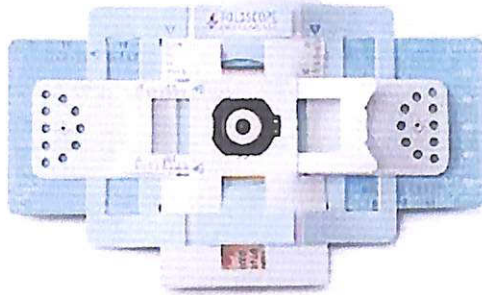


DBT- Prakash Lab Foldscope Project

From April 2018 to March 2019



1. Name & address of the organization:

LTK College, P. O.- Azad, Dist. – Lakhimpur, Assam, Pin- 787031.

2. Name, designation contact details of the of the Coordinator including mobile and email:

Name: Mr. Prabhat Saikia, Designation: Assistant Professor, Department of Botany,
LTK College, Lakhimpur, Assam, Mob. No.- 9678761742,
E-mail: saikia_prabhat@rediffmail.com

3. Sanction order no. and date : BT/IN/Indo-US/Foldscope/39/2015 dated 20.03.2018

Total budget sanctioned: 8,00,000/- (Rs. Eight lakhs only)

4. Title of the project:

To describe the type of household sanitation facilities available at Lakhimpur district of Assam and to identify the microbes including lower class of algae and fungi by the help of foldscope on the spot and which are not able to

Prabhat Saikia
Principal
L. T. K. College
Nov-18

identify through foldscope will be collected and send the sample for experimental research.

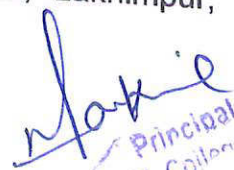
5. Project objectives

- To collect the sample from different sanitary water of Lakhimpur district, Assam.
- To identify the microbe including algae and fungal species available in collected sample by the help of foldscope.
- To identify the microbes through in vitro cultivation that were unable to spot identification.
- To organise awareness cum training programme on application of foldscope and microbial effect on human life.

6. Summary of the Progress made so far under the project

Field survey and collection of samples of different sanitary water were made from various areas of Lakhimpur district like Dhalpur, Narayanpur, Bihpuria, Bongalmora, Laluk, Banderdewa, Harmoti, Lakhimpur, Panigaon, Johing, Kadam, Boginodi, Chawoldhuwa, Gogamukh, Ghilamora, Dhakhuakhana etc. The collected samples were spot identified with the help of foldscope. Pictures and videos of identified species were taken with the help of mobile camera. The unidentified samples were taken to the laboratory (Biotech Hub) of LTK College and were inoculate in culture medium for proper identification of algae, fungi and bacteria. The identification was done through foldscope with the help of different floras, related literature etc. A number of microbes like Spirogyra, Nostoc, Bacteria, Aspergillus, Mucor, Closterium etc.

A summer training programme was conducted in collaboration with DBT Hub. One day training cum awareness programme was given to the students on assembling, use and application of Foldscope. Some training cum awareness programmes were conducted in Sangam Academy, Lakhimpur; Panigaon H. S. School, Panigaon, Lakhimpur; Lakhimpur Markaz Aademy, Laluk, Lakhimpur;


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Sonapur High Madrasa School, Bongalmora, Lakhimpur; North Lakhimpur College, Lakhimpur; Lakhimpur College of Veterinary Science, Lakhimpur; Dhakuakhana College of Lakhimpur; and Harmoti Junior College, Banderdowa, Lakhimpur. An introductory and information programme was also conducted in each of the above mentioned study centers about assembling, use and application of foldscope. Various observations like pollen grain, T.S of stem, collected sanitary water, T.S. ovary, epidermal hair cell, stomata, fungal cell, algal filaments etc. were made and awareness on microbial effect of surrounding environment was provided to the trainees. Photographs were also uploaded in DBT software related to foldscope project.

