

CyberTracker Project on Nepal Biodiversity



Report prepared by Ms. Sagita Thapa (Wilderness Planet Nepal)

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Regards,

.....
Ms. Sangita Maharjan
(President)

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1. Introduction:

CyberTracker:

Cyber-Tracker is the most efficient method of GPS field data collection. It can be use on a Smartphone or handheld computer to record any type of observation. CyberTracker, which requires no programming skills, allows you to customize an Application for your own data collection needs. The CyberTracker PC Version 3 downloads data from a handheld computer onto a desktop Personal Computer, where data can be viewed in tables and maps and exported for analysis. The unique icon and text interface design makes data capture very efficient and even allows non-literate users (like expert trackers) to capture very complex data. An integrated GPS not only provides geo-referenced observations, but also makes it possible to measure Effort by means of regular GPS Timer points. The Sequence Designer makes it possible for users with no programming skills to develop their own customized data capture templates. Data streaming into the Internet (the Cloud) will make it possible to visualize changes in the global ecosystem in real time.

Historical Background of CyberTracker:

CyberTracker recognized as one of South Africa's top inventions. Louis Liebenberg and Justin Steventon invented the CyberTracker, connected to a satellite navigational system, in 1996. This hand-held computer provides a high-technology method of tracking animals in the field. CyberTracker Conservation is a non-profit organization whose vision is to promote the development of a worldwide environmental monitoring network. The CyberTracker software has been developed and refined over a ten-year period and is based on extensive practical field experience in remote wilderness areas.

From its origins with the Kalahari Bushmen, CyberTracker projects have been initiated to monitor gorillas in the Congo, snow leopards in the Himalayas, butterflies in Switzerland, the Sumatran rhino in Borneo, jaguars in Costa Rica, birds in the Amazon, wild horses in Mongolia, dolphins in California, marine turtles in the Pacific and whales in Antarctica. It is being used by individual scientists through to large-scale monitoring in the Kruger National Park. CyberTracker is being used in national parks, scientific research, citizen science, education, forestry, farming, social surveys, health surveys, crime prevention and disaster relief

CyberTracker Project on Nepal Biodiversity:

The project “CyberTracker on Nepal Biodiversity” in Nepal is organized by WPN in joint collaboration with CyberTracker World International, CyberTracker Germany with the support from the Wilderness School, "Wildniswissen", Germany.

Wilderness Planet Nepal" is a non- profit organization. It was established on December 2011 and register under the Government of Nepal at the Kathmandu district. It was formed by environment conscious groups with the aim to conserve and protect the nature, knowledge dissemination, capacity build- up and skill development training to make the eco-friendly environment. Its main principle is based on the protection of biodiversity, sustainable lifestyle, working in team, and concern for future generation.

The mission of this project is to help researcher and graduate student to develop their practical observation skills using CyberTracker application in field of research and data monitoring.

2. Objective:

The main goal of the project is to encourage researcher, scientists, conservationist, government and non government institute to use the Cyber-Tracker application in the field of research and monitoring to save the nature.

“Nature and people in Nepal, responsibility for saving, "we can only save, what we love. we can only love what we know”.

The specific objectives are given below

- Encourage students and researchers to conserve the nature
- Monitor species in easy basis and make the data to visualize changes in the global ecosystem in real time.
- Knowledge and Information Sharing and capacity building on the observation skill on monitoring

From January 2012, the “Cyber-Tracker on Biodiversity” project was launched in Nepal .The activities of the project were divided into three phases:

Phase 1: Internal Monitoring Tour in Kathmandu:

Activities:

I. CyberTracker on the Biodiversity- A One Day Tour to Taudha :

The wilderness planet Nepal was organized a day tour to Taudha, Kathmandu on 13th February 2012. “*The use of the Cyber Tracker on the biodiversity*” was the theme for the tour. All the species of flora and fauna was recorded on the site by using the CyberTracker. The objective of the tour was to attract the world on the field of research, citizen science, education, forestry, farming, social surveys, health surveys, crime prevention and disaster relief etc. The mission of this tour is to make graduate student to know about the application of cyberTraker and its use on the field on monitoring.

II. Internal Monitoring Tour on Nagarjune Forest



WPN organized the monitoring tour at the Nagarjune forest, Balazu, Kathmandu Nepal on March 2012. The WPN members along with graduate researcher went to the forest and recorded the data on vegetation, birds and mammals (scats. sign, sound, feeding) using Pocket pc under the supervision of Mr. Holger

Röhle. The data then transfer to the computer and Mr. Röhle taught to layout the map of monitoring data using CyberTracker application.

Phase 2: Biodiversity Monitoring Tour

Pike Monitoring Tour –Solukhumbu to Okhaldhunda:

Wilderness Planet Nepal organized the Pike Monitoring Tour- Solukhumbu to Okhaldhunga district of Nepal along with graduate on 7-16th May 2012. With the aim to disseminate knowledge regarding CyberTracker, WPN members mentor graduate to make them known about the CyberTracker and its application in the practical field. This tour started



from Kathmandu to Phaplu, Pike Base-camp, Sepli, Japre, Maidane, Okaldhunga and at last end at Gurmi. The students collected data of biodiversity with the help of Pocket Pc and smart phone. This program is being funded by Holger Röhle, developer of Cyber tracker in Nepal. The main objective of this program is to monitor the biodiversity by using the CyberTracker application. After



the field survey, three grantees presented their field reports on the “**Workshop on CyberTracker: Environmental Data Monitoring with Modern Technology**” held on 29th May 2012 at Nepal Tourism board, Kathmandu, Nepal.

Here the different photographs showing the use of Pocket Pc device in the recording of data on vegetation, bird survey and socio-economic survey.



Field Reports on Biodiversity Monitoring and Socio-economic Survey using CyberTracker Application:

Wilderness planet Nepal had funded three grantees to do research on biodiversity using Cyber Tracker application. The areas selected were from Solukhumbu to Okhaldhunga. The research were categorized into three parts namely, Vegetation survey, Birds survey, Socio-economic survey and under these titles they recorded the biodiversity data and socioeconomic data of the study area using Pocket PC and smartphone. The data then transfer to the computer and analyzed through CyberTracker software. The field reports prepared by three grantees under different headings are given below:

A Case Study on Vegetation Survey using CyberTracker Application

Report prepared by Sudeep Bhandari

Introduction

Nepal lies in the heart of Hindukush Himalaya region extending in the northern part of the country. Along with the spectacular mountain scenery and cultural diversity Nepal has wide variety of flora and fauna are treasures. Within the area of 1, 47,181 Nepal have great variation in altitude ranging from 60m to 8,848m within 200 Km on average. This variation in altitudinal landscape with high mountains, deep river valleys and low plain with the climatic variation makes this land rich in biodiversity.

Monitoring of biodiversity is a key concern to update the records of flora and fauna species and add the newly identified in the list.

Floral Biodiversity of Nepal:

Nepal is home to an amazing diversity of plants: from stunted alpines battling with the harsh environments of the frozen mountains, to mighty trees of the steamy lowland jungles down at around 200 km.

