

Report of the Project

Conduction of astronomical activities to motivate students in Public schools of Nepal (CAAMPASN)



Submitted by

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(Project Leader: IAU, TF2 Funded Project 2014)



Project title: Conduction of astronomical activities to motivate students in Public schools of Nepal (CAAMPSN)

Grant Reference: TF2F-2104

Project Implementation County: Nepal

Location: Kathmandu, Pokhara, Tanahun, Lamjung

Name of the Schools: Nandi Ratri, Jaldevi, Siddhi Sadan and Laxmi Secondary School

Beneficiaries: 350 Students and 11 teachers of the selected school

1. Summary of the project

Despite the favorable climatic and geographical conditions, research and development of the astronomy in Nepal is very limited. Nepal has to do lots of works to aware the astronomy for its development.

To increase the astronomical awareness there should be activities in School. School activities will aware not only to children but also to the school teachers in a practical way. If the school children are interested in astronomy they continue their study in astronomy. They conduct research and development in this field.

Hence It has been believed that school education is very important to make foundation in the development of astronomy. In this regard, the curriculum of science of the class 8, 9 and 10 has been thoroughly reviewed and the teaching methodology has been inquired. Considering the gaps of teaching at class and the practical works of Astronomy, practical ways and materials such as fundamental of telescope and its use, measures and precautions to view the astronomical objects in normal days or in astronomical events such as eclipse, transits has been considered in the project. Posters, pamphlets, astronomy books, Small telescope, solar glasses are used and distributed to the selected schools.

Followings are the Name, address and type of the selected schools:

| S. No | Name of The School | Address | Type of School |
|-------|---------------------------------|--------------------|----------------|
| 1 | Nandi Ratri Secondary School | Naxal, Kathmandu, | Government |
| 2 | Jaldevi Higher Secondary School | Damauli, Tanahun | Government |
| 3 | Siddhi Sadan Secondary School | Lamjung, Tanahaun | Government |
| 4 | Laxmi Secondary School | Thulibidi, Pokhara | Government |

2. Achievement of Objectives/deliverables

2.1 Interaction with teachers:

Interaction with teacher has been performed in all the selected schools. The main objective of the interaction was to find the existing status of the astronomy, teaching methodology and practices in the selected schools. Review of the content of astronomy in school education has been done and found that no practical works has been performed in all the schools. No resource of astronomy has been found in almost all the schools to support astronomy education based on the curriculum of class 8, 9 and 10.



Picture 1: Interaction with teachers to share the project activity at Laxmi Lower secondary school, Pokhara

Project details have been shared during the interaction with teachers and principal of the school. The methodology, materials tools and techniques used in the project has been shared with the teachers. Schools teachers are also invited to participate in the project activity.

2.2 Educate Students and teachers:

Considering the curriculum of astronomy of the school textbook, a discussion has been carried out with the teachers and students. In the discussions following materials has been used:

1. Posters of solar system, galaxy , moon and other related objects
2. Bramhanda ra Sauramandal (Universe and Galaxy) written in Nepali language by Moti Kaji Sthapit as a reference book of basic astronomy.
3. Solar glass to view Sun (especially for Solar Eclipse)
4. A refractor telescope with tripod.
5. Text books of science of class 8, 9 and 10 (astronomy portion)

Students found color posters with details very interesting and helpful to understand the facts of astronomy.



Picture 2: Students watching colored posters and sharing knowledge at Nandi Ratri School, Kathmandu

The text book Bramhanda ra Sauramandal (Universe and Galaxy) written in Nepali language by Moti Kaji Sthapit has many colorful pictures with descriptions in Nepali language which is not only helpful to the students but also to the teachers to understand astronomy in school level.



Picture3: Students Making notes in the workshop

Solar glasses are helpful to watch sun in normal days or in eclipse in a safer ways. Students used to watch sun with photographic negatives or X-ray films or with a glass which is quoted with black color or smoke, which is not the safe ways to watch Sun and Solar eclipse. Teachers and students are trained to use safer methods to watch Sun and Solar eclipse. Solar glasses are distributed to the schools.



Picture 4: Watching Sun using Solar Glass at Jaldevi Higher Secondary School, Damauli

3. Deviation from the original project implementation plan

Project location has been proposed as Kathmandu valley, Damauli and Pokhara but later we have selected Siddhi Sadan Lower Secondary School at Lamjung, which is a government school and have very marginalized students.

The project implementation data has been changed due to the winter vacation in some schools. Telescope with tripod and accessories has been distributed which has not been considered initially hence budget has to be adjusted from other headings.

4. Challenges Faced in the project

Students of class 8, 9 and 10 are included in the activity though other lower grade students are also wanted to participate. In the project only four schools are included but there are many demands from other schools to participate in such program. Only government owned schools are included in the project which lack educational resources due to which use of multimedia became challenging.

Nepali language is the main language for teaching in all the public schools selected. They used Nepali language books in science hence astronomical terminologies are quite harder for the students though the resource book [Bramhanda ra Sauramandal (Universe and Galaxy) written in Nepali language by Moti Kaji Sthapit as a reference book of basic astronomy] helped to explain in details.

5. Recommendations

Following are the recommendations/lesson learnt during the implementation of the project:

1. Materials produced/distributed should be in local language.
2. Distribute more resources and participate more students of the school.
3. Increase the project duration and increase the number of schools.

6. Financial Report

| S.N | Particulars | Costs in Rs | Notes |
|-----|--|-------------|------------------------------|
| 1 | Professional costs | | |
| 1.1 | a) Teachers/resource person | 20000 | 10 man days |
| 2 | Travel Costs | | |
| 2.1 | Kathmandu to Damauli | 11000 | 150 km |
| 2.2 | Damauli to Pokhara | 6000 | 70 km |
| 2.3 | Pokhara to Lamjung | 7000 | 100 km |
| 2.4 | Lamjung to Kathmandu | 13000 | 180 km |
| 3. | Consumer able Items | | |
| 3.1 | Food and water | 13000 | |
| 4. | Event Cost | | |
| 4.1 | Production and printing | 14000 | |
| 4.2 | Cost of telescope, stand and accessories | 40000 | |
| 4.3 | Posters and books | 10000 | |
| 4.4 | Administration and support | 11000 | |
| 4.5 | Other costs | 2500 | |
| | Grand Total | 133500 | 1003 Euro at the rate of 133 |