

**Report on Capacity building of  
DCN (Dolphin Conservation Network) Coordinators  
for River Dolphin and River Ecosystem conservation**



**Report prepared by**

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## Introduction

Dolphin Conservation Network (DCN) is one of the strongest tools developed by the Gangetic Dolphin Research and Conservation Initiative (GDRCI) of Aaranyak for the long term conservation of endangered Gangetic dolphin in Brahmaputra river system through local community participation residing in and around 30 priority dolphin habitats. DCN was established in 2008 and showing encouraging results in conserving the species in Brahmaputra river system with declining of dolphin mortalities by 60% in 6 years. This is a unique approach for the conservation of this endangered species in India through local community participation. However, to make this effort more successful, there is a need to constantly develop this DCN and its operational procedures based on the threat factors for the species.

Based on these needs, we organized a training for DCN Members on 21<sup>st</sup>-24<sup>th</sup> January, 2014 in Guwahati. Per site we invited two selected community youths to work as Coordinator and Assistant Coordinator in their concerned DCN sites. Thus total 60 DCN members were invited for this training camp. However, only 33 DCN members from 18 DCN sites participated in this training camp due to sudden unstable political conditions in Assam. Also, we observed that due to limited time of training, these DCN members were facing problems in handling equipments, especially GPS and monitoring data collections. Moreover, training the DCN Members on some other important aspects, viz., alternate livelihood and fisheries resource management etc. were also required. Observing all these requirements, we organized another training on 21<sup>st</sup>-28<sup>th</sup> May, 2014 in collaboration with Scholars Institute of Technology and Management, Guwahati with the following objectives:

1. Train the DCN Members on Gangetic dolphin and habitat monitoring
2. Train the DCN Members on other aquatic animals monitoring in their sites
3. Train the DCN Members on alternate livelihood
4. Train the DCN members on fisheries resource management and sustainable fishery



### Training Programme schedule

Date	Theme of the day	Time	Topic	Conducted by
21 <sup>st</sup> May	Introduction	10.00-11.30 am	Inauguration	Director-Fishery Department
		12.00-5.00 pm	Gangetic dolphin and its conservation in Assam	Dr. Abdul Wakid (Aaranyak)
22 <sup>d</sup> May	Equipment use in dolphin and river ecosystem monitoring	9.00-1.00 pm	Use of GPS in dolphin monitoring	Sunny Deori, Anumitra Phukan
		2.00-5.00 pm	Use of camera and binocular in dolphin and river ecosystem monitoring (with field practice)	Udayan Borthakur (assisted by Sunny Deori, Anumitra Phukan)
23 <sup>rd</sup> May	Dolphin and river ecosystem monitoring	9.00-1.00 pm	Herpetofauna monitoring in riverine areas (with field practice)	Dr. Firoz Ahmed (Aaranyak)
		2.00-5.00 pm	Dolphin monitoring	Sunny Deori, Anumitra Phukan
24 <sup>th</sup> May	Alternate livelihood for river side communities	9.00-11.00 am	Alternate livelihood and microfinance	Partha Patowary (Centre for Microfinance and Livelihood)
		11.00-1.00 pm	Water hyacinth based alternate livelihood	Chandra Das (NEDFi)
	River ecosystem monitoring	2.00 – 5.00 pm	Bird monitoring in riverine habitats (with field practice)	Dr. Hillul Jyuti Singha (Assam University), Sunny Deori, Anumitra Phukan
25 <sup>th</sup> May	Alternate livelihood	9.00-10.00 am	Alternate livelihood: an experience from Manas landscape	Namita Brahma, Dr. Bibhuti Lahkar
		10.00-1.00 pm	Sustainable farming in river side area	Neelam Dutta (Pavoi Greens)
	Community awareness campaign	2.00 – 5.00 pm	How to conduct community awareness campaign	Sunny Deori, Anumitra Phukan, Manoj Das
26 <sup>th</sup> May	Sustainable fishery development and fishermen welfare	9.00-11.00 am	Equipments use in field	Sunny Deori, Anumitra Phukan
		11.00-1.00 pm	Fishery rules and regulations for sustainable fishery	Dhruba Sharma (Fishery Department)
		2.00-3.30 pm	How to conduct fishery awareness campaign among fishermen	Dhruba Sharma (Fishery Department)
		3.30-5.00 pm	Fishermen insurance	U. Prasad (FISCOFED)
27 <sup>th</sup> May	Revised of training lessons	9.00 am-4.00 pm	Dolphin monitoring, other animal monitoring, equipments handling, data entry form filled up (including field practice)	Abdul Wakid, Sunmny Deori, Anumitra Phukan, Manoj Das, Bikash Sonowal, Zakir Bora
		4.00-5.00 pm	Equipments distribution among the participated DCN members	

List of DCN Members participated in the DCN training camp on 21<sup>st</sup>-27<sup>th</sup> October, 2014

Participated DCN sites		Name of DCN members		Role in DCN Unit	Age
Sl. no.	DCN Site	SI No			
1	Mirichapori	1	Tsing Tamang	DCN Unit Coordinator	30
		2	Bijoy Chetri	DCN Unit Assistant Coordinator	29
2	Guijan	3	Dulal Das	DCN Unit Coordinator	28
		4	Bimal Biswas	DCN Unit Assistant Coordinator	20
3	Oakland	5	Suran Urang	DCN Unit Coordinator	22
		6	Rahul Singh	DCN Unit Assistant Coordinator	22
4	Bogibeel	7	Bhabesh Taye	DCN Unit Coordinator	23
		8	Anup Taye	DCN Unit Assistant Coordinator	25
5	Dihingmukh	9	Tejuram Sonowal	DCN Unit Coordinator	20
		10	Ganesh Mallah	DCN Unit Assistant Coordinator	22
6	Disangmukh	11	Eyan Gam	DCN Unit Coordinator	27
		12	Anirban Pangnin	DCN Unit Assistant Coordinator	22
7	Dikhowmukh	13	Dijen Borah	DCN Unit Coordinator	30
		14	Arabinda Sadhania	DCN Unit Assistant Coordinator	16
8	Nimati	15	Diganta Das	DCN Unit Assistant Coordinator	22
		16	Pinku Das	DCN Unit Coordinator	23
9	Majuli	17	Probhat Kalita	DCN Unit Coordinator	25
		18	Kanbhaiti Kalita	DCN Unit Assistant Coordinator	23
10	Roha	19	Babul Modoi	DCN Unit Coordinator	25
		20	Dhurba Das	DCN Unit Assistant Coordinator	25
11	Khabolu	21	Monuranjan Pegu	DCN Unit Assistant Coordinator	30
		22	Monuranjan Doley	DCN Unit Coordinator	26
12	Dikrong	23	Hemchandra Kuli	DCN Unit Coordinator	28
		24	Monoj Kutumb	DCN Unit Assistant Coordinator	20
13	Biswanath Ghat	25	Shankar Das	DCN Unit Coordinator	32
		26	Keshab Das	DCN Unit Assistant Coordinator	20
14	Bhumuraguri	27	Abul Bashar	DCN Unit Coordinator	28
		28	Safiul Islam	DCN Unit Assistant Coordinator	23
15	Jia Dhansiri	29	Nurjamal Hoque	DCN Unit Coordinator	23
		30	Faizuddin Ahmed	DCN Unit Assistant Coordinator	25
16	Kurwa	31	Naba Das	DCN Unit Coordinator	27
		32	Hari Bhuyan	DCN Unit Assistant Coordinator	33
17	Sualkuchi	33	Bipul Thakuria	DCN Unit Assistant Coordinator	30
		34	Manoj Medhi	DCN Unit Coordinator	32
18	Kukurmara	35	Madhusudhan Das	DCN Unit Assistant Coordinator	22
		36	Amuilya Das	DCN Unit Coordinator	22
19	Chamarriya	37	Nitul Kalita	DCN Unit Coordinator	21
		38	Mrinal Kalita	DCN Unit Assistant Coordinator	26

