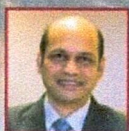


## PROGRAMME SCHEDULE

- 11 a.m. **Inaugural Speech** by Dr. Kalyan Kumar Mandal
- 11:05 a.m. **Welcome speech** by Dr. Ishani Ghosh
- 11:10 a.m. to 12:10 p.m. **Speech of Dr. Chandan Roy**  
**Topic: "Spatial and temporal assessment of flora and fauna in the Sundarbans, Bangladesh"**
- 12:10 to 12:30 p.m. **Discussion**
- 12:30 to 1:30 p.m. **Speech of Dr. Chandan Surabhi Das**  
**Topic: "Indian Sundarban: Living with changing climate"**
- 1:30 to 1:50 p.m. **Discussion**
- 1:50 p.m. **Vote of Thanks** by Mr. Kankan Roy

## Resource Persons



**Dr. Chandan Roy**  
Associate Professor in Geography  
and Environmental Studies  
University of Rajshahi,  
Rajshahi, Bangladesh



**Dr. Chandan Surabhi Das**  
Associate Professor in Geography  
Barasat Government College,  
Barasat  
North 24 Parganas

Platform : Google Meet & You Tube

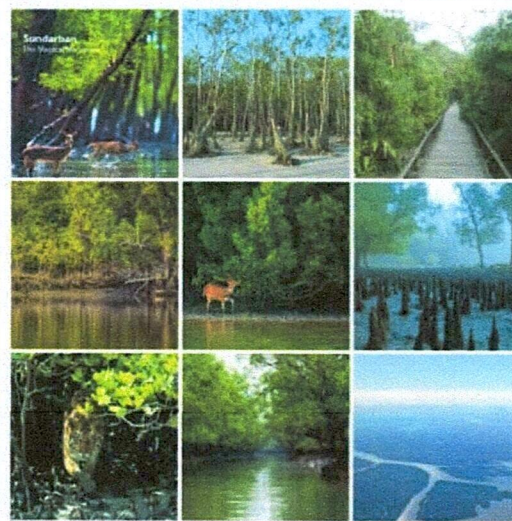
Registration Link : <https://forms.gle/FXpMeWTuTSBtkWPX8>

No Registration Fee

Certificate will be issued after filling up the Feedback Form

## International Webinar on

# Climate Change and Biodiversity Loss of Indo-Bangladesh Sundarbans : Threats, Opportunities and Solutions



Organized by



**Department of Geography and  
Internal Quality Assurance Cell  
Kalinagar Mahavidyalaya**

**Date : 30<sup>th</sup> June, 2023, Time : 11 a.m. Onwards**

## About the College:

Kalinagar Mahavidyalaya was established in 1985 in one of the remote islands of the Indian Sundarbans (Kalinagar). It has traversed a long path warding off the challenges of time and put its mark in the history of higher education in the area. Kalinagar Mahavidyalaya is affiliated to West Bengal State University. The college offers Honours and General subjects in both science and arts disciplines.



**Chief Patron**  
**Sri Sukumar Mahata**  
President, Governing Body  
Kalinagar Mahavidyalaya



**Convener**  
**Dr. Kalyan Kumar Mandal**  
Assistant Professor in Geography  
Kalinagar Mahavidyalaya



**Patron**  
**Dr. Ishani Ghosh**  
Teacher-in-Charge  
Kalinagar Mahavidyalaya



**Joint Convener**  
**Mr. Kankan Roy**  
Assistant Professor in Geography  
Kalinagar Mahavidyalaya



**Co-ordinator, IQAC**  
**Dr. Subhashis Chatterjee**  
Assistant Professor in Bengali  
Kalinagar Mahavidyalaya



**Organizing Secretary**  
**Mr. Amiya Bikash Giri**  
State Aided College Teacher, Geography  
Kalinagar Mahavidyalaya

*Te*  
Teacher-in-charge  
Kalinagar Mahavidyalaya

## Department of Geography:

The teaching of Geography in the college as a General and Honours subject was initiated in 1995 and 2000 respectively. Presently the intake capacity is 70 students for General and 50 for Honours course. There are 5 faculty members in the department, 2 Assistant Professors and 3 State Aided College Teachers (SACT). The Department is equipped with a rich laboratory having Computer, Software, Satellite Imagery, Survey Instruments and other necessary apparatus as per the curriculum of the university.

