ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY

(DEPARTMENT OF SCIENCE & TECHNOLOGY)
GOVT. OF ARUNACHAL PRADESH

ANNUAL REPORT 2017-18

ardst.arunachal.gov.in

AMEYA ABHYANKAR, IAS
SECRETARY

सत्यमेव जयते

GOVERNMENT OF ARUNACHAL PRADESH
DEPARTMENT OF SCIENCE & TECHNOLOGY
STATE CIVIL SECRETARIAT, ITANAGAR

Dated: 26/08/2020

MESSAGE

Arunachal Pradesh is a resource rich state with people who are hardworking and closely connected to nature. The Arunachal Pradesh State Council for Science & Technology has been making sincere efforts to provide technology and other scientific means to convert this rich resource into sustainable income for the people of Arunachal Pradesh without causing any adverse ecological impact.

Arunachal Pradesh State Council for Science & Technology is bringing out its annual report for the year 2017-2018. I extend my compliments and best wishes to the publication.

Godspeed and good luck!

(Ameya Abhyankar)

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A.P. STATE COUNCIL FOR SCIENCE & TECHNOLOGY
(DEPARTMENT OF SCIENCE & TECHNOLOGY)
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Ref. No.....

Date...24/08/2020.....

FOREWORD

It gives me immense pleasure to present the Annual Report of Arunachal Pradesh State Council for Science & Technology, Govt. of Arunachal Pradesh for the year 2017-18.

The Council was established in the year 1992 under the Department of Education, Govt. of Arunachal Pradesh (registered under the Societies Registration Act 1860) with the prime objective of application and popularization of science & technology in localized developmental activities across the state; it was later brought under the Department of Science & Technology, Govt. of Arunachal Pradesh in the year 1998.

I am extremely happy to put on record that APSCS&T has accomplished the task expected of it by organising various Science & Technology activities and exhibitions conducted across the state on various occasions.

The council has been successful in carrying out the desired objectives of DST, NCSTC and Govt. of Arunachal Pradesh in particular by delivering its inherent message to the people of the state. During the year 2017-18 various R & D projects were undertaken, 7 patent searches carried out and 2 inventions sent to the Patent Facilitating Centre (PFC) TIFAC for patent filing and 3 inventions are on the pipeline.

The year also saw some significant achievements of the council in the form of establishment of DBT-APSCS&T Centre of Excellence for Bio Resources and Sustainable Development and Rural Technology Centre (RTC) in the state to cater to the need of scientific interventions in sustainable utilization and conservation of rich bio resources, and to improve the overall socio-economic status of the people of the state.

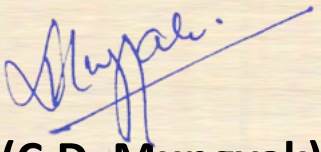
The council has also established a state of the art building, “The Innovation Hub and Space Education Centre (Planetarium)”, dedicated to the people of Arunachal Pradesh.

It was inaugurated on 8th December, 2018 at Arunachal Pradesh Science Centre Complex, Itanagar by Shri Nabam Rebia, Hon’ble Minister, Land Management and Environment & Forest, Govt. of Arunachal Pradesh in the august presence of Guest of Honour, Shri S.M. Khened, Director, Nehru Science Centre, NCSM, Ministry of Culture, GoI, Mumbai, along with Special Guest Shri Techi Kaso, Hon’ble MLA, 13 Itanagar, and dignitaries of the State Govt. and Heads of Science Museums/Centres from across the country.

The above achievements were possible only through the single minded and untiring efforts of our scientists and researchers, and the partners involved with our R&D programmes throughout the year; and they truly deserve all the compliments due to them.

I would also like to express my heartfelt gratitude to the staffs and officers of APSCS&T who have been rendering coordinated efforts with forward planning and implementation of people-centric programmes approved by the Central and the State Government.

Place: Itanagar
Date: 24th August, 2020



(C.D. Mungyak)
Director cum Member Secretary

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APSCS&T IN NEWS

layout and design NKWorks

ABOUT APSCST

To establish the importance of encouraging and promoting scientific and technological activities in the states and union territories for the overall socio-economic development of the country, the Government of India's Department of Science & Technology (DST) initiated a scheme called "Assistance for Development of State Council for Science & Technology" during the Sixth Five Year Plan.