20	Malibari	39	Shah Alam	DCN Unit Coordinator	25
		40	Arman Ali	DCN Unit Assistant Coordinator	18
21	Pohumara	41	Dilbar Khan	DCN Unit Coordinator	32
		42	Muzammil Haque	DCN Unit Assistant Coordinator	25
22	Baghbor	43	Arjun Das	DCN Unit Coordinator	21
		44	Jintu Kalita	DCN Unit Assistant Coordinator	18
23	Bohori	45	Jehirul Islam	DCN Unit Coordinator	23
		46	Jamirul Islam	DCN Unit Assistant Coordinator	20
24	Goalpara	47	Sahidraj Haque	DCN Unit Coordinator	23
		48	Akthar Hussain	DCN Unit Assistant Coordinator	16
25	Sonari	49	Sahibul Islam	DCN Unit Coordinator	28
		50	Nazrul Islam	DCN Unit Assistant Coordinator	21
26	Jogihopa	51	Sahinur Haque	DCN Unit Coordinator	21
		52	Shahjahan Ali	DCN Unit Assistant Coordinator	21
27	Dhubri	53	Santosh Choudhury	DCN Unit Coordinator	30
		54	Sijoy Bin	DCN Unit Assistant Coordinator	32

DCN Members from Jhanjimukh, Misamara and Joleshwar were unable to attend the training due to unavoidable reasons.

### Photographs of some of the activities of DCN training camp



Photo-1: Project Leader Dr. Abdul Wakid delivering speech during the inauguration of the training camp in presence of the Director-Assam Fishery Department, Vice President-Aaranyak and Assistant Secretary General-Aaranyak



Photo-2: Training class on Gangetic dolphin and its conservation in Brahmaputra river system



Photo-3: Dr. Firoz Ahmed (Herpetologist) and Dr. Hillol Singha (ornithologist) teaching the DCN Members on other animals (herpetofauna, birds) monitoring in DCN sites



Photo-4: How to use GPS – theory class



Photo-5: How to use binocular – theory class



Photo-6: Field practice of GPS use



Photo-7: Field practice of binocular use in the field

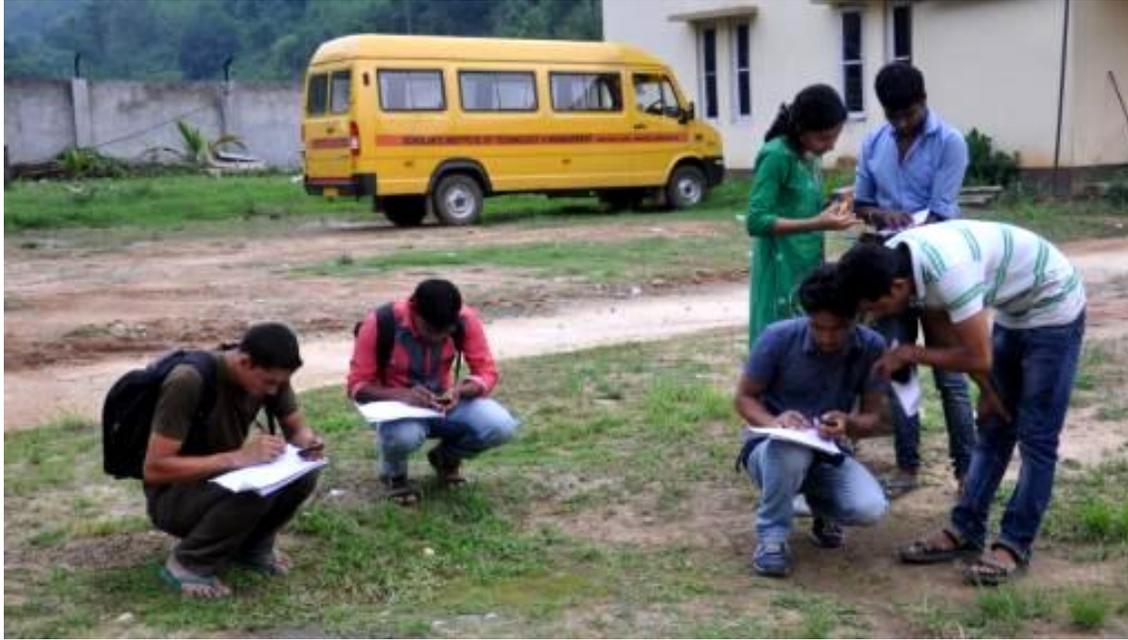


Photo -8: Field practice on how to fill up data entry forms during dolphin and other animal monitoring



Photo-9: Mr. P. Patowary (Director-Centre for Microfinance and Livelihood, Guwahati) interacting with DCN Members on livelihood and microfinance aspect



Photo-10: Mr. C. Das (from North East Development and Financial Corporation) interacting with DCN Members on developing water hyacinth based product development in DCN sites as an alternative livelihood to the local communities



Photo-11: Namita Brahma (rural livelihood expert) giving training to the DCN Members on how to do participatory rural appraisal



Photo-12: Neelam Dutta (an agri entrepreneur and owner of Pavo Greens) interacting with DCN Members on alternate agriculture practices



Photo-13: Fishery Officer D. Sharma interacting with DCN members on how to develop sustainable fishery in DCN sites and joint awareness campaign with Fishery department



Photo-14: Mr. G. Prasad (Head of FISCOFED-Guwahati Office, Govt of India) describing the DCN members on how to do fishermen insurance with FISCOFED

## **Training outcomes in details**

### **A. Training on Gangetic dolphins, population and habitat monitoring:**

#### **Class-I. Introduction of Gangetic dolphins**

A general introduction about Gangetic dolphin was given to the participants. The introduction included the origin of the species, taxonomic position of the animal, external morphology, ecology of the animal and global population and conservation status and its distribution. To evaluate the participants, two sets of test was conducted. In the first set, a pre-training evaluation test, i.e. before the introductory class, was conducted with questions based on the introductory class. In the second set of test, the same questions were asked again in the post- training evaluation test to compare the percent increment in their results in before and after the class. The reults of the tests are discussed below:

Among the participants Manuranjan Pegu of Khabolu and Dilbar Khan of Pahumara secured highest marks (cent percent) while AnupTaye of Bogibeel secured lowest marks (5%) in the pre- presentation evaluation test. Eyan Gam of Dikhowmukh, Dijen Bora of Dikhowmukh, Noor Jamal Haque of Jiyadhanshiri, Naba Kumar Das of Kuruwa, Dilbar Khan of Pahumara, MojammelHaque of Pahumara, Najroollshlam of Pahumara secured highest marks (cent percent) while Ratan Das of Kukurmara and Sujay Bin of Dhubri secured lowest mark in the post- training evaluation test.