The primary objective of the department is to provide knowledge of higher quality that is geared towards preparing students for successful career. Besides, the faculty members encourage the research oriented approach among their students.

Study tour, Seminars, Magazines, Poster Presentation, Quiz competition and continuous Field Survey with students make the department academically sound. The department is committed to foster a supportive, empowering learning environment to achieve the overall development of the students.

## About the Webinar:

The World Heritage Site, Sundarban is the world's largest contiguous mangrove forest spreading the Ganga-Brahmaputra-Meghna deltaic region. Now due to the climate change the Sundarban is facing several challenges. With the rising sea levels, islands are disappearing, salinity of water is increasing which severely threatens the health of mangrove forest, quality of soil and crops. Coastal people of this region suffer significantly from the effect of tropical cyclone and their aftermath effect such as embankment breaching, inundation and waterlogging, damage of crops etc. Hostility of climate causes large scale human displacement and the climate refugees are biggest challenges to the geographical, biological and social system. Loss of biodiversity is another crucial problem here. Cyclone, waterlogging river bank erosion, increasing salinity of water and soil etc. are the prominent causes of biodiversity loss in Sundarban region which ultimately lead to a Biodiversity Hotspot. In addition to the physical factors some anthropogenic factors like tiger poaching, illegal lumbering, intensive boating and fishing, operation of mechanized boat, excavation of sand from river bed, establishment of brick making industry etc. are responsible for the environmental degradation and biodiversity loss. In a nutshell, it can be said that Sundarban is now facing multifaceted threats. It is really a challenge to the scientists, researchers and social activists to assess the extent and dimension of the problems and suggest some appropriate remedial measures to uproot the same. In this respect, our webinar has immense scope to pave the way for combating the problems.


**International Webinar on "Climate Change and Bio-diversity Loss of Indo-Bangladesh Sundarbans: Threats, Opportunities and Solutions**