Its main objectives were to assist the states and union territories to set up State Councils for Science & Technology to act as focal forums in the formulation, planning, coordination, and promoting scientific and technological activities within their respective states. The DST has performed a catalytic role to sensitize almost all the states and union territories in the country and helped establish state science & technology councils.

Accordingly, the Government of Arunachal Pradesh considered the necessity to set up an organization to identify the areas in which science & technology can be applied for the development objectives and goals of the state, in particular, to properly utilise natural resources through perspective planning for rural development and improvement of the socio-economic status of the state. It was also felt necessary to establish effective communication and other linkages between them and coordinate the activities of the centres of scientific and technological research, government agencies, and institutions to promote the application of science & technology.

To promote scientific and technological services in the state, the autonomous Arunachal Pradesh State Council for Science and Technology (APSCS&T) was established in 1992 under the state government's Department of Education and registered under the Societies Registration Act, 1860 (Extension to Arunachal Pradesh, 1978) and later brought under the Department of Science and Technology, Government of Arunachal Pradesh in 1998 with the prime objectives of playing a catalytic role in the application of science and technology to address local issues for development purposes and popularise science and technology in the state.

The APSCST is also the nodal agency for the implementation of the programmes of the Government of India's Department of Science & Technology. Its administration and management are conducted by its Executive Committee comprising of a Chairperson, Secretary, and Commissioners to the state government. Its daily affairs and administration are looked after by the Chief Executive, i.e., Director/ Member Secretary.

Additionally, the Department of Science and Technology (DST) was created in 1998 to provide scientific and technological services and guide the overall development strategy for achieving sustainable development in the state.

OBJECTIVES OF APSCST:

a) To indicate optimum development of untapped new and renewable sources of energy in Arunachal Pradesh by applying contemporary scientific research and appropriate technology.
b) To plan research and development programmes for academic research and development in existing institutions of the state.
c) To assist the state government in developing suitable scientific and technological structures to ensure and promote the application of proper scientific methods and technology in rural areas that will assist the administration in all matters relevant to the application of science and technology in the regional development and preparation of perspective planning.
d) To liaise with national organizations in facilitating collaboration and transfer of scientific and technological know-how.
e) To recommend means of popularizing the use of science and technology amongst the people of the state and utilization of mass media, participation in and organising seminars, exhibitions and other related activities and development of application centres, museums, etc.
f) To evolve a long-term science & technology policy and programme keeping in view the natural resources/geographical features and socio-economic conditions available in the state.
g) To ensure that science & technology is harnessed meaningfully for the development of the state.
h) To evolve strong and workable mechanisms for the transfer of indigenous technology.
i) To identify projects and programmes to improve the conditions of the rural population and improve the quality of health and hygiene.
j) To promote and fully involve various departments connected with development schemes as well as the people.
k) To promote all activities which are necessary or conducive to the attainment of the objectives of the society.