For describing floral diversity, Dobremez (1972) divided Nepal into six bio-climatic zones or belts with 11 subzones:

- a. Tropical belt (up to 1,000 m altitude): Lower up to 500 m, and Upper 500-1,000 m.
- b. Subtropical belt (1,000-2,000 m): Lower, 1,000-1,500 m and Upper, 1,500-2,000 m.
- c. Temperate belt (2,000-3,000 m): Collinean, 2,000-2,500 m and Montane, 2,500-3,000 m.
- d. Sub-Alpine belt (3,000-4,000 m): Lower, 3,000-3,500 m and Upper, 3,500-4,000 m.
- e. Alpine belt (4,000-5,000 m): Lower, 4,000-4,500 m and Upper, 4,500-5,000 m.
- f. Nival belt (above 5,000 m).

Nepal is rich in floral resources with 37% of land covered by forests (10% crown cover) with 35 forest types and 75 vegetation types. Existing records shows 6351 species of angiosperms, 25 species of gymnosperms, 534 species of ferns, 853 species of bryophytes, 687 species of algae, 1,822 species of fungi and 2000 species of lichens of which 48 endemic to Nepal (Nepal Biodiversity Resource Book, 2010).

Objective:

- To monitor and record the plants with its identifying features, position of plants, status along the monitoring route using Pocket Pc device and analyze them using CyberTracker application

Methodology:

The Monitoring was done by traverse method observing plants species, identified them and record the position, identifying features, and status on the Pocket PC. Each day recorded information was downloaded in CyberTracker application and analysis was done at the end of monitoring tour.

Monitoring Route:

Monitoring was started from Phaplu- Pike- khop- Jarsipass- Pike basecamp- Pike- Bulbule- Jhapre- Maidane- Safli- Sirichour of Solukhumbu and Okhaldhunga districts in 6 days. The following map is showing the monitoring route of Solukhumbu and Okhaldhunga district.



The monitoring includes the altitudinal variation from 1000m to 3500m. Each day monitoring was done in 4-5 hours walking distance on average.

Results and Discussions:

Recorded information of plants was downloaded in CyberTracker application. On the monitoring tour around 70 species of plants of 28 families of plants were recorded. About 16 species were recorded between 1000 m to 1500m, 15 species between 1501m to 2000m, 33 species between 2001m to 2500m 32 species between 2501m to 3000m and 6 species above 3001m upto 3650m (Pike Base-camp). Large number of species was observed during the monitoring within the short distance. This is because the ruggedness of the mountainous region develops number of ecosystems and microclimatic regions. Eastern mountainous region is rich in biodiversity and is also in the region of global biodiversity hotspot (Himalaya).

Different Plant species recorded during the monitoring are listed below:

Plants recorded between 1000m to 1500m

Latitude	Longitude	Altitude	Species	Family
27.352337	86.4351	1012.9	<i>Ficus bengalensis</i>	MORACEAE
27.350295	86.437385	1077.4	<i>Pinus roxburghii</i>	
27.36168	86.4257667	1222.4	<i>Bombax ceiba</i>	BOMBACEAE
27.365813	86.4194033	1380.9	<i>Choerospondias axillaris</i>	
27.365798	86.41943	1390.8	Himalayan Walnut	JUGLANDACEAE
27.383398	86.4547133	1395.7	<i>Ficus bengalensis</i>	MORACEAE
27.383493	86.4545017	1410.4	<i>Colebrookea oppositifolia</i>	LABIATAE
27.383393	86.4544683	1411.2	Sisnoo	
27.383268	86.455795	1432.3	Mulberry	MORACEAE
27.383412	86.4527817	1433.3	Buhari	
27.383997	86.453475	1434.5	<i>Albizia lebbek</i>	LEGUMINOSEAE
27.383302	86.45554	1437.6	Gogane	
27.38337	86.4554867	1439.3	Bilaune	
27.383152	86.4526783	1446.6	<i>Himalayacalamus sps.</i>	
27.383568	86.452945	1466.3	<i>Rubus ellepticus</i>	ROSACEAE
27.38519	86.4564883	1484.9	Kaulo	
27.383203	86.4518867	1486.4	Khar	POACEAE

Plants recorded between 1500m to 2000m

Latitude	Longitude	Altitude	Species	Family
27.383365	86.4516417	1503.2	<i>Schima wallichii</i>	THEACEAE
27.366177	86.4173617	1511.7	<i>Malostoma sps.</i>	
27.383153	86.44839	1543.4	<i>Schima wallichii</i>	THEACEAE
27.36653	86.4158217	1547.2	Ghurpiso tree	
27.383553	86.45011	1563.7	Amriso	
27.38634	86.4584883	1575.6	<i>Berberis aristata</i>	BERBERIDACEAE

27.368517	86.4139767	1594.8	Ghiganu	
27.38527	86.44536	1614.1	Tama bans	POACEAE
27.369788	86.4134	1650.1	<i>Phyllanthus emblica</i>	PHYLLANTHACEAE
27.369718	86.4134817	1668.9	<i>Rhododendron arboreum</i>	ERICACEAE
27.319125	86.50177	1686.1	<i>Ficus bengalensis</i>	MORACEAE
27.31881	86.50143	1707.2	Quale tree	
27.317247	86.4996233	1711.6	<i>Schima wallichia</i>	THEACEAE
27.369972	86.41338	1718.9	<i>Quercus semicarpifolia</i>	FAGACEAE
27.317207	86.4994833	1738.9	<i>Pinus wallichiana</i>	PINACEAE
27.371518	86.4125983	1835.2	<i>Smilacina purpurea</i>	LILIACEAE
27.372213	86.4123817	1862.1	<i>Phyllanthus emblica</i>	PHYLLANTHACEAE
27.386153	86.4651017	1894.5	<i>Rubus ellepticus</i>	ROSACEAE
27.374305	86.4098983	1993.1	<i>Schima wallichii</i>	THEACEAE

Plants between 2000m to 2500m

Latitude	Longitude	Altitude	Species	Family
27.520375	86.5744717	2099.4	<i>Quercus semecarpifolia</i>	FAGACEAE
27.519532	86.5745933	2139.7	Maini kanda	
27.398822	86.4752317	2140.4	Sisno	
27.519568	86.5745033	2141.5	<i>Rhododendron arborium</i>	ERICACEAEA
27.519537	86.5744767	2142.3	Ghangara	
27.519515	86.5745383	2144.4	<i>Berberis aristata</i>	BERBERIDACEAE
27.398888	86.4752633	2144.6	<i>Centella asitica</i>	
27.519533	86.574575	2149.1	<i>Ficus religiosa</i>	MORACEAE
27.398443	86.4739267	2164.5	Bamboo	POACEAE
27.39422	86.46884	2168.7	<i>P. depressa Willd.</i>	PLANTAGINACEAE
27.39422	86.46884	2168.7	<i>P. erosa Wal</i>	PLANTAGINACEAE
27.39422	86.46884	2168.7	<i>Berberis L.</i>	BERBERIDAC
27.398445	86.47349	2169.2	<i>Cissampelos pareira</i>	MENISPERMACEAE
27.519135	86.5759017	2190.7	<i>Lyonia ovalifolia</i>	ERICACEAE
27.52261	86.5744667	2200	<i>Circium sps.</i>	
27.400915	86.4747	2217.6	<i>Centella asiatica</i>	MACKANLAYACEAE