**LIST OF REGISTERED PARTICIPANTS**

Timestamp	Name	Institute/ College/ University	Designation
2023/06/30	ABDUL HALIM MIAH	UNIVERSITY OF NORTH BENGAL	Research Scholar
2023/07/01	AJAY KUMAR	PANNAB UNIVERSITY CHANDIGARH	Guest Faculty
2023/06/30	AKASH ROUTH	KALINAGAR MAHAVIDYALAYA	Student
2023/06/30	AMAL KUMAR SARKAR	RBC COLLEGE FOR WOMEN, NAIHATI, W.	Associate Professor
2023/06/30	AMITAVA DAS	KALINAGAR MAHAVIDYALAYA	SACT
2023/06/30	AMIYA BIKASH GIRI	KALINAGAR MAHAVIDYALAY	SACT
2023/06/30	ANIMESH MANDAL	ASSAM UNIVERSITY, SILCHAR	Research Scholar
2023/06/30	ANIMESH MANDAL	ASSAM UNIVERSITY, SILCHAR	Research Scholar
2023/06/30	APARAJITA SARKAR.	BALURGHAT COLLEGE	Student
2023/07/01	ARIJIT BARIK	KALINAGAR MAHAVIDYALAYA	Student
2023/06/30	AVIJIT DAS	KALINAGAR MAHAVIDHYALAYA	Student
2023/06/30	BANSHITA BASAK	BALURGHAT COLLEGE	Student
2023/06/30	BASARI HALDER	VICTORIA INSTITUTION (COLLEGE)	Assistant Professor
2023/06/30	BIGGANA NANDA ACHARJYA	SALTORA NETAJI CENTENARY COLLEGE	SACT
2023/06/30	BIKASH BARMAN	MALDA WOMEN'S COLLEGE	Assistant Professor
2023/06/30	BIKRAM MANDAL	KALINAGAR MAHAVIDYALAYA	Student
2023/06/30	BISAKHA SHOME	DINABANDHU MAHAVIDYALAYA, BONGAC	SACT
2023/06/30	BISWAJIT MANDAL	NAHATA J.N.M.S MAHAVIDAYALA	Associate Professor
2023/06/30	CHANCHAL ADAK	KALINAGA MAHAVIDYALAYA	Student
2023/06/30	CHIRANJIB SARKAR	ANANDA CHANDRA COLLEGE, JALPAIGURI	Assistant Professor
2023/06/30	DEBASHISH MRIDHA	KALINAGAR MAHAVIDYALAYA	SACT
2023/06/30	DEBASHREE MANDAL	KALINAGA MAHAVIDYALAYA	Student
2023/06/30	DEBASISH SARKAR	ANKURHATI KIBRIA GAZI SCHOOL (H.S)	ASSISTANT TEACHER
2023/06/30	DEBATTOMA BHATTACHARYA	PD WOMEN'S COLLEGE	Student
2023/06/30	DEBJIT MRIDHA	KALINAGAR MAHAVIDYALAY	Student
2023/07/01	DEEPAK	PANJAB UNIVERSITY, CHANDIGARH	Research Scholar
2023/06/30	DHIRAJ SHAW	COLLEGE - KALINAGAR MAHAVIDYALAYA	Student
2023/06/30	DHRUBAJYOTI SARDAR	KALINAGAR MAHAVIDYALAYA	Student
2023/06/30	DIGANGANA BOSE	EAST CALCUTTA GIRLS'COLLEGE	SACT
2023/06/30	DIYALI CHATTARAJ	NABA BARRACKPUR PRAFULLA CHANDRA	Assistant Professor
2023/06/30	HARSHIT DAS	KALINAGA MAHAVIDYALAYA	Student
2023/06/30	HIMMAT SINGH	UNIVERSITY OF NORTH BENGAL	Student
2023/06/30	HIRANMAY BACHHAR	KALINAGA MAHAVIDYALAYA	Student
2023/06/30	IMAN SK	CHAKDIGNAGAR T.M. HIGH SCHOOL, KRIS	Assistant Teacher
2023/06/30	JAGADISH BARKANDAJ	KALINAGAR MAHAVIDYALAYA	Student
2023/06/30	JULFIKAR MOLLA	UNIVERSITY	Student
2023/06/30	KALYAN KUMAR MANDAL	KALINAGAR MAHAVIDYALAYA	Assistant Professor
2023/06/30	KANIKA DAS	RAMAKRISHNA SARADA MISSION VIVEKAN	SACT
2023/06/30	KAUSTAB DAS	KALINAGAR MAHAVIDYALAYA	Ex- student
2023/06/30	KOUSHIK DAS	KALINAGA MAHAVIDYALAYA	Student
2023/06/30	MAHITOSH DAS	MAGADH UNIVERSITY	Research Scholar
2023/06/30	MAITREYEE HALDER	TAKI GOVERNMENT COLLEGE	SACT
2023/06/30	MILAN DAS	KALINAGAR MAHAVIDYALAYA	Student

