Qurumbar 22) were trained through consultants. The participants were informed about the importance of kitchen gardening and procedures to develop a healthy and viable kitchen garden in a small space available near their houses. The process of leveling of the land, vegetable beds, various steps for site selection and weeding of unnecessary grasses from the garden were also discussed in detail. The trainees practically demonstrated vegetable gardening in the selected sites through sowing of a variety of vegetable seeds. This

training in the light of economic and social situation of the two valleys is expected to play significant role in economic boosting of the target community.

» Establishment of demo kitchen gardens in Broghil Valley

As part of livelihood diversification efforts for the first time in the history of Broghil Valley, kitchen gardening initiative was undertaken during the reporting period. During the recent visit to Broghil (May 6th-18th, 2011) six demo plots of vegetables and potato were established in Broghil Valley. Local farmers including women were provided with practical tips on different aspects of vegetable growing and ensure healthy production. Communities showed keen interest in growing vegetables especially potato.

» Training on Mother Child Health Care

The Northern Alpine Wetlands Complex, with the assistance of Qurumbar Social Welfare Conservation and Development Organization, organized two days field training on "Mother Child Health Care" for the selected women trainees of Qurumbar valley, Ghizer district of Gilgit Baltistan. A total of 30 women trainees attended the field training session. The prevailing health problems including diseases which are affecting both the mothers and child were discussed and addressed. Many rural women deliver without a health provider, usually due to the difficulty in accessing health services and the very poor quality of healthcare. The new born children who survive birth are exposed to considerable risk and the infant mortality rate are even higher in remote rural areas like Qurumbar as compared to town areas like Gahkuch district. All important ways were explained in detail about mother and infant health care including care during pregnancy

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and after births, like balance diet, Tetanus toxoid injection (TT)/vaccination, immunization and care of infant during illness and weaning diet. The trainees also showed their high willingness in such type of productive training and demanded for more training in mother child health care in future. A similar training was also organized in remotest Broghil valley of Chitral district, where the health facilities are just a dream.

» Training on Project proposal writing and office management

Training was conducted to build capacity of CBOs, which will help them identify their problems and

write a proposal. The training will build up their confidence and broaden their vision. It was organized at CIWC site office for CBO's. The two days training was conducted from 19th to 20th September 2011. Around 23 participants were selected from 10 CBO's and local partner organization of CIWC was trained in project proposal writing and office management.

» Natural Resource Management (NRM) best practices trainings

It was organized at CIWC for female CBO's participants. A total of 3 trainings were organized for CIWC communities at Chah Kandi Wala,

Daira Deen Panah, and Basti Allah Wali, Taunsa Barrage in July, 2011. Total 90 females were trained for local handicrafts, bottle work and embroidery.

» Training on Seafood Cooking



In coastal areas of Balochistan, seafood is a source of attraction for tourists as they like to taste fresh and health seafood. Local people use traditional ways of cooking which need to be improved for modern and hygienic cooking, serving and presentation. The women VWCC members identified various needs for alternate livelihood and are financially contributing their families. The PWP awareness programme has mobilized these women to enhance their skills in the field of hospitality and eco-tourism. PWP Team arranged Seafood Cooking training for coastal community of Gawadar. In this training they have encouraged female participants to get involved more and more in order to contribute in eco-tourism initiative.



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Articles

» Evaluating Kallar Kahar Lake Eutrophication using Landsat ETM+

Introduction and problem identification: Eutrophication is the "bloom" or great increase of algae in water bodies resulting from disturbed nutrient balance of water which decreases the aesthetic value of that water body. The quality of natural Kallar Kahar Lake (salt range, district Chakwal) has been so badly deteriorated that it is now considered as eutrophic lake which is due to adverse human impact and mismanagement of concerned authority.

Benefits of Remote Sensing for these kinds of studies: Traditional routine monitoring/assessment methods of inland lakes based on direct observations and analysis of samples can only be done for limited number of locations which is much expensive, laborious and time consuming so utilizing cost effective methodology is need of the time. Scientists, since long, tried to predict level of eutrophication timely and accurately for entire area by utilizing remote sensing technology. The idea of utilizing remote sensing technology, best for spatial and

temporal distribution of phenomenon, is based on the fact that an increase in algae/chlorophyll is associated with a change in the optical properties of water. Among others satellite data, Landsat ETM+: moderate spectral, spatial and high temporal, freely available remotely sensed data, can easily be utilized for depicting eutrophication over entire area along with in situ measurements which help in validation of results.

Purpose & methodology to conduct the study: Purpose of this study is to apply satellite data, especially where ground observation cannot be taken easily, to estimate and map the distribution of chlorophyll-a concentration within reservoir. During survey at noon, water sample bottles were filled from 21 locations, GPS points were recorded along with Secchi Disk Transparency depth measurement. Temperature, Dissolved Solids and Dissolved Oxygen were recorded on site with HydroLab apparatus and remaining quality parameters were analysed in laboratory: chlorophyll-a (by spectrophotometer), total phosphorous (Molybdovanadate Method), Total Nitrogen and Total

Organic Carbon (using aj-analyzer). Landsat ETM+ image (of 6th day after survey) were procured and atmospherically corrected. Statistical regression model were developed on the basis of best correlation among satellite and some chlorophyll-a concentration data. Model then applied over the area and validate through remaining chlorophyll-a concentration data. Trophic State of Index then calculated for whole lake.

Findings and recommendations: It has been found that more practical approach to monitor water quality data is with remote sensing technique. Landsat TM/ETM+ is better resource for quantitatively estimating chlorophyll concentration as strong correlation has been observed but it is recommended to assess temporal (i.e. annual and seasonal) variation with Landsat or with other higher spectral resolution satellite image i.e. ASTER etc.

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