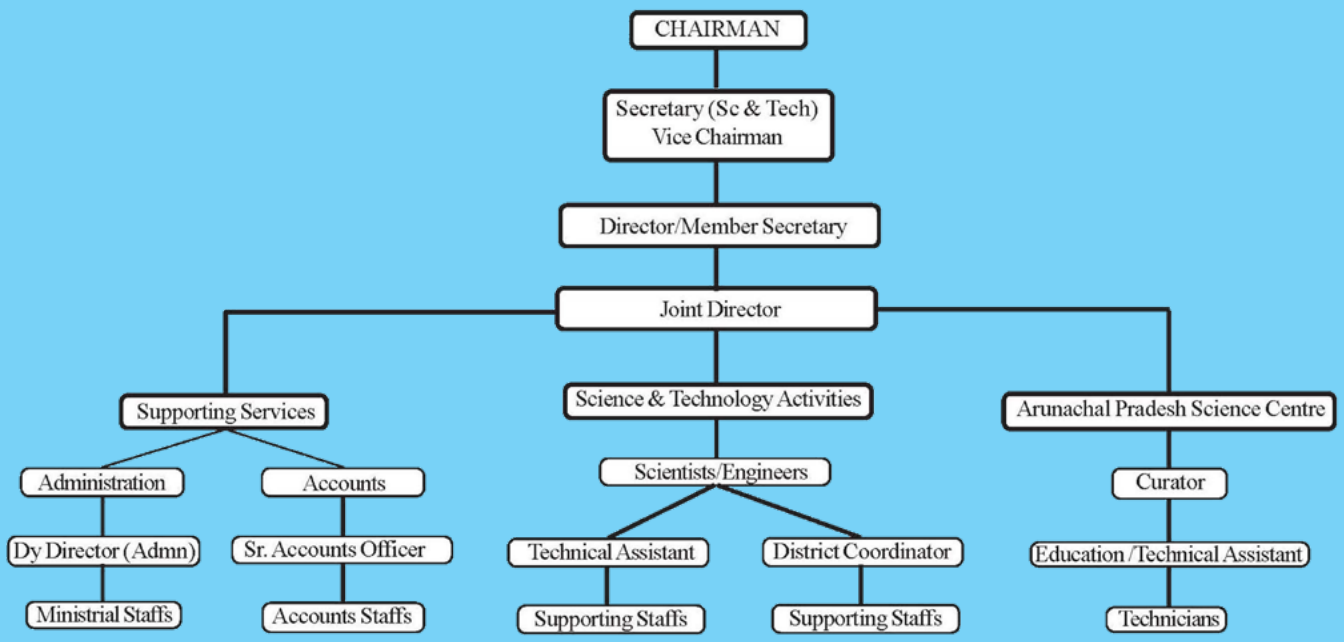
On 3 December 2005, the then Chief Minister, Shri Gegong Apang, inaugurated the Arunachal Pradesh Science Centre at the Indira Gandhi Park in Itanagar with the stated objective to pursue development of scientific culture among the people and act as a link between scientists and the general population in an attempt to try to translate specialized scientific knowledge into comprehensible and relevant knowledge.

Since its establishment, it has become a centre for exhibitions and expositions that explores the knowledge unknown.

The APSCS&T had initiated the proposal to establish the DBT-APSCS&T Centre of Excellence for Bioresources and Sustainable Development and Appropriate Rural Technology Centre in the state to cater to the needs of scientific interventions in sustainable utilization and conservation of rich bioresources and improve the socio-economic status of the people.

On 22 December 2018, Hon'ble Chief Minister Shri Pema Khandu inaugurated the makeshift building of the DBT-APSCS&T, CBSD at Kimin in Papum Pare district. The centre is working to provide skill development training to students and the local populace of the state.

ORGANIZATIONAL STRUCTURE



PROGRAMMES ORGANISED BY APSCS&T DURING 2017-18

1. DISTRICT AND STATE LEVEL CHILDREN'S SCIENCE CONGRESS

It is an initiative to popularise science and communication supported by the National Council for Science and Technology Communication, Department of Science & Technology, Government of India and Government of Arunachal Pradesh.

Under this programme, district-level science congresses are organised in each district in close coordination with the Deputy Director of School Education of the district. The state-level Children's Science Congress is organised in November. The group leaders of the first, second, and third-placed teams from the districts are given a chance to take part in the state-level qualifiers for the National-level Children's Science Congress held from 27th-31st December every year. Child scientists selected as per the quota of the state-level children's science congresses are allowed to represent the state at the national level.

2. NATIONAL SCIENCE DAY CELEBRATION

National Science Day is celebrated every year in India on February 28th as a mark of respect to Indian physicist, Sir Chandrasekhara Venkata Raman, for his discovery of the 'Raman Effect'. The programme is organised by the Arunachal Pradesh State Council for Science and Technology with the involvement of students and teachers. Various activities including essay-writing, quizzes and extempore speech competitions are conducted to mark this important occasion.

3. NATIONAL MATHEMATICS DAY

Srinivas Ramanujan, the great Indian mathematician, occupies a unique position in the history of mathematics. Despite all challenges, he rose to be one of the most outstanding creative mathematicians of modern times. His work continues to command the attention of top mathematics from all over the world. National Mathematics Day is celebrated in India in recognition of his contribution to mathematics. The Indian government celebrates Ramanujan's birthday (December 22) as National Mathematics Day to pay tribute to the great mathematician. Along with the rest of the nation, National Mathematics Day is celebrated in Arunachal Pradesh with a daylong programme on December 22 at the Arunachal Pradesh Science Centre in Itanagar. On 22nd December 2018, Dr S Ahmed, the Head of the Department of Mathematics at the Rajiv Gandhi University, attended the programme as the chief guest and inaugurated the celebration.