*TL*  
Teacher-In-charge  
Kalinagar Mahavidyalaya

2023/06/30	MITRA BHATTACHARYA	KALINAGA MAHAVIDYALAYA	SACT
2023/06/30	MRIDULA SARDAR	KALINAGAR MAHAVIDYALAYA	Student
2023/06/30	NANIGOPAL MAITI	KALINAGAR MAHAVIDYALAYA	SACT
2023/06/30	NILADRI PURKAIT	KALINAGAR MAHAVIDYALAYA	Assistant Professor
2023/06/30	PANCHALI MAJUMDAR	EAST CALCUTTA GIRLS' COLLEGE	Associate Professor
2023/06/30	PAROMITA GHOSH MALLICK	SAHEED NURUL ISLAM MAHAVIDYALAYA	SACT
2023/06/30	PINKI PAUL	NAHATA JNMS MAHAVIDYALAYA	SACT
2023/06/30	PRATIVA BAR	KALINAGAR MAHAVIDYALAYA	Student
2023/06/30	PRITAM ADAK	KALINAGAR MAHAVIDYALAYA	Student
2023/06/30	PRIYANKA PRAMANIK	BALURGHAT COED COLLEGE	Student
2023/06/30	PUJA ROY	P.D. WOMEN COLLEGE. JALPAIGURI	Student
2023/06/30	RABISANKAR SARDAR	KALINAGA MAHAVIDYALAYA	Student
2023/06/30	RACHANA BAR	KALINAGAR MAHAVIDYALAYA	Student
2023/06/30	RAHUL DEV BISWAS	KALINAGAR MAHAVIDYALAYA	Assistant Professor
2023/06/30	RAKESH ROY	EAST CALCUTTA GIRLS' COLLEGE	Assistant Professor
2023/06/30	REKHA MAHATO	KALINAGA MAHAVIDYALAYA	Student
2023/06/30	RINTI DAS	KALINAGAR MAHAVIDYALA	Student
2023/06/30	RIYA MONDAL	KALINAGAR MAHAVIDYALAYA	Student
2023/06/30	ROHIT KUMAR	PANJAB UNIVERSITY CHANDIGARH	Research Scholar
2023/06/30	RUMANA PARVIN	KALINAGAR MAHAVIDYALAYA	Student
2023/06/30	SAHANAJ PARVIN	P. D WOMEN'S COLLEGE	Student
2023/06/30	SAMRAT MRIDHA	KALINAGAR MAHAVIDLAYA	Student
2023/06/30	SANJIB MAHATA	NETAJI SUBHAS OPEN UNIVERSITY	Research Assistant
2023/06/30	SAYANDIP ROY	KALINAGAR MAHAVIDYALAYA	Student
2023/06/30	SOM DATTA	BIJOY KRISHNA GIRLS' COLLEGE, HOWRAH	SACT
2023/06/30	SOMA DEY	TAKI GOVERNMENT COLLEGE	SACT
2023/06/30	SOMALI ROY CHAKRABORTY	DUMDUM MOTIJHEEL RABINDRA MAHAV	SACT
2023/06/30	SOUBHIK DAS	KALINAGAR MAHAVIDYALAYA	Student
2023/06/30	SUBHAJIT SAHA	JIBANTALA ROKEYA MAHAVIDYALAYA	Assistant Professor
2023/06/30	SUJATA DAS	DIAMOND HARBOUR WOMEN'S UNIVERS	Student
2023/06/30	SUKHENDU MONDAL	BARRACKPORE RASTRAGURU SURENDRAN	Student
2023/06/30	SUMAN BISWAS	KALINAGAR MAHAVIDYALAYA	Student
2023/06/30	SUMAN KARMAKAR	KALINAGAR MAHAVIDYALAYA	Student
2023/06/30	SUMANA MONDAL	KALINAGAR MAHAVIDYALAYA	Student
2023/06/30	SUMONA BHUNIYA	KALINAGAR MAHAVIDHYALYA	Student
2023/06/30	SUSMITA ROY	KALINAGAR MAHAVIDYALAYA	Student
2023/06/30	TANMOY BASU	KATWA COLLEGE	SACT
2023/06/30	TAPAS DAS	PRESIDENCY UNIVERSITY, KOLKATA	Research Scholar
2023/06/30	TAPAS PATRA	BAMANPUKUR HUMAYUN KABIR MAHAV	SACT
2023/06/30	TUYA ADHIKARY	KALINAGAR MAHAVIDYALAY	Student
2023/06/30	VINEET NARAIN DUBEY	S.M.M.TOWN P.G.COLLEGE ,BALLIA,U.P.	Professor
2023/06/30	YOGESH KUMAR DUBEY	MARIAHU POST GRADUATE COLLEGE,MAH	Student