27.518933	86.5767933	2223.4	<i>Alnus nepalensis</i>	BETULACEAE
27.40779	86.4894517	2227.6	<i>Himalayan Silver Birch</i>	BETULACEAE
27.40083	86.4745567	2231.5	<i>Quercus semecarpifolia</i>	FAGACEAE
27.403908	86.4782433	2235.2	Dubo	
27.518702	86.577205	2237.6	Ghodakorne	
27.402782	86.4762083	2238.6	<i>Alnus nepalensis</i>	BETULACEAE
27.407988	86.4890433	2240	<i>Cymbopogon jwarancusa</i>	
27.523093	86.5738233	2244.5	Ghangara	
27.407885	86.488405	2255.9	<i>Ratnaula</i>	
27.407885	86.488405	2255.9	<i>Kane</i>	
27.51841	86.5776917	2256.5	Chadu	
27.407648	86.4884483	2269.6	<i>Cymbopogon jwarancusa</i>	
27.517805	86.57914	2284.5	<i>Prunus persica</i>	ROSACEAE
27.517477	86.579435	2302.9	<i>Rhododendron arboreum</i>	ERICACEAE
27.517447	86.5795767	2309.5	<i>Gaultheria fragrantissima</i>	ERICACEAE
27.517323	86.5798	2313.1	<i>Artemisia indica</i>	COMPOSITAE
27.532437	86.5576683	2314.2	<i>Prunus persica</i>	ROSACEAE
27.51728	86.58018	2318.4	<i>Lyonia ovalifolia</i>	ERICACEAE
27.517262	86.5803017	2322.7	Arupate	
27.516982	86.5806133	2335.1	<i>Rubus ellepticus</i>	ROSACEAE
27.533637	86.5572567	2355.9	<i>Salix babylonica</i>	SALICACEAE
27.507875	86.5894017	2377.6	<i>Berberis aristata</i>	BERBERIDACEAE
27.509157	86.587725	2404	<i>Zanthoxylum armatum</i>	RUTACEAE
27.413355	86.4885983	2451.2	<i>Betula utilis</i>	BETULACEAE
27.511017	86.5862183	2451.9	<i>Alnus nepalensis</i>	BETULACEAE
27.512217	86.5852433	2453.9	Kande	
27.414325	86.4881117	2490.4	<i>Pinus wallichiana</i>	PINACEAE

Plants between 2500m to 3000m

Latitude	Longitude	Altitude	Species	Family
27.538527	86.5331751	2539	<i>Arisaema jacquemontii</i>	ARACEAE
27.416622	86.4859733	2584.2	<i>Smilax aspera</i>	LILIACEAE

27.417728	86.48459	2603.3	<i>Quercus semicarpifolia</i>	FAGACEAE
27.41756	86.484435	2614.6	<i>Viburnum cylindricum</i>	CANNABACEAE
27.417122	86.4853967	2615.5	<i>Ban maala</i>	
27.54064	86.5200383	2646.9	Aakhtingo	
27.419513	86.48487	2649.6	<i>Gaultheria fragrantissima</i>	ERICACEAE
27.539575	86.520175	2654.8	<i>Himalayacalamus sps.</i>	POACEAE
27.539832	86.520085	2672.5	Fern	
27.540903	86.5185767	2680.8	<i>Cedrus deodara</i>	PINACEAE
27.540655	86.5198567	2685.3	<i>Fragaria nubicola</i>	ROSACEAE
27.419982	86.48472	2686.6	<i>Berberis aristata</i>	BERBERIDACEAE
27.540735	86.5186467	2688.1	<i>Rhododendron anthopogon</i>	
27.41985	86.48481	2690.8	Orchid	
27.540635	86.5187283	2691.4	<i>Cymbopogon jwarancusa</i>	
27.54092	86.5187067	2692.7	<i>Medicago falcata</i>	FABACEAE
27.540797	86.518615	2695.1	<i>Zanthoxylum armatum</i>	RUTACEAE
27.539721	86.5195878	2695.4	Ahorn (german)	
27.541192	86.5190383	2695.6	<i>Prunus fruticosa</i>	ROSACEAE
27.54083	86.5185683	2698.9	<i>Arisaemia sps.</i>	
27.540838	86.5185533	2699.7	Orchid	
27.540645	86.5186383	2700.9	<i>Rosa sericea</i>	ROSACEAE
27.54119	86.5186717	2704.4	<i>Pinus wallichiana</i>	CUPRESSACEAE
27.54128	86.5186817	2709.7	<i>Cedrus deodara</i>	PINACEAE
27.541317	86.5186533	2711.2	<i>Himalayacalamus sps.</i>	POACEAE
27.5394	86.520125	2712.5	Orchids	
27.42169	86.4852433	2719.2	<i>Cannabis sativa L</i>	CANNABACEAE
27.539707	86.5201233	2719.7	lichen	
27.421483	86.4852917	2726.5	<i>Berberis L.</i>	BERBERIDAC
27.421033	86.4849733	2726.8	<i>Berberis aristata</i>	BERBERIDACEAE
27.540296	86.518561	2730.5	<i>Tsuga dumosa</i>	CUPRESSACEAE
27.42352	86.4861533	2742.4	<i>Polygonatum cirrhifolium</i>	ASPARAGACEAE
27.423578	86.4862567	2761.1	<i>Lyonia ovalifolia</i>	ERICACEAE
27.423517	86.4862233	2762.9	<i>Rosa sericea</i>	ROSACEAE
27.539308	86.5141717	2867.6	Lunghemur	

27.538755	86.5127817	2894	<i>C. montana</i>	RANUNCULACEAE
27.537955	86.5114417	2949.7	<i>Mallotus philippensis</i>	EUPHORBIACEAE
27.53794	86.5107933	2969.5	<i>Thalictrum L.</i>	RANUNCULACEAE
27.446257	86.4702783	2989.7	<i>Cymbopogon jwarancusa</i>	POACEAE
27.445985	86.4701083	2989.9	<i>Daphne sps.</i>	TAMARICACEAE
27.53774	86.509875	2990.8	<i>Abies alba</i>	PINACEAE

Plants from 3000m to 3700m

Latitude	Longitude	Altitude	Species	Family
27.44604	86.47024	3001.6	<i>Jurinea dolomiaea</i>	ASTERACEAE
27.446108	86.47026	3001.7	<i>Arisaema jacquemontii</i>	ARACEAE
27.446068	86.470215	3004.9	<i>Cedrus deodara</i>	POACEAE
27.446077	86.4703017	3021	<i>Berberis aristata</i>	BERBERIDACEAE
27.538083	86.508755	3060.3	<i>C. gerardiana Royle</i>	FABACEAE
27.45078	86.461135	3174.2	<i>Hedra nepalensis</i>	ARALIACEAE

Conclusion:

The region was found rich in plant diversity with varieties of plant species in short range. Altitudinal variation within a short width distance create place for different plant species. More than 70 species from 28 families were recorded. The recording and analysis of plant species was made easier by using CyberTracker application.