4.SCI-CONNECT-2017-18 FOR STUDENTS OF ARUNACHAL PRADESH

Sci-Connect (Nurturing Young Talent of North-East on Science), is a programme initiated and supported by Vigyan Prasar, an autonomous organisation under the Centre's Department of Science and Technology. The programme is organised in all the north-eastern states including Sikkim. The APSCS&T organised

the Sci-connect in 2017 and 2018 across the state. Three students from Arunachal Pradesh represented the state at the regional-level competitions held at Guwahati (Assam) on November 2017 and at Agartala (Tripura) on September 2018

5.EXPOSURE TOUR FOR MERITORIOUS STUDENTS OF THE STATE

Science is based upon the curiosity to know and understand the functioning of the world around us and technology is the outcome of that curiosity. It is very important to inoculate the importance of science and technology in the younger generations and understand its various aspects.

Children will be able to understand and take interest if they can take a practical approach towards science. It has been observed that there is a huge gap between scientific literates and common people that acquire scientific knowledge in a true sense. If scientific awareness and technology are inculcated to children at a tender age, they generate a scientific temperament throughout their lives.

Formal education is not found enough to inculcate science in students, who require a more practical approach and clear concepts for understanding.
To implement and integrate scientific technology amongst the children, exposure visits are very

helpful. To promote scientific literacy, the APSCS&T arranged exposure tour from 17 to 23 July 2018 for ten students along with three teachers who visited the Indian Institute of Science (IISc) in Bengaluru, Karnataka.

The tour was initiated and sponsored by the APSCS&T with a motive to provide children with a wider outlook and help develop a scientific temperament by visiting important scientific institutions. The team was led by Dr Pakngu Lombi, Scientist 'C' & Deputy Director (Technical) of the APSCS&T.

During the tour, the students visited and interacted with the scientists and officials of important centres like the ISRO–Exhibition Centre, Heritage Centre & Aerospace Museum, Hindustan Aeronautics Limited, and the IISc. They also visited the Lalbagh-Botanical Garden, Jawaharlal Nehru Planetarium, Visvesvaraya Industrial and Technological Museum (VITM), Metro Station, and Karnataka Vidhan Soudha (Sabha) etc.

6. ANNUAL DAY CELEBRATION OF AP SCIENCE CENTRE

The Arunachal Pradesh Science Centre observes December 3 as its annual day. On 3rd December 2005, the centre was inaugurated and dedicated for the people of Arunachal Pradesh by the then Chief Minister, Shri Gegong Apang. The day is celebrated by organising various programme/activities including model-making, story-telling, drawing, quiz, drawing and essay competitions for students. Every year, renowned persons from different scientific backgrounds are invited.

7. STRENGTHENING OF INTELLECTUAL PROPERTY RIGHTS (IPRS) CELLS IN THE INSTITUTIONS OF ARUNACHAL PRADESH

To generate awareness and address Intellectual Property Rights (IPR)-related issues and facilitation of information on patent and patenting, the APSCS&T has established five IPR Cells in the educational institutions of:

a) Rajiv Gandhi University, Rono Hills, Doimukh.
b) North Eastern Regional Institutes of Technology, Nirjuli.
c) National Institutes of Technology, Yupia.
d) Rajiv Gandhi Government Polytechnic, Itanagar.
e) Government College of Horticulture and Forestry, Pasighat.

Additionally, two more cells at the Arunachal University of Studies in Namsai district and the Himalayan University at Jullang in Papum Pare district are under process for early establishment.

8. ORGANISED SCIENCE AWARENESS CAMP AT KIMIN DURING 17TH – 18TH AUGUST 2017

The APSCS&T organised a two-day long Science Awareness cum Communication Programme for the students and teachers on 19th & 20th August 2017 at the Government Higher Secondary School at Kimin, Papum Pare. More than 500 students including teachers from government and private schools took part in the event.