  
 Teacher-In-charge  
 Kalinagar Mahavidyalaya



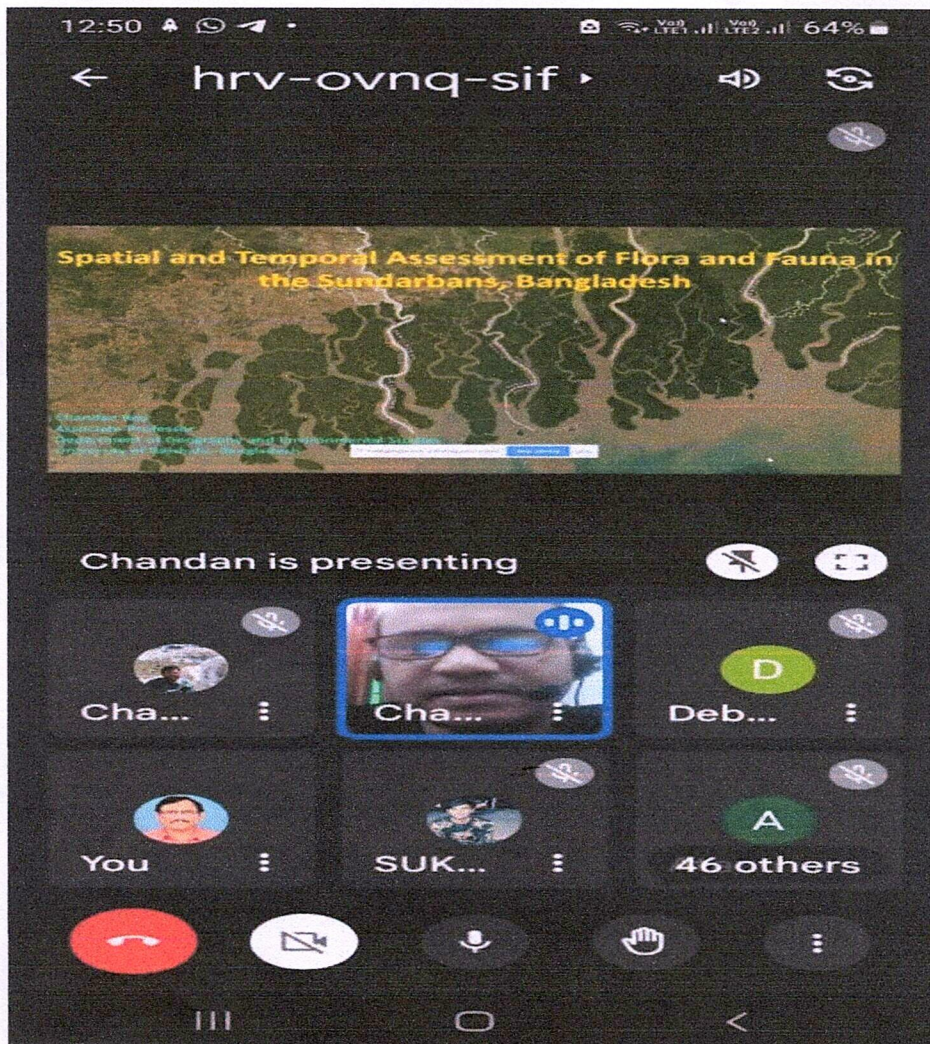
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## KALINAGAR MAHAVIDYALAYA

Government Aided College Affiliated to the West Bengal State University

P.O.: KALINAGARHAT, NORTH 24 PARGANAS. PIN: 743442. PHONE- 8328719680

### International seminar on 'Climate Changes and Biodiversity Loss'



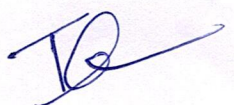
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### Livelihood Capitals and provisioning services (PS)

- Six types of PS have been identified from focus group discussions. These included Fishing, Fish and Tiger Pawen collection, Crab collection, Crab and Fishing, Daily labour.
- Livelihood capital variables were then selected which were the most significant for the collection of the five identified PS.
- Five livelihood capitals such as human, natural, financial, physical and social capitals were taken into consideration in this regard.
- We want to find out the contribution of the livelihood capitals for accessing PS by excluding social capitals. Multiple Regression by Stepwise method was performed using SPSS (PASW Statistics 18.0.0) software to identify the contribution of the variables for accessing PS.
- The models were prepared according the following equation as proposed by Dransore in 2012:  $Y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \dots + \beta_nx_n + \text{error}$  (Equation 1.4.1)
- The sustainability of livelihood capitals was measured by carrying out Standardization score =  $\frac{X - \text{mean}}{\text{standard deviation}}$