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A Case Study on Birds Monitoring using CyberTracker Application

Report prepared by Kausal Yadav

Introduction:

Nepal is highly diverse country in the world compared to its territory. It is the land of great altitudinal and scenic contrasts. Highest peak of the world along with other peaks, delineate the northern border. Streams meander through hot. Numerous undisturbed streams meander from the Himalayas to the lowlands of the south. This natural setting provides home for nearly 800 species of birds. The table below gives the percentage of Nepal presentation in compare with the world population of different organisms.

Group of Organisms	Species Number		Reference	Nepal Presentation(%)
	Globally	Nepal		
Bacteria	3,000-4,000	NA		
Lichens	20,000	465	Sharma 1995	2.3
Fungi	69,000	1,822	Adhikari 1999	2.4
Algae	26,000-40,000	687	Baral 1995	2.6
Bryophytes	16,600	853	Kattel And Adhikari 1992	5.1
Pteridophyta	11,300	534	DPR 2002	4.7
Gymnosperms	529	27	Kobe et.al 1994	5.1
Angiosperms	220,000	5,856	Press et. al 2000	2.7
Platyhelminthes	12,200	168	Gupta 1997	1.4
Spiders	73,400	144	Thapa 1995	0.2
Insects	751,000	5,052	Thapa 1997	0.7
Butterflies & Moths	112,000	640 & 2,253	Smith 1994;nBhujju et.al. 2007	2.6
Fishes	18,150	182	Shrestha 2001	1
Amphibians	4,184	77	Shah 1995	1.84
Reptiles	6,300	118	Shah & Tiwari 2004	1.87
Birds	9,040	863	Baral & Inskipp 2009	9.53
Mammals	4,000	181	Suwal & Verheugt 1995	4.52

Source: Wilson (1988, 1992) and WCMC (1992): HMGN/MFSC 2002

Nepal is one of the few countries where birds can be observed around 8235m and still being on the ground. For the convenience, Nepal can be divided into three major geographical areas for the discussion of the birds: The lowlands including Terai to the Mahabharata ranges up to 915m, The Midlands above 915m comprising Midlands up to 2745m; The highlands over 2745m.

The lowlands: Terai is one of the richest areas in birds' species in Nepal. This area includes protected areas like Koshi Tappu, Shuklaphanta, Chitwan National Park, Parsa National park providing residing areas for several endemic as well as migratory birds. Koshi Tappu Wildlife Reserve provides habitat for many migratory birds from several parts of the world including Siberia. Chitwan National Park in the central region offers habitat for numerous unusual birds like Yellow -bellied Prinia, Rufous-necked laughing thrush etc. Shuklaphanta is roughly circular in area located in the western part of the nation preserves rare bird only found in those areas for instance Swamp Partridge.

The Midlands: Rising from the 1000m approx up to the height of 2745 m, midlands of Nepal includes Mahabharat range. Diversified society is the major characteristics of this area. Protected areas like Shivapuri National park, Dhorpatan reserves lies in this region. Kathmandu valley also lies in this region offering habitats to various birdlife in the outskirts of the valley like Phulchowki, Sundarijal, Nagarjuna, Chandragiri and other hillocks. More than 412 bird species are said to be listed from the Valley Itself. Blue-throated barbets, Laughing thrushes, Rufous-bellied bulbuls and many other beautiful birds are found in this areas. Surrounding environment of this region is considered as more suitable habitat for numerous birdlife.

The Highlands: Arising from the Mahabharat Range, this region provides habitat for hundreds of beautiful species of birds. Visiting this area in summer season can lure anyone by its scenic attraction along with the vegetation patterns and the wildlife. Although the higher region are found with rocky steeps, these region are habituated various beautiful and rare birds like Satyr tragopan and many other species of Pheasants. Birds like Chough, Lammergeiers, raven, eagles are reported soaring up to the elevation of 7625m. It is also believed that additional bird species not yet known from Nepal should occur in these northern areas of the Highlands.

Biogeographically, the Himalayan Mountain System can be separated easily into eastern and western sections. Lately, Arun River in eastern Nepal was believed to be the dividing line between these sections. But according to the recent avian data Arun River neither act as effective barrier nor is a dividing line between the two sections. Instead Kaligandaki River emerges as very distinct breaking point in bird distribution in Nepal. Eastern birds' including the Blue Parrotbill, Golden breasted tit babbler, Rufous-bellied shrike babbler and the Blood pheasants extend only as far as the Annapurnas. Conversely the western birds reaching up to the Dhaulagiri are Simla black tit, Spot-winged black tit, Missel thrush, Eurasian nuthatch etc. Thus it can be said that Nepal is a habitat for numerous diversified species of beautiful birds.

Objectives

The main objective of the visit was to monitor the biodiversity of birds in lower Solukhumbu and Upper Okhaldhunga districts using the Cyber tracker application.

Specific objectives of the visit are listed below:

- To show the effectiveness of the Cyber tracker application in the field of biodiversity
- To conduct the monitoring of birds of the area using Cyber tracker

Study area

The study was carried along the route Phaplu of Solukhumbu district to Sirichaur Of Okhaldhunga via Pike Base camp.

Methodology

The method of monitoring the biodiversity was traverse method which refers to monitor the biodiversity (viz. plant, animals, birds, scats) along the route of the study area. The data were directly taken by the Pocket pc device and analysed the data with CyberTracker software.

Results

Moving from the altitude of 2453m to 3714m altogether 46 bird species were successfully recorded in the device. The table given below is showing species found in various latitude, longitude and altitude:

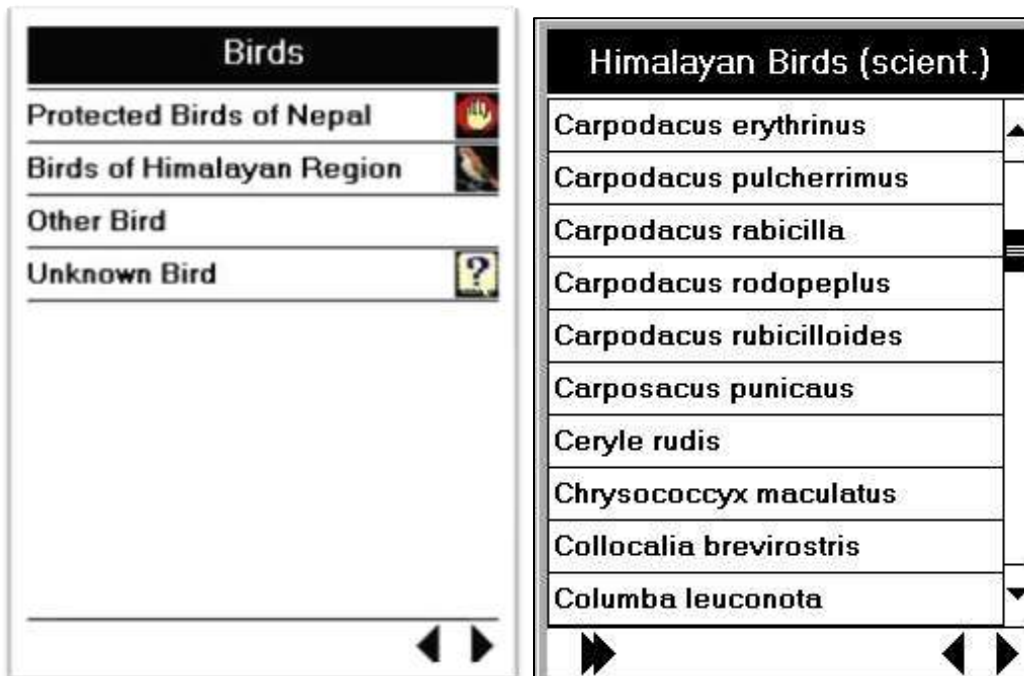
Species	Latitude	Longitude	Altitude
<i>Hierococcyx sparverioides</i>	27.514927	86.583455	27.514927
<i>Anthus sylvanus</i>	27.515967	86.582690	27.515967
<i>Rufous-bellied Niltava</i>	27.522088	86.575345	27.522088
<i>Pycnonotus leucogenys</i>	27.539822	86.520092	27.539822
<i>Oriental Cuckoo</i>	27.539808	86.520072	27.539808
<i>Streptopelia orientalis</i>	27.539773	86.520015	27.539773
<i>Seicercus castaniceps</i>	27.539805	86.520057	27.539805
<i>Garrulax affinis</i>	27.539823	86.520073	27.539823
<i>Collared Owlet</i>	27.541706	86.493332	27.541706
<i>Corvux corax</i>	27.540575	86.516833	27.540575
<i>Verditer Flycatcher</i>	27.539037	86.516273	27.539037
<i>Unknown bird</i>	27.541177	86.497033	27.541177
<i>Chaimarrornis leucocephalus</i>	27.542275	86.491120	27.542275
<i>Corvus corax</i>	27.542193	86.491248	27.542193
<i>Nucifraga caryocatactes</i>	27.542277	86.491022	27.542277
<i>Oriental Turtle Dove</i>	27.511497	86.457100	27.511497
<i>Cinclus cinclus</i>	27.511393	86.457133	27.511393
<i>Satyr Tragopan</i>	27.473177	86.446488	27.473177
<i>Blood Pheasant</i>	27.473200	86.446443	27.473200
<i>Pericroctus ethologus</i>	27.473250	86.446492	27.473250
<i>Urocissa flavirostris</i>	27.461175	86.453660	27.461175
<i>Alcippe chrysotis</i>	27.450422	86.461505	27.450422
<i>Actinodura nipalensis</i>	27.450398	86.461570	27.450398
<i>Callacanthus burtoni</i>	27.446447	86.471048	27.446447
<i>Grey-bellied Cuckoo</i>	27.446395	86.470962	27.446395

<i>Accipiter nisus</i>	27.446415	86.470965	27.446415
<i>Regulus regulus</i>	27.446483	86.470970	27.446483
<i>Upland Pipit</i>	27.439610	86.478057	27.439610
<i>Urocissa flavirostris</i>	27.447502	86.468270	27.447502
<i>Verditer Flycatcher</i>	27.402718	86.487234	27.402718
<i>Oriolus traillii</i>	27.423830	86.486352	27.423830
<i>Dhutti</i>	27.403525	86.493609	27.403525
<i>Parus dichrous</i>	27.407765	86.487497	27.407765
<i>Phoenicurus ochruros</i>	27.403088	86.488868	27.403088
<i>Pericrocotus flammeus</i>	27.403110	86.488950	27.403110
<i>Oriental Cuckoo</i>	27.402315	86.490172	27.402315
<i>Garrulax subunicolor</i>	27.402333	86.490142	27.402333
<i>Ashy Drongo</i>	27.407925	86.488818	27.407925
<i>Upland Pipit</i>	27.391760	86.463358	27.391760
<i>Pyrrhula nipalensis</i>	27.391758	86.463387	27.391758
<i>Aegithalos concinnus</i>	27.391772	86.463385	27.391772
<i>Great Barbet</i>	27.384993	86.456407	27.384993
<i>Hypsipetes leucocephalus</i>	27.384928	86.456267	27.384928
<i>Parus ater</i>	27.374408	86.410015	27.374408
<i>Scaly-bellied Woodpecker</i>	27.362455	86.423827	27.362455
<i>Unknown Eagle</i>	27.356572	86.432565	27.356572

Snapshots from the cyber Tracker application

Date	Time	Latitude	Longitude	Altitude	Species	Date Col	Object	Obs	Family	Notes	Number	male sex	female sex	unknown sex
06/05/2012	07:50:35	27.51433333	86.52091667	2420.5	Hirundo sparnhech	None	Animal	Bird	Other Bird	Sharp point	approximate		1	
06/05/2012	07:53:46	27.51433333	86.52091667	2401.3	Anthus grahami	None	Animal	Bird	Other Bird		approximate		1	
06/05/2012	08:52:57	27.52038889	86.57524167	2218.9	Falco tinnunculus	Sighting	Animal	Bird	Bird of Prey		approximate		1	
06/05/2012	15:44:29	27.53862778	86.52091667	3601.5	Pteropus neohibernicus	Sighting	Animal	Bird	Other Bird		approximate		1	
06/05/2012	16:40:58	27.52888889	86.52091667	2882.3	Corvus corax	None	Animal	Bird	Bird of Prey		approximate		1	
06/05/2012	16:52:46	27.52677778	86.52091667	2671.8	Streptopelia orientalis	Sighting	Animal	Bird	Other Bird		approximate		1	
06/05/2012	16:55:10	27.528889	86.52091667	2669.1	Streptopelia orientalis	Sighting	Animal	Bird	Other Bird		ready		1	
06/05/2012	17:23:43	27.53862778	86.52091667	3602.3	Corvus corax	Sighting	Animal	Bird	Other Bird		ready		1	
06/05/2012	09:59:37	27.54170556	86.44033333	2482.48848	Colaptes cafer	Sighting	Bird	Bird	Bird of Prey	Feather	ready	1		
06/05/2012	07:13:13	27.548275	86.51622222	2774.6	Corvus corax	None	Animal	Bird	Other Bird		ready		1	
06/05/2012	07:40:14	27.52888889	86.51622222	2830	Myiophobus myiophobus	Sighting	Animal	Bird	Bird of Prey	Feather	ready		1	
06/05/2012	13:35:25	27.54170556	86.44033333	2320.6	Unknown bird	Sighting	Animal	Bird	Other Bird	Feather	ready		2	
06/05/2012	11:40:36	27.542275	86.491172	3475.6	Chalcophaps indica	Discovery	Animal	Bird	Other Bird	Searching for	ready		1	
06/05/2012	11:45:30	27.542275	86.491172	3475.6	Corvus corax	Discovery	Animal	Bird	Other Bird	New feather	ready		1	
06/05/2012	11:48:30	27.542275	86.491172	3475.6	Myiophobus myiophobus	Discovery	Animal	Bird	Other Bird	New feather	ready		1	
15/05/2012	09:50:07	27.51149667	86.45713333	3488.3	Corvus corax	Sighting	Animal	Bird	Bird of Prey		approximate		2	
15/05/2012	09:50:07	27.51149667	86.45713333	3488.3	Corvus corax	Sighting	Animal	Bird	Other Bird	Feather	ready		2	
15/05/2012	12:28:29	27.47217778	86.44644444	3138.8	Salix Trappan	Sighting	Animal	Bird	Bird of Prey		ready	1	2	
15/05/2012	12:27:58	27.47217778	86.44644444	3138.8	Blood Pheasant	Sighting	Animal	Bird	Bird of Prey		ready	1		
15/05/2012	12:32:12	27.47217778	86.44644444	3138.8	Pavo cristus	Sighting	Animal	Bird	Bird of Prey		ready		1	
15/05/2012	13:24:36	27.481375	86.45066667	3330.6	Urosalpinx	Sighting	Animal	Bird	Other Bird		ready		1	
15/05/2012	13:29:43	27.45042778	86.44191667	3139.9	Anthus grahami	Sighting	Animal	Bird	Other Bird		ready	2		
15/05/2012	14:07:35	27.45042778	86.44191667	3177.7	Apollonias hololeuca	Sighting	Animal	Bird	Other Bird		ready		1	
15/05/2012	14:42:15	27.44844444	86.47144444	3001.6	Callipepla leucosticta	Sighting	Animal	Bird	Bird of Prey		ready		2	
15/05/2012	14:46:45	27.44844444	86.47144444	3001.6	Geopelia striata	None	Animal	Bird	Bird of Prey	Feather	ready		5	