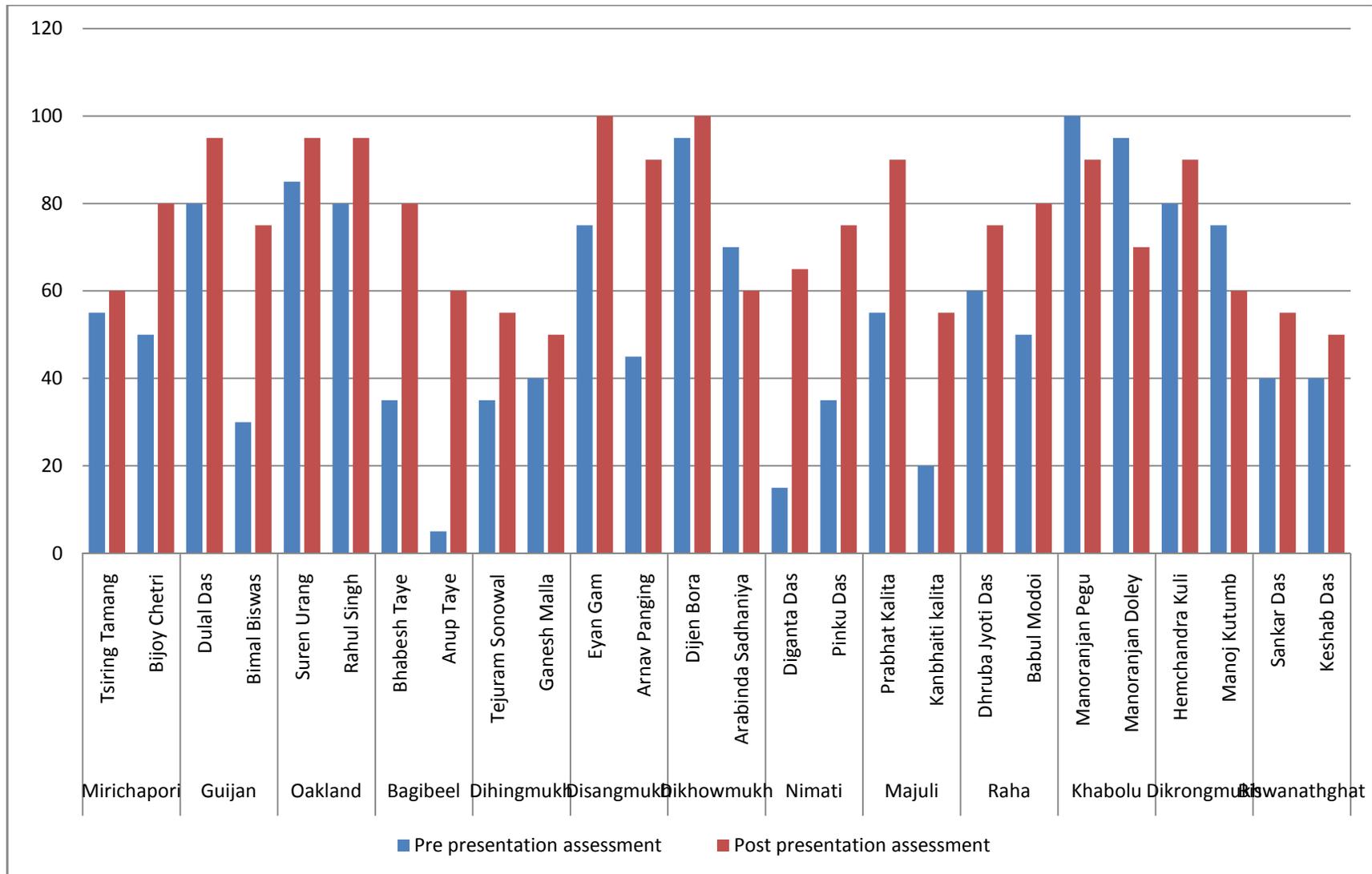


Fig.1 Graph showing pre and post presentation assessment of questionnaire A

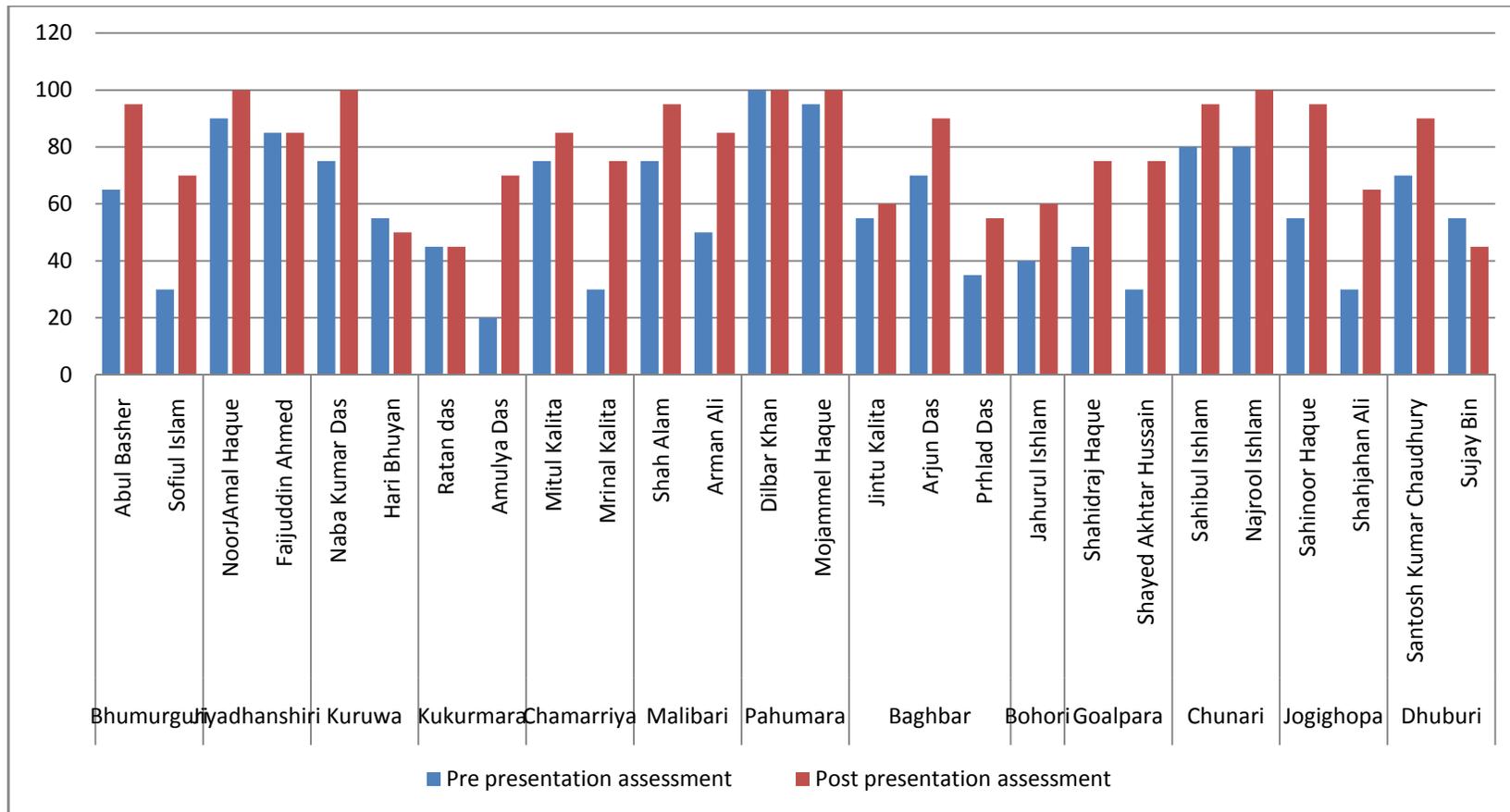


Fig.2 Graph showing pre and post presentation assessment of questionnaire A

## **Class-II: Conservation status of Gangetic Dolphin in Assam**

In the second class, the participants were introduced to the conservation status of Gangetic dolphin status in Brahmaputra River System. Different tools of awareness programs used by GDRCI during these years to engage and motivate the community people for Gangetic dolphin and its habitat conservation were discussed during this session. The participants were familiarized about the Dolphin Conservation Network and its functions, *Dolphin Yatra* (Drama and Poster Presentations to promote Gangetic Dolphin Conservation), Alternative livelihood programs (handicraft preparation with water hyacinth) to the fishermen families, Fishermen awareness campaigns, Alternative oil bait training program etc. of GDRCI. Similar evaluation pattern was also followed for this section and the results were discussed below:

Among the participants Mojammel Haque of Pahumara secured highest mark (76.9 %) while Keshab Das of Biswanathghat, Sofiullshlam of Bhumuraguri and Shayed Akhtar Hussain of Goalpara secured lowest (7.7%) marks in the pre-presentation evaluation test. In post presentation evaluation test Dijen Bora of Dihowmukh, Dilbar Khan of Pahumara, Santoosh Kumar Chaudhury and Sujay Bin of Dhubri secured highest mark (cent percentage) while AnupTaye of Bogibeel secured lowest mark (23.1%).