Chandansurabhi is presenting

A screenshot of a Zoom meeting interface. At the top, it says "Chandansurabhi is presenting". Below this, there are several participant tiles. From left to right, top to bottom: a tile for "panchali" with a small video icon; a tile for "Atanu" with a green background and a white letter 'A'; a large tile for "Chandansurabhi" showing a man in a red shirt; a tile for "You" with a small video icon; a tile for "Chironjiv" with a small video icon; and a tile for "57 others" with a small video icon. At the bottom of the screen, there are three icons: a hamburger menu, a home button, and a back arrow.

  
Teacher-In-charge  
Kalinagar Mahavidyalaya

## REPORT ON INTERNATIONAL WEBINAR

Name of the Program : Climate Change and Biodiversity Loss of  
Indo-Bangladesh Sundarbans : Threats,  
Opportunities and solutions

Organized by : Department of Geography

Date : 30/06/2023

**Introduction :** The world heritage site, Sundarban is the world's largest contiguous mangrove forest spreading the Ganga-Brahmaputra-Meghna delta region. Now, due to the climate change the Sundarban is facing several challenges. Among them, rising sea level, increasing salinity of water, water logging, biodiversity loss, advent of severe cyclone etc. are prominent problems. Besides, anthropogenic factors like poaching, illegal lumbering, operation of mechanized boat, excavation of sand from river bed etc. are worth mentioning. Keeping these threats in mind the objectives has been designed as stated below.

### **Objectives :**

- 1) To identify the different threats faced by Sundarbans , its nature and extent for the climate change and biodiversity loss.
- 2) To discover the opportunities by which we can solve the threats and existing problems.
- 3) To formulate some appropriate remedial measures to combat the existing problems which can promote and save the environment of the regions.

**Program Description and Key Points:** In consonance with the meaningful caption ( Indo-Bangladesh Sundarban) and keeping in view the dimension of webinar (international) organizers of the webinar invited two resource persons, one from Bangladesh and another from India. Dr. Chandan Roy, Associate Professor in Geography and Environmental Studies ,Rajshahi University, Bangladesh was a notable speaker and another was Dr. Chandan Surabhi Das, Associate Professor in Geography, Barasat Government College, West Bengal State University, India. More than 105 students from our college and neighboring colleges participated in the webinar as audience.

Dr. Chandan Roy explained how spatial and temporal distribution of flora and fauna of Bangladesh is going to change due to the climate change. He emphasized upon the spatio-temporal change of Mangroves species in Bangladesh. To do so, he used different GIS techniques and satellite imageries.

Dr. Chandan Surabhi Das explained how the occupation and life style of the people of Indian Sundarban is going through metamorphosis due to climate change. In this regard, he narrated the scientific utilization of natural resources and its preservation for future. In addition to this he uttered how the biodiversity of sundarban is decreasing in the course of time and how this course can be reversed.

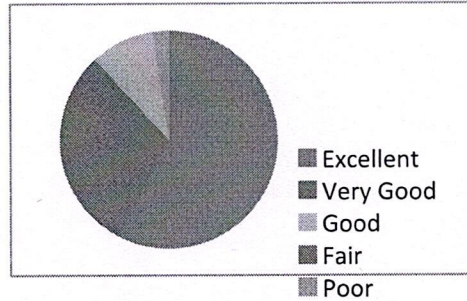
**Conclusion :** Sundarban is a world heritage site having a fragile ecosystem where biodiversity loss is a prominent threat. Both the speakers suggested some appropriate measures to come out from the problems. In this respect, this webinar may demand a complete success.