Picture taken from the computer analysing data obtained from the device



Picture taken from the device using cyber tracker application

Result & Discussion

The total number of birdlife recorded in the device was 46 in number. Some of the birds recorded in the application are also listed as the protected wildlife of Nepal. *Satyr tragopan* found at an altitude of 3338m is an example of protected wildlife. *Accipter nisus* is commonly known as Eurasian Sparrow hawk are also seen rarely in their habitat.

Conclusion

The 10 days field visit to Solukhumbu and Okhaldhunga for monitoring the biodiversity (Birds) using the Cyber Tracker application was conveniently done.

A Case Study on Socio-economic Survey using CyberTracker Application

Report prepared by Ms. Saru Sakha(CDB)

Introduction

Nepal is a land lock country lies in south Asia with an area of 147,181 square kilometres (56,827 sq mi) and a population of approximately 27 million. Nepal is the world's 93rd largest country by land mass and the 41st most populous country. Among the 75 district of nepal, Solukhumbu and okhaldhunga are two district chosen for the study of biodiversity using CyberTracker application.

Solukhumbu District a part of the Sagarmatha Zone, is one of the seventy-five districts of Nepal Including Mt. Everest, many major mounatin peaks lies in this district. As the name suggests, it consists of the subregions Solu and Khumbu. Namche, Lukla, Salleri, phaplu are some of the important places .It has Population of 201,245 in 2001 with Density 61/km² (160/sq mi), The district, with Salleri as its district headquarters, covers an area of 3,312 km² and has a population (2001) of 107,686. Mount Everest is located in the northern part of this district, within Sagarmatha National Park. Indigenous ethnic Rai and hill Caste Chhetri are the main groups living in the mid-hills, while Sherpas occupy high mountains. There is a notable hiking trail in this district known as the Solukhumbu Trail. The VDC od this districts are: Bafa, Baku, Basa, Beni, Bhakanje, Bung, Chaulakharka, Chheskam, Deusa, Garma, Goli, Gorakhani, Gudel, Jubing, Jubu, Kaku, Kangel, Kerung, Khumjung, Loding Tamakhani, Lokhim, Mabe, Mukali, Namche, Necha Batase, Necha Bedghari, Nele, Panchan, Salleri, Salyan, Sotang, Takasindu, Taping, Tingla,

Okhaldhunga District a part of Sagarmatha Zone, is one of the seventy-five districts of Nepal, The district, with Okhaldhunga as its district headquarters, covers an area of 1,074.5 km² and has a population (2001) of 156,702. Okhaldhunga is part of area traditionally called Wallo Kirat (near Kirat), home to indigenous ethnic groups Rai and Sunuwar. Apart from these indigenous ethnic groups, other ethnics and hill castes live in the district. The district contains the following VDCs: Andhari, Baksa, Balakhu, Baraneshwor, Barnalu, Betini, Bhadaure, Bhussinga, Bigutar, Bilandu,

Chyanam, Diyale, Fediguth, Fulbari, Gamnangtar, Harkapur, Jantarkhani, Jyamire, Kalikadevi, Kaptigaun, Katunje, Ketuke, Khiji Chandeshwori, Khijifalate, Kuibhir, Kuntadevi, Madhavpur, Mamkha, Manebhanjyang, Moli, Mulkharka, Narmedeshwor, Palapu, Patle, Pokhare, Pokli, Prapchan, Ragani, Rajadeep, Raniban, Ratmata, Rawadolu, Rumjatar, Salleri, Serna, Shreechaur, Singhadevi, Sisneri, Taluwa, Tarkerabari, Thakle, Thoksela, Thulachhap, Ubu, Vadaure, Yasam.

Wilderness Planet Nepal began its monitoring tour from Phaplu of solukhumbu district to shreechaur of Okhaldhunga district on 7th- 16th May 2012. During the Monitoring tour socio-economic survey was conducted by using pocket PC and then analyzed these data using CyberTracker application.

Objectives:

- To introduce the use of CyberTracker in field data collection.
- To show the effectiveness of CyberTracker application in biodiversity monitoring.

Study area

Study was done from Phaplu of Solukhumbu to Srichaur of Okhaldhunga district taking the route of Pike Khop, Pike base camp, Jhapre, Maidan and Srichaur. The study area is situated in lower Everest region. The trail begins at the altitude of 2413m at Phaplu to 3650 m at Pike base camp and then descending down to Okhaldhunga i.e.1561 m.

Methodology

The Monitoring was conducted by traverse method. The socio-economic survey was done by using questionnaire method that was loaded in the Pocket PC and then analyzed with CyberTracker Application.

The questionnaire for the socioeconomic survey was divided into 7 groups as –

- About respondent
- Socioeconomic
- Resources
- Wildlife
- Infrastructure

- Climate and biodiversity
- Generals

Result

About 20 persons were interviewed with questionnaire survey. The entire questionnaires were based on respondent information, Socioeconomic, Resources, Wildlife, Infrastructure, Climate, biodiversity of that area. All the data were recorded on the pocket PC. After analyzing these data the following results were obtained.

- **Respondent information**

Most of the respondent belongs to Sherpa community i.e. 40% and others are Magar, Tamang, Chetri, Brahmin and Rai. Only 7 respondents are found to be literate. However in the family the second generation members are literate.

- **Socioeconomic**

The respondents are mostly involved in agriculture for their income. Very few are doing business and services. The change in income since past 20 years is generally increasing due to remittance and tourism industry. The major crops they grow are maize, potato and wheat where as the major livestock reared by the people of that area are buffalo, chicken, cow and goat.