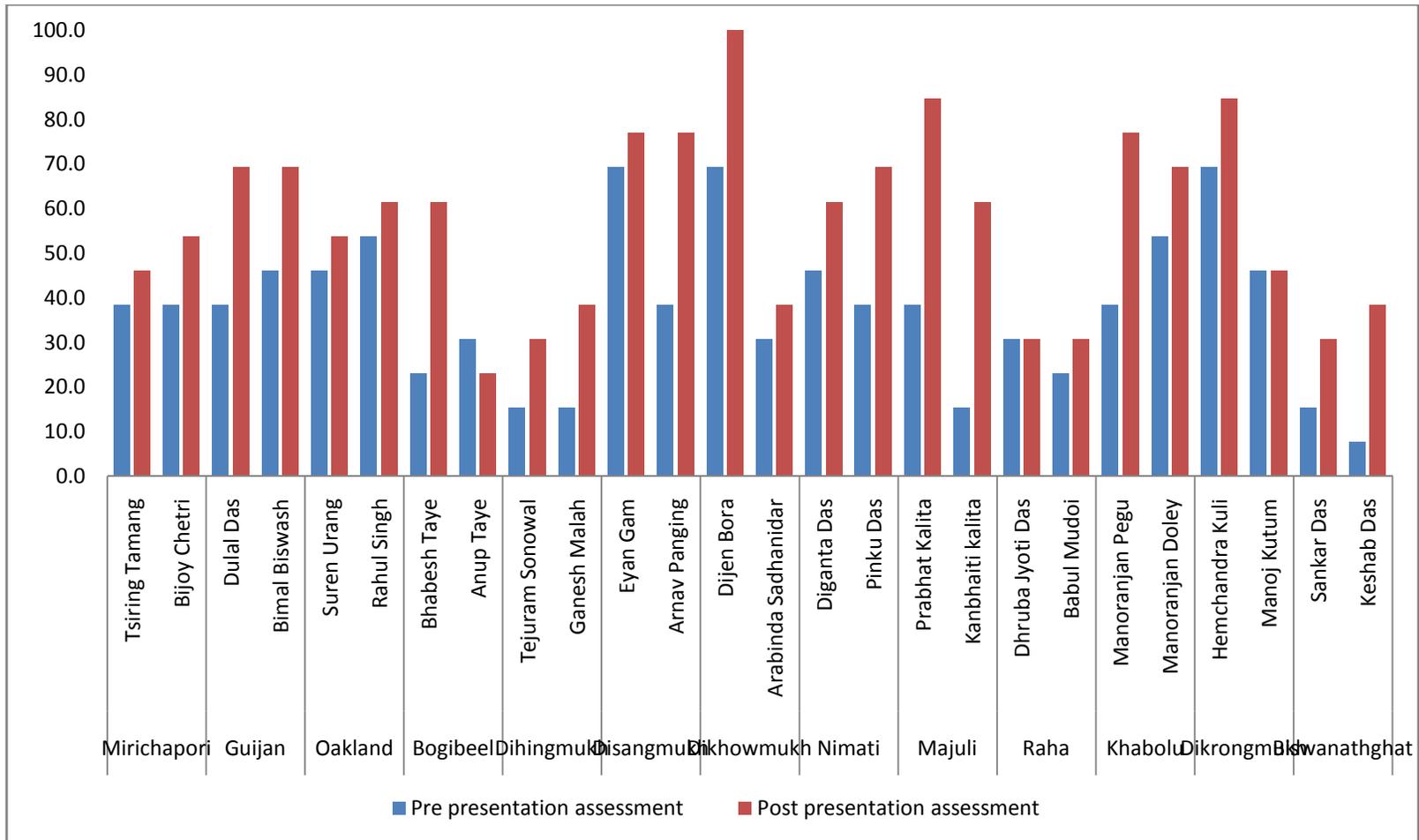


Fig.3 Graph showing pre and post presentation assessment of questionnaire B

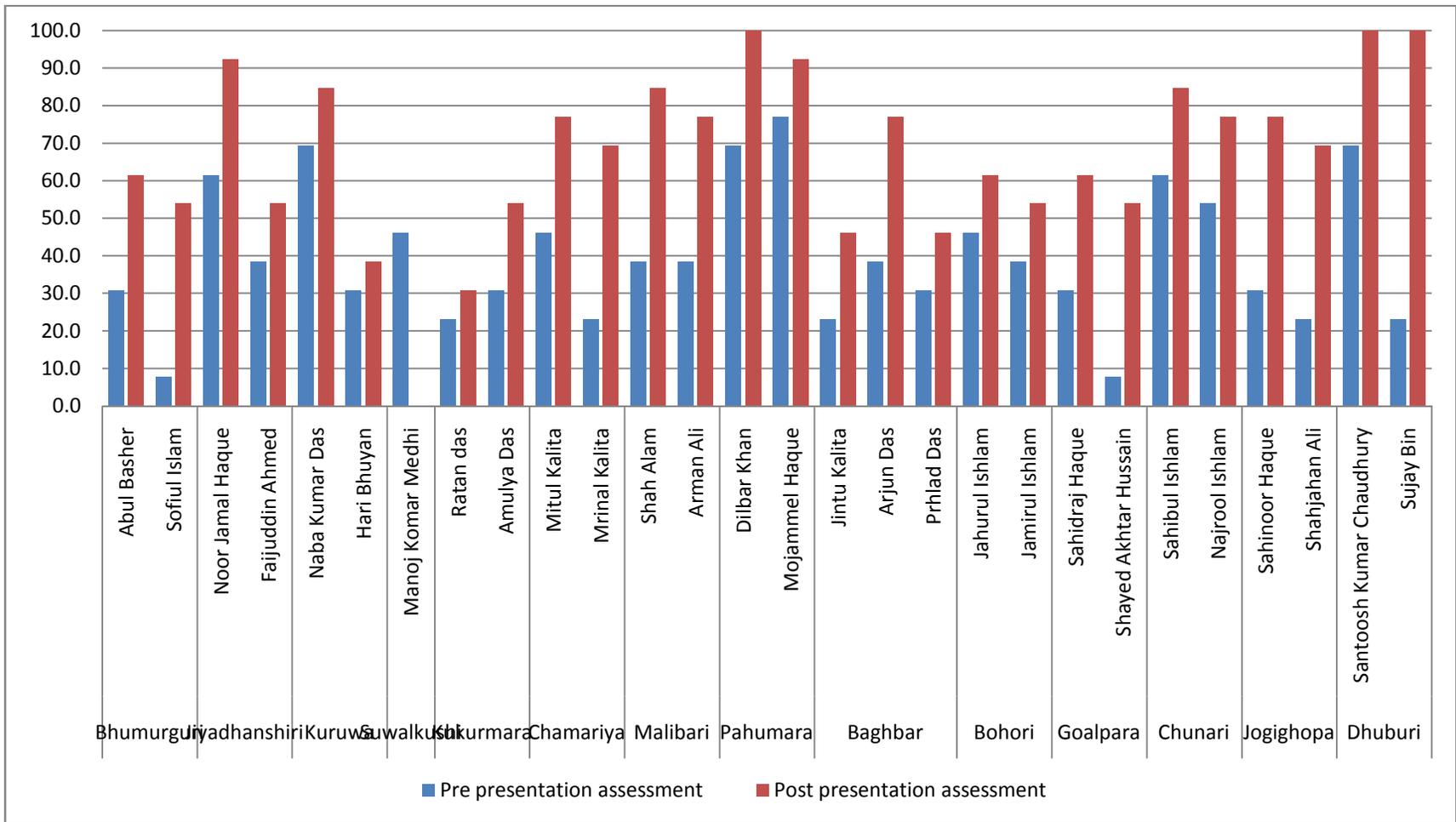


Fig.4 Graph showing pre and post presentation assessment of questionnaire B

### **Class-III: Land base dolphin and habitat monitoring (with Instrument use and Data collection)**

Land base Gangetic dolphin monitoring protocol and data entry were practiced in a field within the institute campus by creating a track. A few dummies of dolphins of various age structure, play cards showing different anthropogenic activities and habitat types were kept at different reaches. Along with data sheets and GPS, the participants were asked to go on the track. In their data sheets they have to record dolphin number, observing time, location and habitat type, save the waypoints of dolphins in GPS, record the anthropogenic activities reach-wise in data sheets and a saved tracklog on GPS at the end of the track.

In the 1<sup>st</sup> day trial (i.e on 25<sup>th</sup> May, 2014) Noor Jamal Haque from Jiya Dhanshiri, Arman Ali from Maalibari, Mojammel Haque from Pahumara, Jahurul Ishlam from Bohori, Shahjahan Ali from Jogighopa, Santoosh Kumar Chaudhury from Dhubri had correctly entered data and properly used GPS (waypoint save and tracklog save). Bijoy Chetri from Mirichapori, Bhabesh Taye and AnupTaye from Bogibeel, Tejuram Sonowal from Dihingmukh, Diganta Das from Nimati, Prabhat Kalita from Majuli, Hemchandra Kuli from Dikrongmukh, Sankar Das and Keshab Das from Biswanath ghat, HariBhuyan from Kuruwa, Manoj Komar Medhi from Suwalkuchi, Ratan Das and Amulya Das from Kukurmara, MitulKalita and MrinalKalita from Chamariya, Prabhat Das from Baghbor, ShayedAkhtarHussain from Goalpara and NajroolIshlam from Chunari had wrongly entered data and could not use the GPS properly.