JQhosh 27.23.  
Teacher-in-charge  
Kalinagar Mahavidyalaya

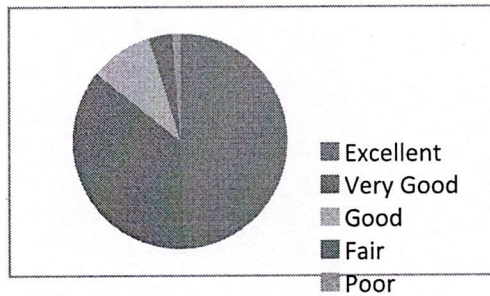
**Feedback Analysis of The International Webinar on “Climate Change and Biodiversity Loss of Indo-Bangladesh Sundarbans: Threats, Opportunities and Solutions”**

**Organised by  
Department of Geography, Kalinagar Mahavidyalaya  
Dated: 30.06.2023**

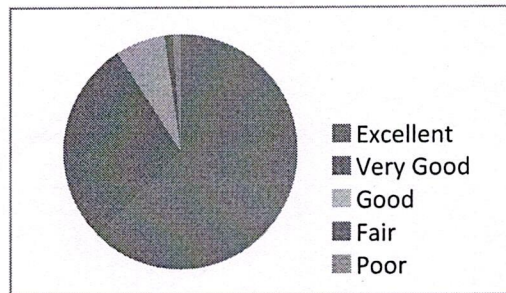
**1. Relevance of the Webinar**



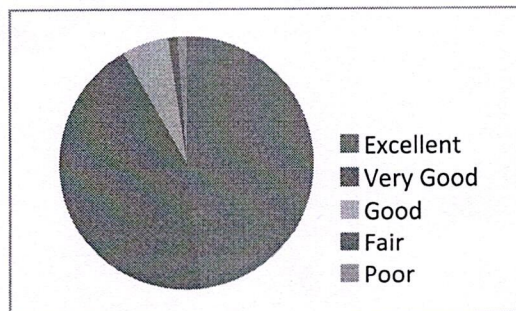
**2. Applicability of the Webinar**




**3. Extent of coverage of Contents**



**4. Significance of the Webinar with regards to Higher Education**

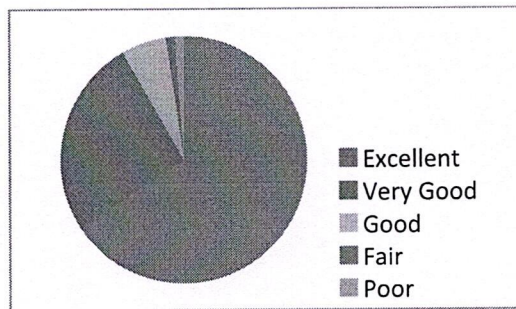


  
**Teacher-In-charge  
Kalinagar Mahavidyalaya**

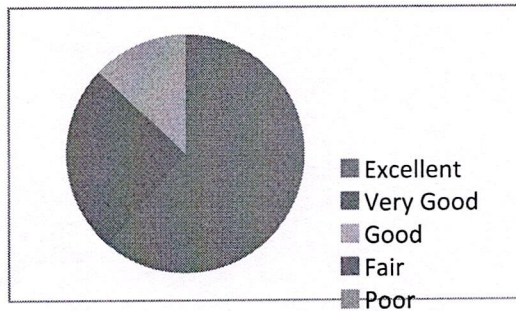
5. Duration of the program



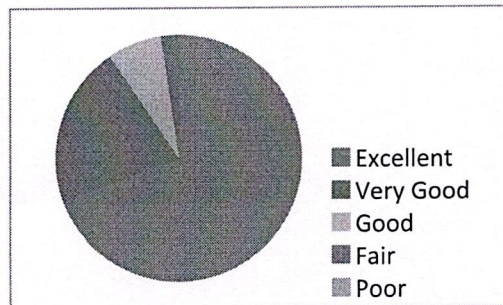
6. Possibilities of implementation of new ideas and information




7. Evaluation of resource person [Dr. Chandan Roy]



8. Evaluation of resource person [Dr. Chandan Surabhi Das]



  
Teacher-In-charge  
Kalinagar Mahavidyalaya