The programme was inaugurated by Sub-Divisional Officer of Kimin, Shri J Padung, on 19 August 2017 in the august gathering of students and teachers. At this two-day long programme, a series of competition like poster design, drawing, creative thinking, painting competition, essays writing and activities on science creativity on the theme 'Our bioresources: Let us conserve and plan for sustainable use for our future' was conducted. Dr JK Sharma, Freelance Consultant (Environment and Development) from Guwahati and Dr Bhim Sharma, Prof & Head of the Department of Mathematical Sciences at Tezpur University, Assam, were the resource persons. On the second day, APSCS&T Chairman, Shri Bamang Mangha, joined the awareness programme and gave a lecture to participating students and teachers. In his speech, he stressed on the important role of science and technology in the development of society.

9. PARTICIPATED IN THE IIS FESTIVAL AT LUCKNOW

The Indian International Science Festival (IISF) is an annual event organised by the Government of India's Ministry of Science and Technology under its Ministry of Earth Science, in association with the Vijnana Bharati (VIBHA) to make India's vision a reality by disseminating Indian science & technology to the common masses. The main objectives of the event are to inculcate scientific temper among the youth by showcasing scientific and technological achievements of the government in various sectors like agriculture, innovation and industry, etc.

The APSCS&T participated in the mega festival which was held at Indira Gandhi Pratishthan in Lucknow, Uttar Pradesh on 7 and 8 October 2018.

This mega event was aimed at evolving an effective mechanism for the dialogue and interaction at all possible levels including policymakers, academician, institutions/universities, S&T Councils, NGOs and individual researchers and innovators.

10. STATE-LEVEL SCIENCE DRAMA

Science Drama: The Science Drama Competition is a part of three-tier event organised progressively at the state, zonal and national levels where it will be organised on a festival mode under the banner "National Science Drama Festival" organised by the National Council of Science Museums, Ministry of Culture, Government of India, Kolkata. The winner of this science drama competition participated in the Regional Level Science Drama Competition organised by the NCSM at Guwahati, Assam. Ten schools from Arunachal Pradesh participated at the state-level science drama competition on September 2018 at Itanagar on the theme of 'Science and Society' with the sub-themes:

a) Swachh Bharat: Role of S&T
b) Cleansing of Rivers
c) Digital India
d) Green Energy

PROJECTS TAKEN UP BY APSCS&T DURING 2017-18

1. SETTING-UP OF RURAL APPROPRIATE TECHNOLOGY DEMONSTRATION CENTRE

The Rural Appropriate Technology Demonstration Centre is being set-up at Kimin, Papum Pare district with the aim to impart skill-training and provide economic sustainability to the rural population of the state. Procurement of instruments, training of technical staffs, cultivation of citronella and technology transfer from CSIR Institutes is currently being conducted.

The prospects will involve training for farmers, entrepreneurs, and women of the state on different aspects of entrepreneurial skills using science and technology interventions for economic sustainability. The project has been initiated with the following aims and objectives:

i. ***To develop the centre as an institution for people and motivate, increase awareness levels, and create social awakening among the village communities through the intervention of science and technology.***
ii. ***To make science and technology accessible to the rural population and impart training to villagers using trained manpower for their skill and technological advancement.***
iii. ***To provide central infrastructure facilities to the rural population and help manage and process locally available resources.***
iv. ***To provide applicable, cost-effective, profitable and sustainable technology to the rural population.***
v. ***To help the rural population initiate income and create a sustainable livelihood.***
vi. ***To cater to societal development avenues and create linkages for the development of the rural population.***
vii. ***To upgrade indigenous traditional knowledge and provide scope for entrepreneurs and improve the quality of life of the people.***

2. SANITARY NAPKIN PRODUCTION AND TRAINING FOR SELF-SUSTAINABILITY FOR RURAL TRIBAL WOMEN

The adolescent stage in a girl's life signifies the transition from girlhood to womanhood. Good menstrual hygiene is crucial for the health, education and dignity of girls and women.

A woman tends to plan her activities of daily life and in particular outdoor activities and strenuous work as per her monthly menstruation. Thus, menstruation becomes a central issue in her life. Menstruation is an important sanitation issue but it is still clouded by taboos, myths and socio-cultural restrictions resulting in adolescent girls remaining ignorant about the scientific facts and hygienic health practices, which sometimes result in adverse health outcomes.