- **Resources**

Fuel-wood is the major source for the energy which they extracted it from their own land, community forest and also from the National forest. Barma salla, Utis, Gobre salla, Thigre salla, Khote salla, Dhupi salla, Bhalayo, Pipal, Tetelo, Lali gurans are some plants they use for the fuel wood. And for fodder they use Khasru, Badahar, Khari, Gayo, Asna, Bhimsenpati, Chiuri, Kimbu, Painyu and other. Since people are mostly depended on forest for daily energy sources. According to the respondent the condition of the forest were degrading in compare with next past 5 years.

- **Wildlife**

Regarding wildlife issues, human damages were made by animals like Leopard, Bear, Wild dog livestock damages were made by leopard, Jackel, Fox, Bear where as crop damages were made by Deer, Bear, Monkey and Porcupine. The villager implemented some prevention mechanism like shouting, fencing, and firing to defense against the wildlife.

- **Infrastructure**

Under the Infrastructural development, the study area was in the initial phase. New roads were under construction, health posts were also available and schools were mostly of primary level. The land line communication and internet were not available but for the communication most of the people were using the mobile.

- **Climate change**

Regarding climate change, people of the area are observing the change in water flow like decreasing in the water volume, decreasing snow cover in mountains area and increasing in the temperature. Since from past 2-3 years the people were adopted new crops like cauliflower, cabbage and tomatoes in the study area of Okhaldhunga district to cope with the increasing temperature. But in the Solukhumbu district people were not felt any increase in the temperature.

- **Generals**

General is about the future fears and wishes of the respondents. Fears were mainly of water problem, decreasing productivity, landslide and wishes were mainly for the infrastructural development likes schools, hospitals, roads, electricity and good income.

Conclusion

The socio economic data were recorded using pocket pc and then the recorded Data were easily analyzed using CyberTracker application in the computer. The study areas were underdeveloped and most of the people were illiterate. The sources of income were only agriculture and some areas were in the trekking route so the tourism industries were slowly developing. The populations were so lowered and most of the younger generation were abroad or migrate to the other places with in the country for the employment.

Phase 3: Public Workshop:

Workshop on CyberTracker: Environmental Data Monitoring with Modern Technology

Wilderness Planet Nepal (WPN), with the support from the Wildernisschule Wildniswissen Germany organized a workshop entitled "**CyberTracker: Environmental Data Monitoring through Modern Technology**" on 29th May 2012 at Nepal Tourism Board, Pradarshani Marg, Kathmandu. About 89 students of environmental backgrounds from different academic institutions, research institutions and organizations that work towards the conservation and protection and journalist from various media house were presented on the event.

The main aim of the workshop was to introduce "CyberTracker" software, which helps to collect any data outdoor with the help of Pocket PC. It is the most efficient way to gather large quantities of geo-referenced data for field observations. The data can be transferred to computer for analysis and creating different kinds of reports. It became more prestigious that the software was firstly introduced in Nepal by WPN.



The Chief Guest of the program was Dr. Dinesh Chandra Devkota (Former Vice chair man of national planning commission, Visiting Professor of CDES and senior environmentalist) and chaired by Prof. Suman Bhattarai (Associate professor as well as president of Nepal agro forestry foundation). Similarly, the special guest of the program was Holger Röhle (Expert of CyberTracker and member of wilderness school Germany).

The program was started with the welcome speech by Ms. Sagita Thapa from WPN. Following this speech Mr. Röhle highlighted on the application of software interestingly with his remarkable presentation. He shared that the objective of the software was to collect the outdoor data for research easily. He emphasized on the mosaic of features of it for various purposes viz; indigenous knowledge, environment, research, citizen science, farming, forestry, health, social surveys, crime prevention, disaster relief etc. The software has features of effective collection of data, easy and safe storage, and comfortable views of results and effective analysis of data thus obtained. He further shared history of the software and revealed that the software was founded in South Africa by Louis Liebenberg. 'It's a symbiosis of archaic knowledge and the most modern technology' Mr. Röhle further added. He shared the benefits of the software as more effectiveness, good archiving of the results, possible further evaluation and guarantee of interchangeability of the result.



The workshop was further made valuable by the fruitful speech of chief guest Dr. Dinesh



Chandra Devkota. He shared that the workshop has proved a boon in the field of research and encouraged WPN for more researched based workshop in the future. Dr. Devkota highlighted on the issue of climate change regarding national and international activities. He further added on the result that due to the Governments high priority, Nepal has been able to lead LDCs among 49 countries worldwide in climate change issue. He emphasized on the trans-boundary issues and

focused on the possible integral benefits that a Nepal can gain. He further added on the political scenario of the country and highlighted on the optimistic approach to work on the biodiversity and sustainable development of natural resources.

The program was followed by presentation from Ms. Sangita Maharjan, President of Wilderness Planet Nepal, who highlighted on the use the device in the field. She described all the function inside the pocket PC device with set of examples and presented the lay out of the application in the form of map.



The workshop was further fascinated by the presentation of three grantees viz; Mr. Kaushal Yadav from Central Department of Environmental Science (TU), Mr. Sudeep Bhandari from Central Department of Environmental Science (TU) and Ms. Saru sakha from Central Department of Zoology (TU). They presented their field based data of research on the biodiversity and socio-economic survey from Solukhumbu to Okhaldhunga. The data were recorded with the help of Pocket Pc and smart phone.



Lastly, Mr. Röhle answered on the queries of the participants regarding the CyberTracker and its application. Mr. Röhle paved great future of the device since it has a wide range of features. He also replied on one of the query that despite the high price of the device in the market the researcher can be helped to access the device through Wilderness Planet Nepal. He also added that the software can also be installed in the android phones or i-phones. The program was concluded by Mr. Dinanath Amgain of WPN by thanking all the participants for their valuable time and immense support throughout. He also added that WPN is encouraged to do such motivational and application based program in the future.

Interaction Program during Workshop






Training to Participant



Annex:

Annex 1: Schedule of the Event:





CyberTracker: Environmental Data Monitoring with Modern Technology
Tentative Program Schedule

Date: 29 May 2012
Time: 10:00 am
Venue: Nepal Tourism Board, Lecture Hall, Pradharshani Marg, Kathmandu, Nepal
Chief Guest: Dr. Dinesh Chandra Devkota, Former Vice-Chairman of National Planning Commission/Senior Environmentalist