7. Major relevant pictures (colour) of images taken during use of Foldscope (please post only relevant pictures below):

➤ Workshop pictures



Fig A: Awareness cum training programme at LTK College, Lakhimpur.



Fig B: Awareness cum training programme at Lakhimpur College of Veterinary Science, Lakhimpur.



Fig C: Awareness cum training programme at Lakhimpur Markaz Academy, Laluk, Lakhimpur.

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Fig D: Awareness cum training programme at Lakhimpur College of Sangam Academy, Lakhimpur.



Fig E: Awareness cum training programme at Dhakuakhana College of Lakhimpur.



Fig F: Awareness programme was given to the villagers.



Fig G: Awareness cum training programme at Harmoti Junior College, Banderdowa, Lakhimpur.



Fig H: A summer training programme was conducted in collaboration with DBT Hub at LTK College, Lakhimpur.



Fig I: Awareness cum training programme at North Lakhimpur College, Lakhimpur.

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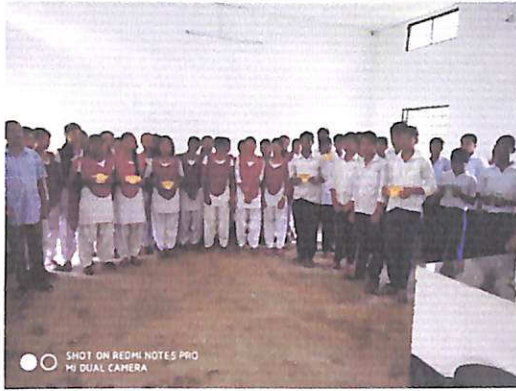


Fig J: Awareness cum training programme at Panigaon H. S. School, Panigaon, Lakhimpur.



Fig K: Awareness cum training programme at Sonapur High Madrasa School, Bongalmora, Lakhimpur.

➤ Pictures of images (Pollen/ microbes/ tissues etc.) observed using foldscope (please post with place, date and time).

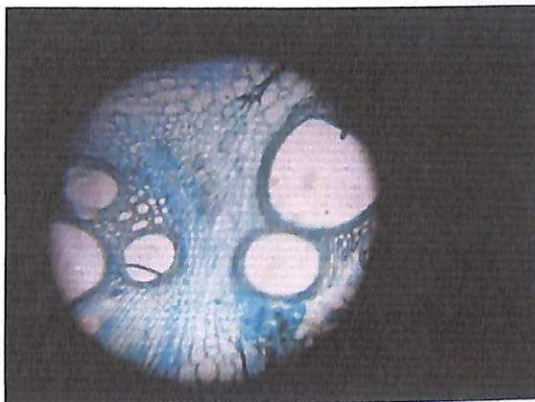


Fig L: T.S. of plant stem.

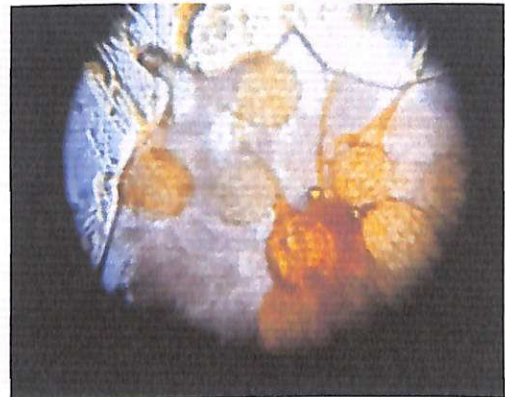


Fig M: Pollen grains of Hibiscus sp.