In the 2<sup>nd</sup> day trial Tsiring Tamang and Bijoy Chetri from Mirichapori, Bimal Biswas from Guijan, Suren Orang from Oakland, Eyan Gam and Arnav Panging from Disangmukh, Dijen Bora from Dikhowmukh, Manuranjan Pegu and Manuranjan Doley from Khabolu, ManojKutum from Dikrongmukh, Abul Basher and Sofiul Ishlam from Bhumuraguri, Noor Jamal Haque from Jiyadhanshiri, Naba Kumar Das from Kuruwa, Shah Alam and Arman Ali from Maalibari, Dilbar Khan and Mojammel Haque from Pahumara, Jahurul Ishlam from Bohori, SahidrajHaque from Goalpara, Shohibul Ishlam from Chunari and Santoosh Kumar Chaudhury from Dhubri had properly completed the task given. But Arabinda Sadhanidar from Dikhowmukh, PrabhatKalita and KanbhaitiKalita from Majuli, DhruvaJyoti Das and Babul Mudoj from Raha, Hemchandra Kuli from Dikrongmukh, Prahlad Das from Baghbor, NajroolIshlam from Chunari, SahinoorHaque and Shahjahan Ali from Jogighopa couldnot complete the task properly.

At the last day 79% participants completed the task given properly. The participants who completed the tasks properly were Tsiring Tamang and Bijoy Chetry from Mirichapori, Dulal Das and Bimal Biswas from Guijan, Suren Orang and Rahul Singh from Oakland, Bhabesh Taye from Bogibeel, Arnav Panging from Disangmukh, Dijen Bora and Arabinda Sadhanidar from Dikhowmukh, Diganta Das and Pinku Das from Nimati, Prabhat Kalita and

Kanbhaiti Kalita from Majuli, DhrubaJyoti Das and Babul Mudoi from Roha, Manoranjan Pegu and Manoranjan Doley from Khabolu, Hemchandra Kuli and Manoj Kutum from Dikrongmukh, Sofiul Islam from Bhumuraguri, Noor Jamal Haque and Faijuddin Ahmed from Jiyadhansiri, Naba Kumar Das and HariBhuyan from Kuruwa, Ratan Das and Amulya Das from Kukurmara, MitulKalita and MrinalKalita from Chamariya, Shah Alam and Arman Ali from Maalibari, Dilbar Khan and MojammelHaque from Pohumara, JintuKalita and Arjun Das from Baghbar, Jahurullshlam from Bohori, Sahidraj Haque and Shayed Akhtar Hussain from Goalpara, Shohibul Ishlam and Najrool Ishlam from Chunari, Shahinoor Haque and Shahjahan Ali from Jogighopa. Rest participants did the tasks not so properly.

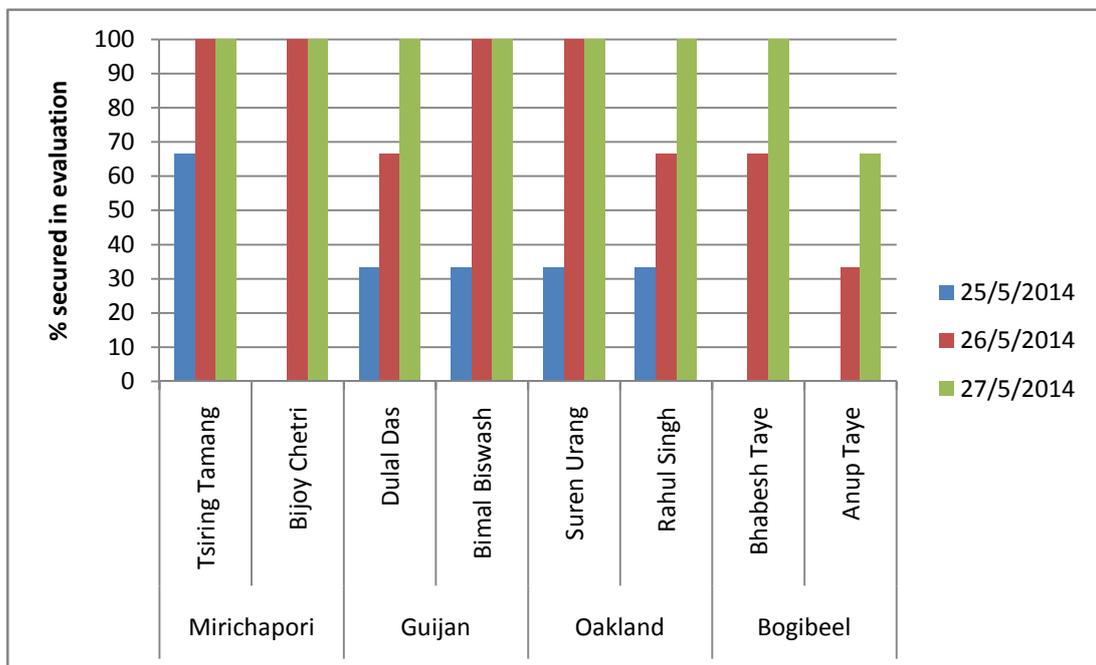


Fig.5 Graph showing variation of % secured by each participant in evaluation of dolphin and habitat monitoring data entry and instrument use during 3 days trials