SN	Activities	Time
1.	Arrival of the participants/ guests	9:30-10:00
2.	Welcome to the guest on the dias Chief Guest: Dr. Dinesh Chandra Devkota, Former Vice-Chairman of National Planning Commission/Senior Environmentalist Special Guest: Mr. Holger Roehle, CyberTracker Expert, Wilderness School, Germany	10:00-10:05
3	Welcome Speech and Highlights on the Objectives of the Workshop: Ms. Sagita Thapa, WPN	10:30-10:35
4	Importance of Capable Data for Environmental Purposes: Mr Holger Roehle, Wilderness School, Germany	10:35-10:50
5	CyberTracker Worldwide and its Principle : Mr Holger Roehle	10:50-11:10
6	Nepal: Monitoring of Biodiversity : Ms.Sangita Maharjan, WPN	11:10-11:20
7	Photo show of Monitoring Tour	11:20-11:25
8	Principles of Biodiversity Monitoring and Socio economic Survey Mr. Sudeep Bhattarai, M.Sc., CDES Mr. Kaushal Yadav, M.Sc., CDES Ms. Saru Sakha , M.Sc., CDZ	11:25-11:55
9	Remarks by Chief Guest	11:55-12:05
10	Group Formation for Practical Work:Mr. Sabal Ghimire and Mr. Suvhadin Gautam, WPN	12:05-12:45
11	Refreshment	12:45-1:00
12	Demonstration of Collected Data from Practical Work: Mr. Roehle and Mr. Ghimire	1:00-1:30
13	Open Discussion	1:30-1:40
14	Distribution of Letter of Appreciation	1:40-2:00
15	Vote of Thanks :Mr. Dina Nath Amgain, WPN	2:00-2:05
16	Lunch	2:05-2:30

MC: Ms. Srijana Panta
Rapporteur:




Annex 2: Flyers

== usage in Germany ==
 In Germany we have completed the following products:




- BioKartierung (monitoring of biodiversity in Europe, in use at "Day of biodiversity" held on magazine GEO)
- Bird analysis (Classification of European birds)
- Track analysis (All kind of animal and bird tracks with special measurements for feet and gait. Scat and other signs like carcass, feeding, den and nests, population and activities, ...)
- Monitoring great predators (collecting data for management of bear, Lynx and Wolf in Germany)
- Weatheranalysis (detailed data collection tool for weather research)
- Tracks- and waypoints (usage similar like any GPS-Devices for Treeking and Hiking - variant for Nepal also available)

== usage in Nepal ==
 Our first project from 2012 helps to monitor biodiversity in Himalaya range:



Support CyberTracker: wildernessplanet nepal, Nepal 2012



**CYBERTRACKER
NEPAL**

**CyberTracker -
Environmental Data
Collection with modern
technology**





Photo: H. Bhatta, Germany (self tracking in Germany 2009)

==Contact==




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Wildnis wiesen
NATUR GEBIETSKENNTNIS

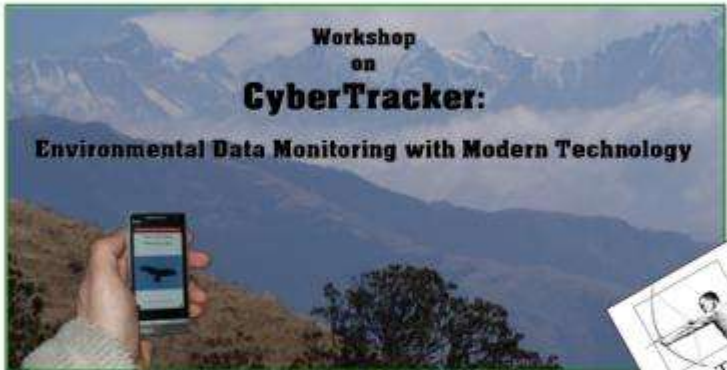
edition: 03-2012




Annex 3: Banner


**Workshop
on
CyberTracker:
Environmental Data Monitoring with Modern Technology**




**29 May 2012
Nepal Tourism Board, Pradarshani Marg,
Kathmandu**



**Organized by: Wilderness Planet Nepal
Supported by: Wildnisschule Wildniswiesen Germany**





Annex 4: Application Form

Workshop
on
CyberTracker
Environmental Data Monitoring with Modern Technology

APPLICATION FORM

Full Name :

Gender:

Date of Birth :

Email address :

Contact number :

Education :

Current Institute :

Passport size
photo

Why are you interested in this particular seminar?

How are you related to this particular field?

*All applicants are required to submit one passport-size photograph attached to this form.

Annex 5: Press Release



Wilderness Planet Nepal
P.O.Box 7567, Gollupakha, Kathmandu
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www.wildernessplanet.org

23 June 2012

Press Release

Wilderness Planet Nepal (WPN) organised a program entitled **"Monitoring and Evaluation of Biodiversity in the Godawari"** on 22 June 2012 at National Botanical Garden, Godawari with CyberTracker Nepal and Wilderness School, "Wildniswissen" Germany. This program is celebrating to mark the GEO day of Biodiversity which is the part of International Biodiversity Day. GEO Day of Biodiversity is celebrating as the action day to conserve biodiversity organizing action oriented program for the whole one month from 22 May to 22 June. The magazine GEO is the founder of GEO day of biodiversity.

The objective of the programme was to encourage the graduate students to use modern application-CyberTracker in the field of science and to move forward for the conservation of the nature. CyberTracker is software which helps to collect any data outdoor with the help of Pocket PC and smartphone. It helps to gather all the required information at all times on easy basis.

In the program, the researcher and the graduate students from different academic background were made familiar with the device-CyberTracker and its application in the field. The WPN members who are expert on the field of CyberTracker trained to the participants to take the data of different species by using the device. They trained them to monitor the various kind of data from biodiversity to social survey and taught to do analysis by using the CyberTracker Application and its software. We believed that the initiative we had taken will open new doors of technology for Nepal and certainly will act as a helpful tool in the field of conservation, protection, research.

For more information, please feel free to contact: Sabal Ghimire: 9841739762



Workshop on CyberTracker: Environmental Data Monitoring with Modern Technology



Date: 29 May 2012, Tuesday

Time: 10:00 AM – 2:00 PM

Venue: Nepal Tourism Board

Registration Sheet

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Participated Organizations:

Academic Institute

CAS:	Collage of Applied Science
CBZ:	Central Department of Zoology, Tribuvan University
CDB, TU:	Central Department of Botany, Tribuvan University
CDE, TU:	Central Department of English, Tribuvan University
CDES, TU:	Central Department of Environment Science, Tribuvan University
GGIC:	Golden Gate International College
IOE TU:	Institute of Engineering, Tribhuvan University
KC:	Khowpa College
NCTTM:	Nepal College of Travel & Tourism Management
NEC:	Nepal Engineering Collage

Non- Government Organization

ECCA:	Environmental Camp for Conservation Awareness
EGH:	Environmental Graduates in Himalayan
JVE Nepal:	Jeunes Volontaires pour l'Environment Nepal
JVS, Nepal:	Jalsrot Vikas Sanstha (JVS), Nepal
NTNSE:	Nepalese Teacher Network for Sustainable Education
SEN:	The Small Earth Nepal
SH:	Sanima Hydropower
WCN:	Wildlife Conservation Nepal
WPN:	Wilderness Planet Nepal
YAE:	Youth Alliance for Environment

Government Organization

ESSD, NEA:	Environmental and Social Services Department, Nepal Electricity Authority
NAST:	Nepal Academy of Science and Technology

Media House

Global Plan Media

Gorkhapatre

Madeshjanawaz

Nepal news

Nepal Times

Nepalese team Net

Sovhgya Mithila TV

Trekking Agency

ACE the Himalaya Tour:

Actual Adventure

Others

kindergarden , Okhaldhunga