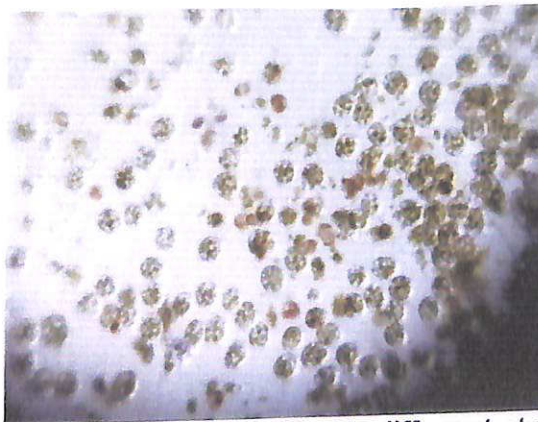
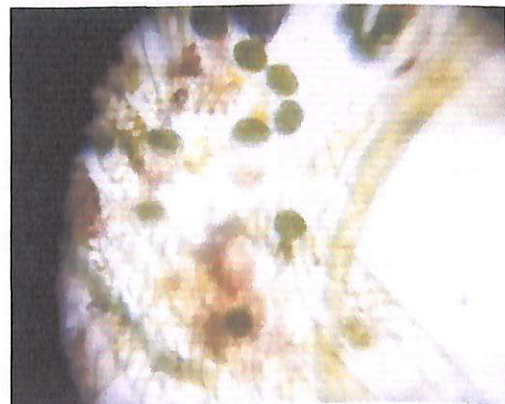


Fig N: different stages of nostoc colony.



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Fig O: A wheel animal (Rotifer)

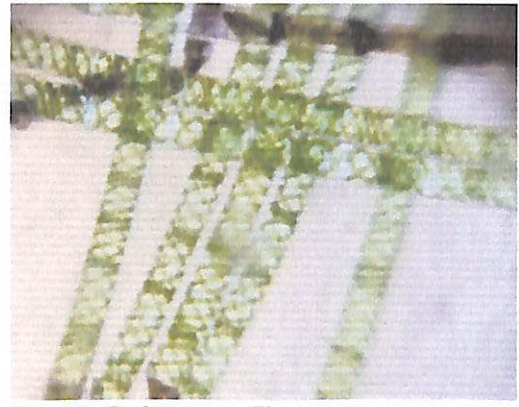


Fig P: Spirogyra filaments.

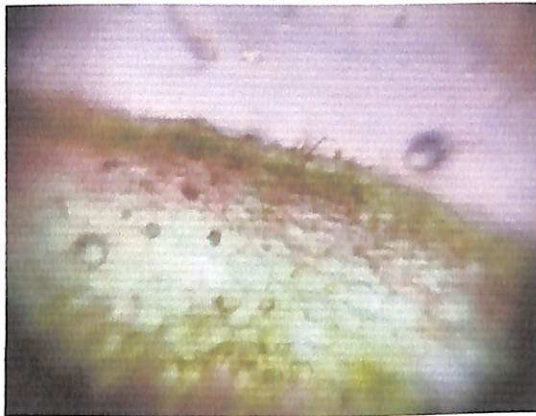


Fig Q: Epidermal hairs observed under foldscope.

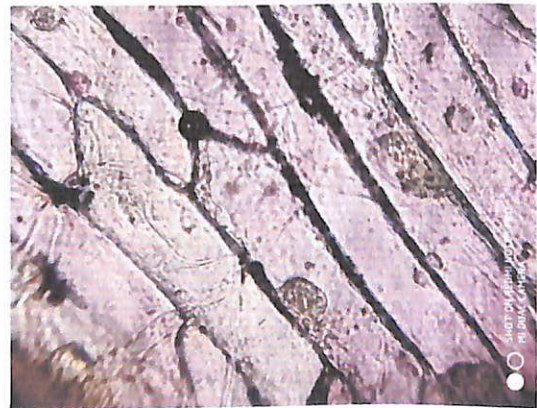
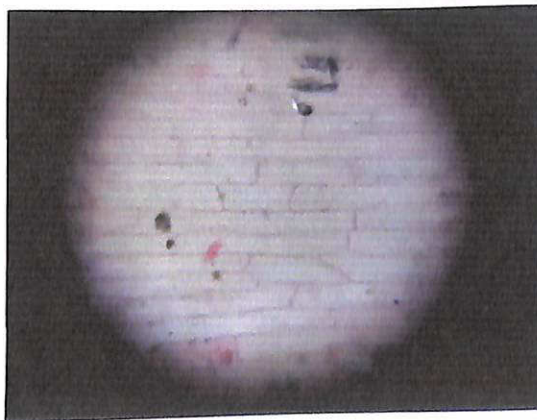


Fig R: Different views of plant cells under foldscope.