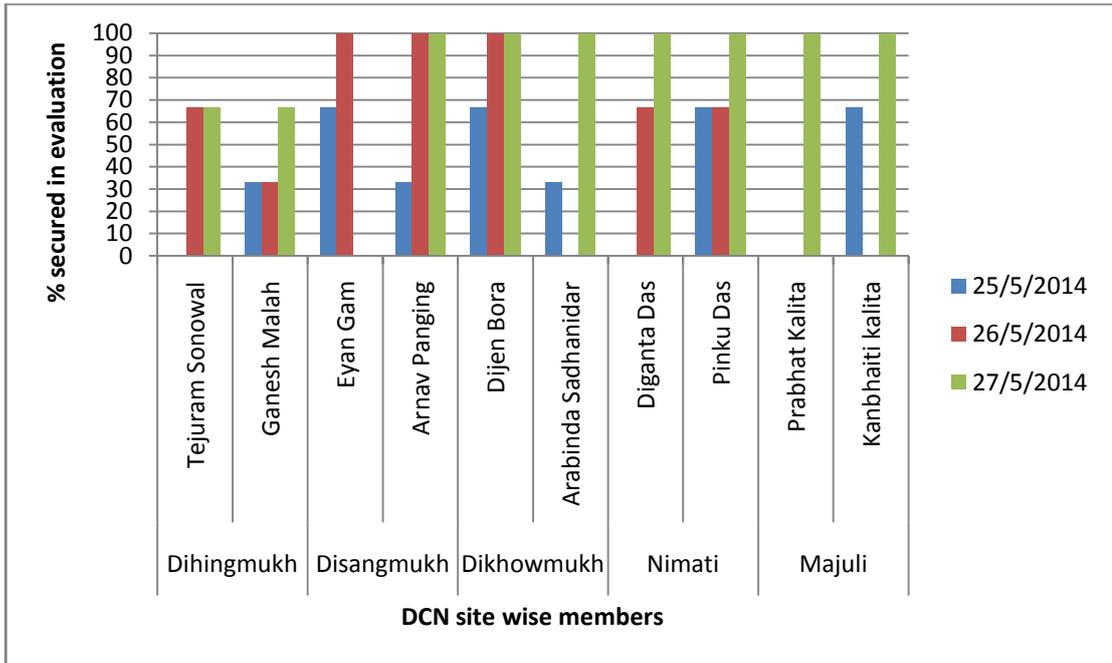


Fig.6 Graph showing variation of % secured by each participant in evaluation of monitoring data entry and instrument use during 3 days trials

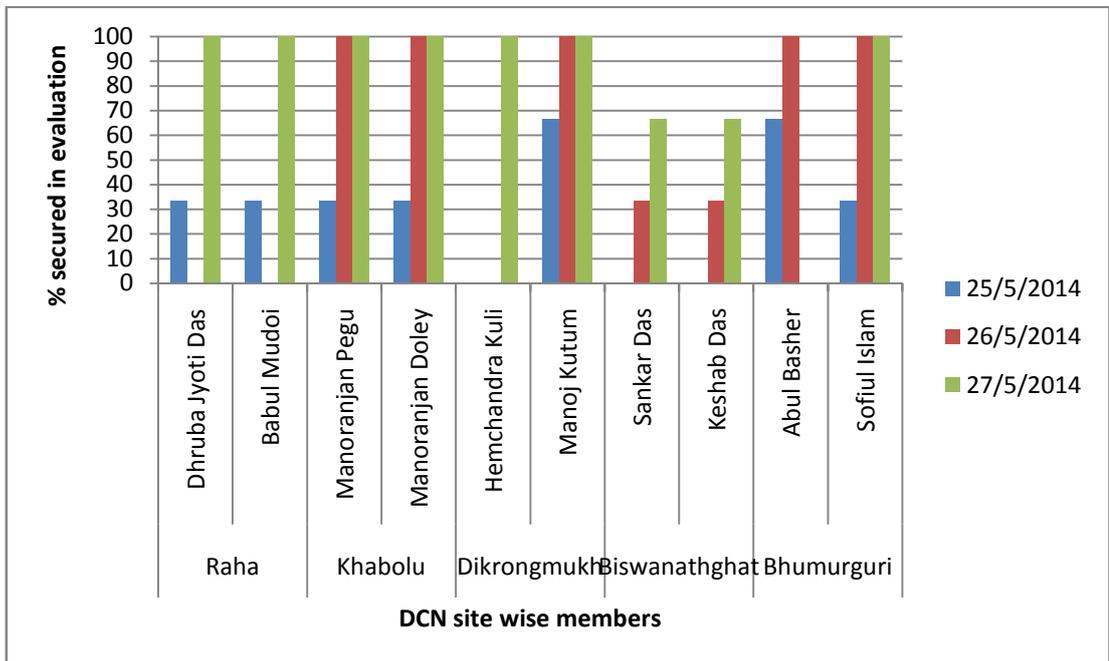


Fig.7 Graph showing variation of % secured by each participant in evaluation of data entry and instrument use during 3 days trials

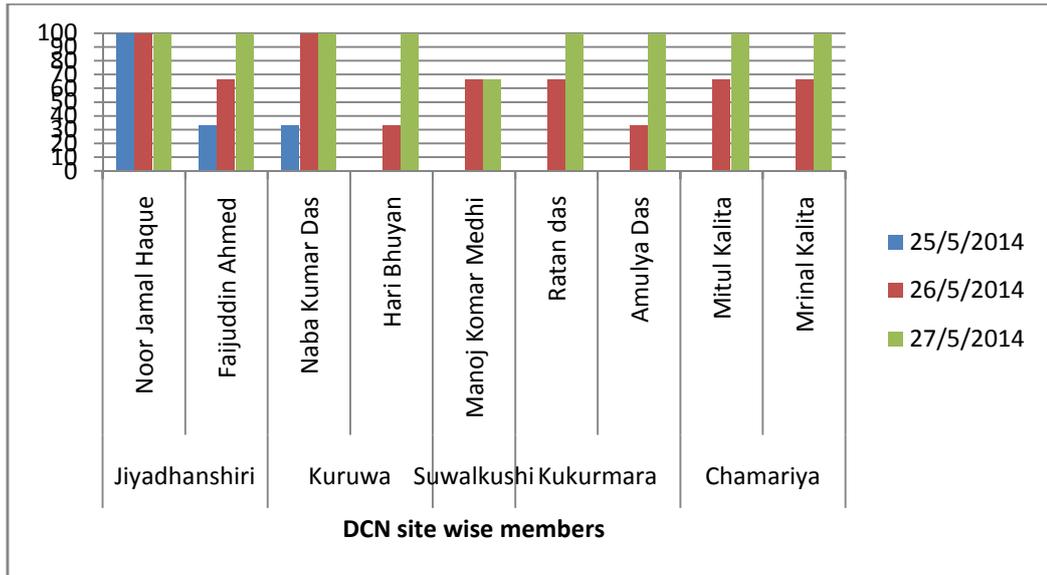


Fig.8 Graph showing variation of % secured by each participant in evaluation of data entry and instrument use during 3 days trials

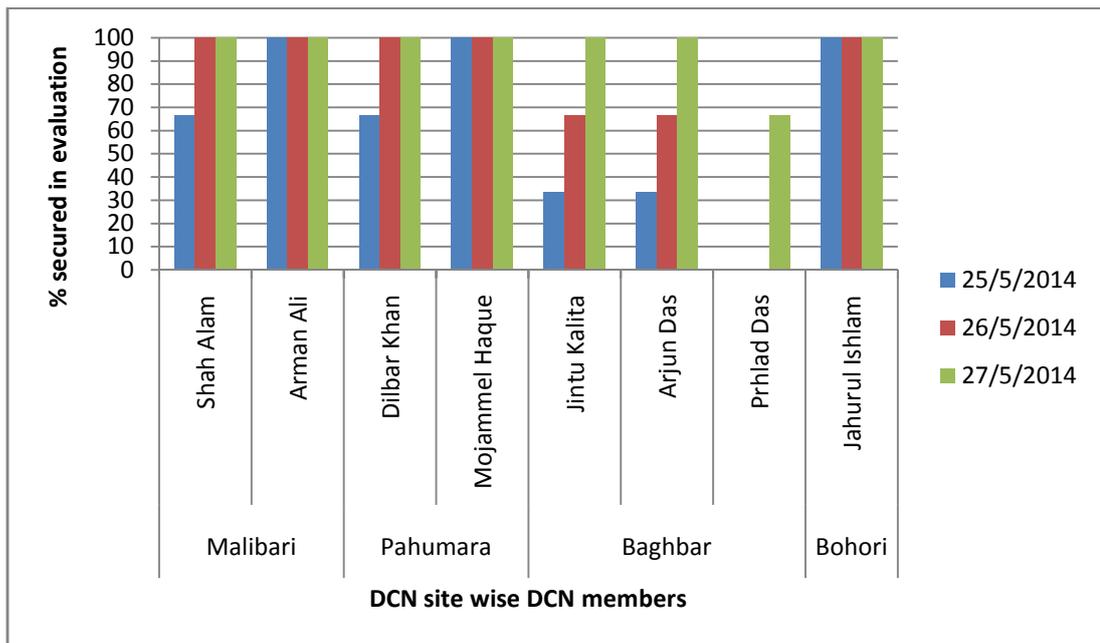


Fig.9 Graph showing variation of % secured by each participant in evaluation of data entry and instrument use during 3 days trials

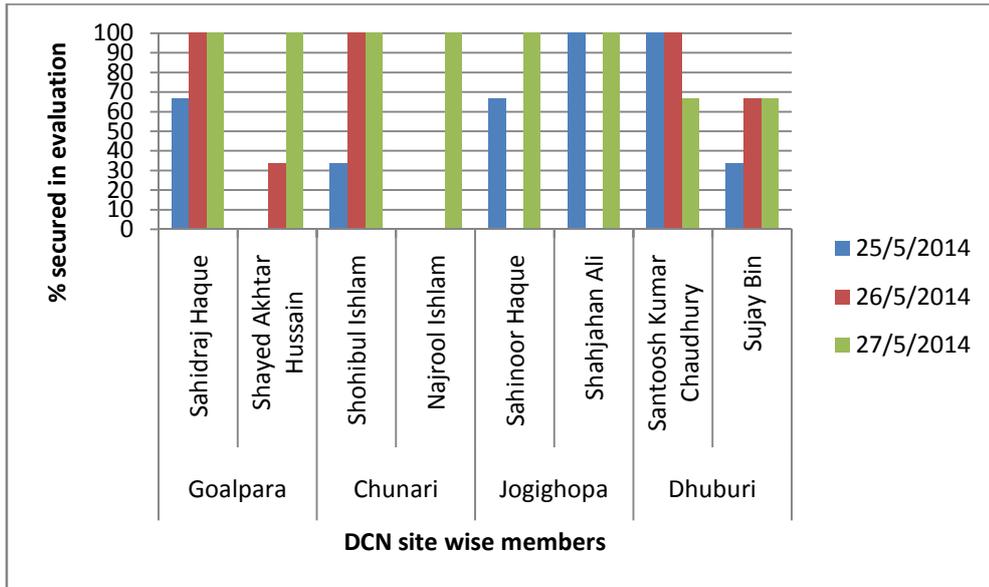


Fig.10 Graph showing variation of % secured by each participant in evaluation of data entry and instrument use during 3 days trials

We observed that in the 1<sup>st</sup> day trial (25<sup>th</sup> May, 2014), only 30.2% participants saved the waypoints in GPS properly, 33.96% participants entered datasheets properly and 45.3% saved track log properly. On 2<sup>nd</sup> day trial (26<sup>th</sup> May, 2014) 58.5% participants saved the waypoints properly, 73.6% participants entered data sheets properly and 58.5% participants saved track log properly. On 3<sup>rd</sup> day trial (27<sup>th</sup> May, 2014) 92.5% participants saved the waypoints properly, 83 % correctly entered the datasheets and 96.2% participants saved the track log properly. We observed a significant improvement of the participants from the 1<sup>st</sup> day trial to 3<sup>rd</sup> day trial ( $t = -13.11$ ,  $P = 0.003$ ).

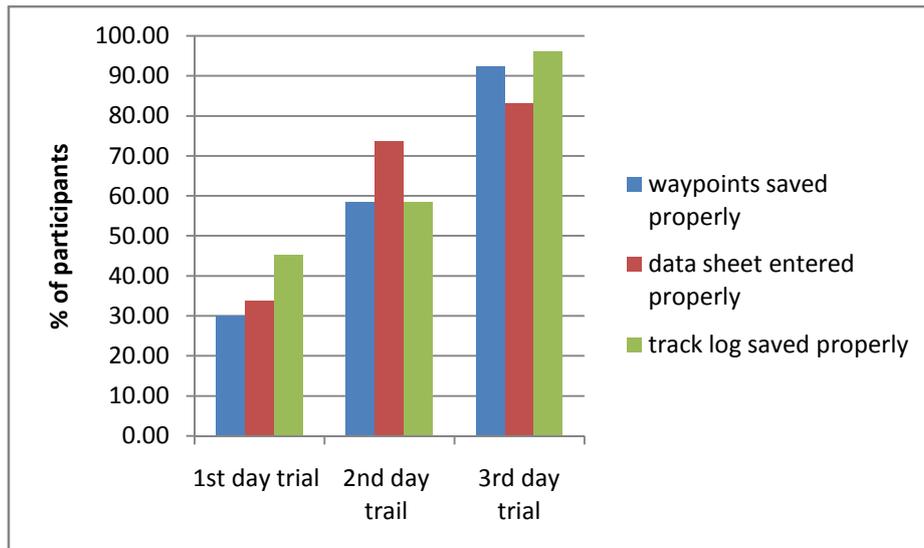


Fig.11 Graph showing day wise participant's (%) improvement in GPS use and data entry

## B. Training on other animal monitoring in DCN sites

Dr. Firoz Ahmed, a renowned herpetologist, conducted a class describing how to conduct herpetofauna monitoring in riverine areas. He gave a pictorial presentation of reptiles and amphibians that possibly could be found common in the river side areas. His presentation was very helpful for the participants to identify the herpetofauna easily. A guidebook “Amphibian and Reptiles in North East India” written by Dr. Firoz Ahmed and his team was given to all participant groups.

Dr. Hillol Jyoti Singha of Assam University conducted a class on bird and otter monitoring in river habitat. He also introduced the participants how to use the birds guide book. The guide book given to the participants was “Axamar Charai Parjyabekshyanar Hatputhi” by Soumyadeep Dutta

With the inputs of these two experts, we finalised Direct sighting method for encounter rate estimation and Distance sampling method using Line transect to estimate the density of birds and herpetofauna in DCN sites and trained the participants on these methods.