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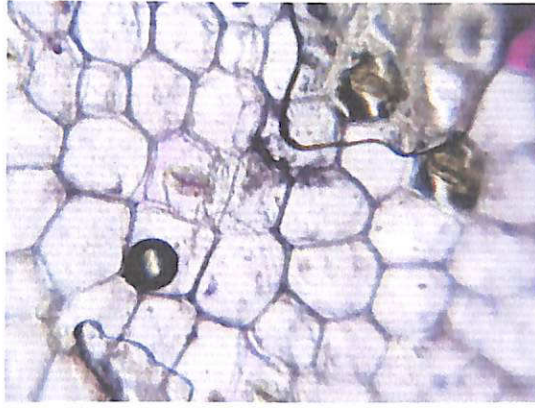


Fig S: different stomata types.

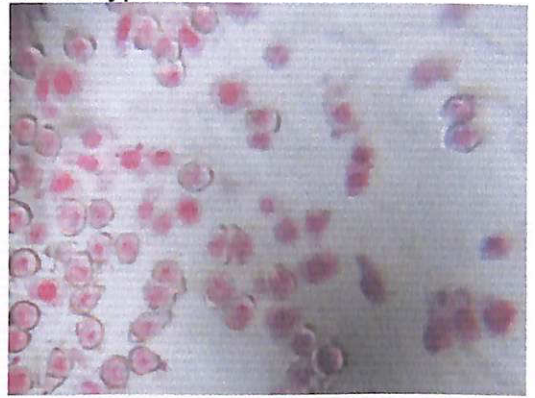


Fig T: Observation of different stages of cell division under foldscope.



Fig U: Closterium sp.



Fig V: Inoculation practices.

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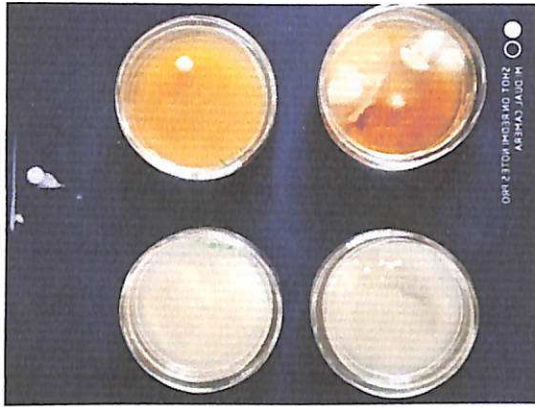


Fig W(i): different growth stages of microorganisms in growth medium.



Fig W(ii): different growth stages of microorganisms in growth medium.



Fig X: *Mucor* sp. under foldscope.

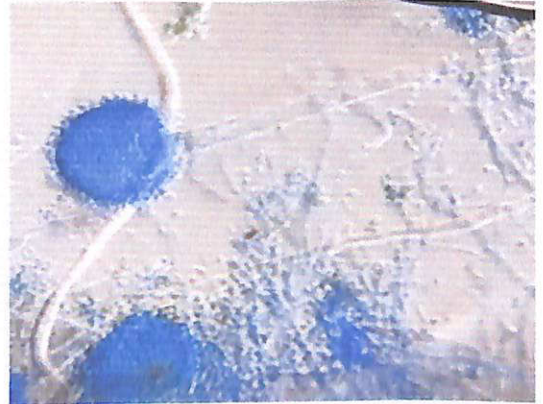


Fig Y: *Aspergillus* sp. under foldscope.

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Fig Z: Sample collection from different areas.

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