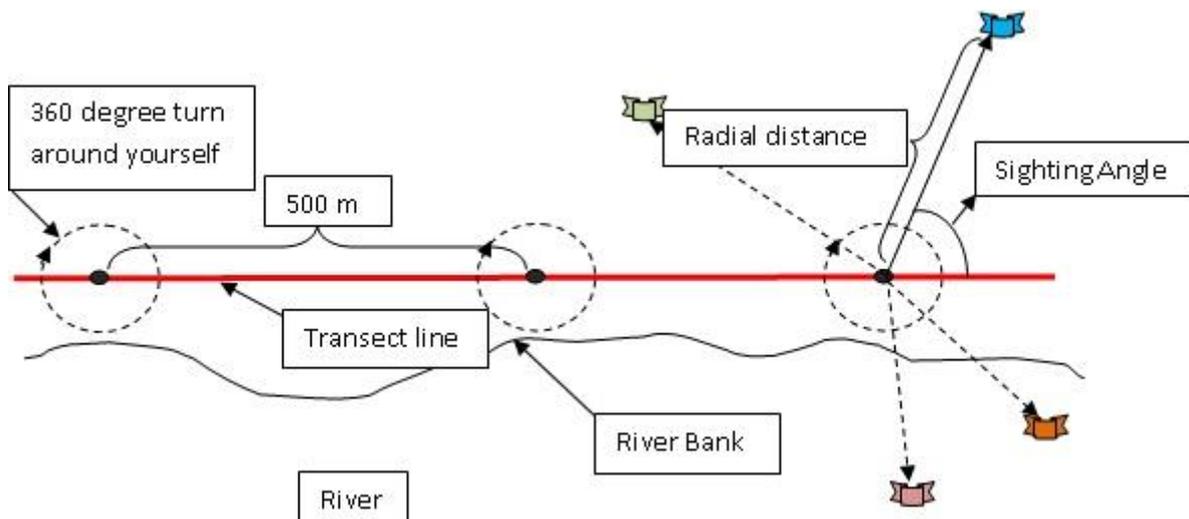


Fig.12: Showing Line Transect and Point count methodology design for Bird monitoring in DCN site

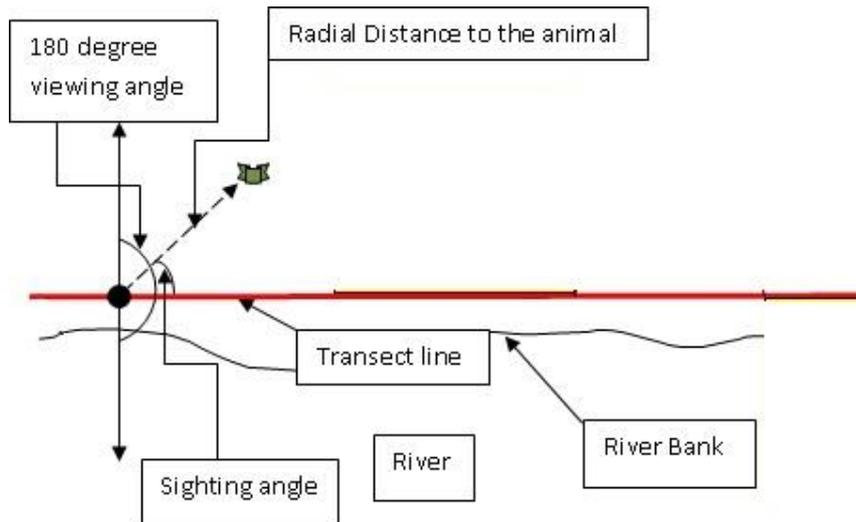


Fig. 13: Herpetofauna monitoring method in DCN sites

Evaluation of DCN members in other animal monitoring trial:

A trial survey of other animal monitoring near the campus was conducted on 27<sup>th</sup> May, 20 among the participants. Each group from each DCN site was given a data sheet to record the birds, reptiles and amphibians found on their particular track. They went to the track carrying GPS, binocular, data sheets and guidebooks of birds and reptiles. When observed a species, they have to save the waypoints on GPS and record the observation time, location, number of species and the habitat type where the species found in the data sheets. The anthropogenic activities going on nearby were also asked to record. They have to log the track on GPS. After completing the survey, the datasheets and GPS were checked to evaluate the work. We observed that 81% of the participants entered the data sheets properly, 95% participants saved the waypoints properly when observed any species, 95% participants saved GPS track-log of the trial survey.



Fig.12 Graph showing properly done tasks by participant's (%) during other animal monitoring trial

### Evaluation of camera use by participants:

During the training day of camera use every group from the DCN sites were provided with a Nikon coolpix (L27 & L29) Camera, it was observed that only 7.55% participants out of the total have experience of capturing photographs in digital camera before. After the training, we observed 77% of the participants were capturing good landscape photo, 83% participants were capturing good animal photos, 63% were capturing good field activity photos, 55% participants were taking good photos of banner and hoardings etc., 59% participants were taking good group photos and 40% participants were recording good videos.

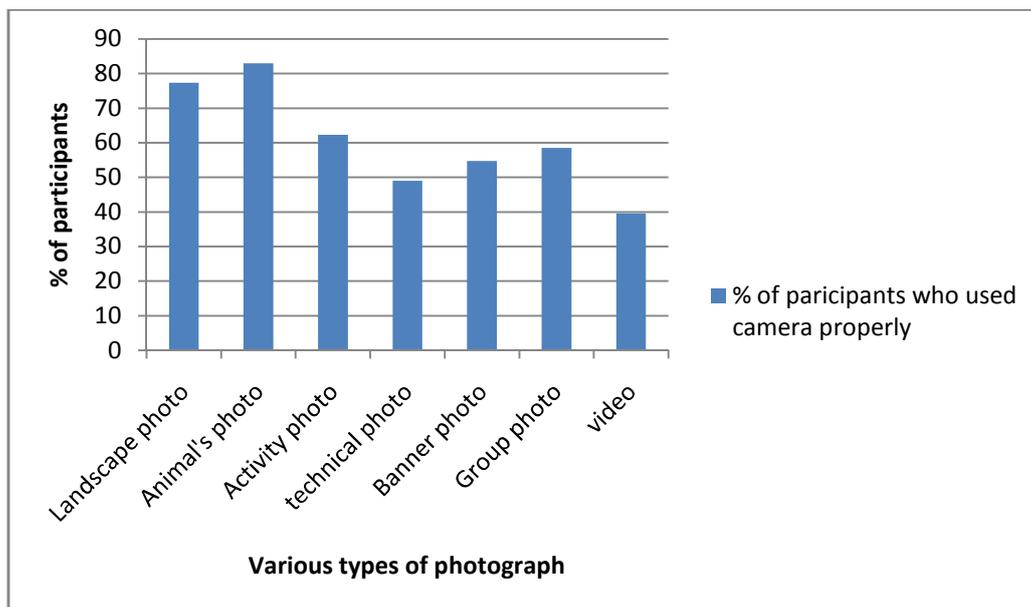
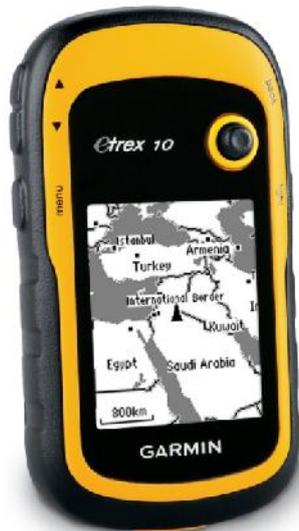


Fig.13 Graph showing different types of photographs taken by participants (%) during photography practice sessions

On the successful completion of the whole training session, we provided following equipments set to each of the participated DCN Units:

- 1 GPS (Garmin eTrex 10),
- 1 Binocular (Nikon 7x35),
- 1 Camera (Nikon Coolpix),
- 1 Poster for community awareness campaign,
- 1 field guidebook on Herpetofauna identification,
- 1 field guidebook on bird identification,
- 1 set of data entry forms for dolphin and habitat monitoring,
- 1 set of data entry forms for other animal monitoring and
- 1 protocol book.



**DCN Unit Members with given equipment sets after successfully completing 7 days training course**