Since most of Arunachal Pradesh has tribal societies, menstruation is tagged as a taboo subject. It is never discussed. There are different types of restrictions that a menstruating girl or a woman has to follow. In some tribes, the menstruating girls or women are restricted from attending certain religious rituals. The menstruating girls or women are not allowed to eat food with the male members of the family as they are regarded as a bad omen. Some houses are so designed that the menstruating women or girls are to enter from the back door during those days and are not allowed to sit on the bed or areas assigned for the male members.

Menstruation is still regarded as unclean and dirty in Indian society. Stigmas prevent mothers from demystifying menstruation to their daughters and as a result in most of cases in rural areas, the first menarche (menstruation) often comes as a shock filled with fear, confusion and anxiety for the girls. Such fears need to be tactfully dispelled from their minds for healthy living. What they do not realise is that menstruation is a normal vital function of the body.

Due to lack of knowledge, unavailability of sanitary pads, and high prices of sanitary pads, girls are often handicapped from learning about their bodies functioning related to menstruation. Since menstruation in most tribal societies is considered as a 'bad omen', the menstrual blood is considered unclean and impure. For women and girls to live healthy, productive and dignified lives, there is a need to provide healthy family education and awareness to both sexes.

Empowering women and girls is necessary so that their voices are heard and their menstrual health is taken into account. Hence, the project seeks to provide training in the production and marketing of low-cost sanitary napkins by setting up sustainable processing units with the following objectives:

i) To provide employable and skilled vocational training for the production of sanitary napkins (through handmade machines) to tribal women.

ii) To prepare beneficiaries to become successful entrepreneurs for the production and sale of sanitary napkins.

iii) Eco-friendly self-employable activities with sustainable livelihoods.

iv) Motivating them to pursue businesses.

v) Personality development of the beneficiaries.

vi) ***Exposure visits to factories and big markets to learn about the experiences of successful local entrepreneurs.***

vii) ***To create awareness about the importance of menstruation and menstrual hygiene.***

viii) ***To dispel beliefs, myths, misconceptions, taboos, and stigmas associated with menstruation.***

ix) ***To encourage rural women to discard the use of cloth rags with affordable sanitary pads.***

x) ***To tackle gender inequalities through rural women empowerment by training them in producing and marketing of low-cost sanitary napkins.***

3. TRANSLATION OF SCIENCE POPULARISATION MATERIALS BOOK "KYON AUR KAISE' IN A LOCAL LANGUAGE (GALO)

Arunachal Pradesh is a land of diverse languages and dialects. From the outside, all the tribes- Adi, Galo, Nyishi, Monpa, Tagin, Nah, Idu-Mishmi, Khampti, Tangsa, Nocte, Singpho, Mishmi, Miji, Wancho, Apatani, Aka, Sherdukpen, Khowa, Khamba, Yobin, Memba and Puroik -may seem to differ from each other with regards to their culture and tradition. But a closer look reveals that beneath the surface, many aspects are common to all the tribes. Same is the case with their languages. It is the language that distinguishes people and the people of Arunachal Pradesh speak various languages, each seemingly unrelated to the other.

Most of the words in all Arunachali languages stem from the same root and the similarities are striking. If closer attention is paid to the development of tribal languages with the idea to unite, in due course of time it will be possible to evolve a common language ushering in a new era for the people of the state.

The Galos are one of the major tribes concentrated in West Siang, Lower Siang and part of Upper Siang, East Siang and also in some pockets of Upper Subansiri districts. The Galo language falls under the Tani branch of the Tibeto-Burman language family- one of the largest and most diverse language families in the world.

The Galo language is spoken by around 1,50,000 people in the same form, mainly in the West Siang, Lower Siang, Upper Subansiri and East Siang districts of Arunachal Pradesh. Galo people have close cultural, linguistic and social connections with other Tani tribes of Arunachal Pradesh.

In 2008, the Legislative Assembly of Arunachal Pradesh approved to recognise Galo as an official language in areas of the state where its speakers predominately live.

As there has been little substantial literary material produced so far related to the Galo language, it could be used as a case study to form a base language for the future younger generation of the Tani tribes in particular and the state in general.

Keeping this in the mind, an attempt has been made to translate the sciences through the book 'Kyon Aur Kaise' developed by the Vigyan Prasar in Galo to help readers easily understand and learn scientific concepts in their own language.

Objectives:

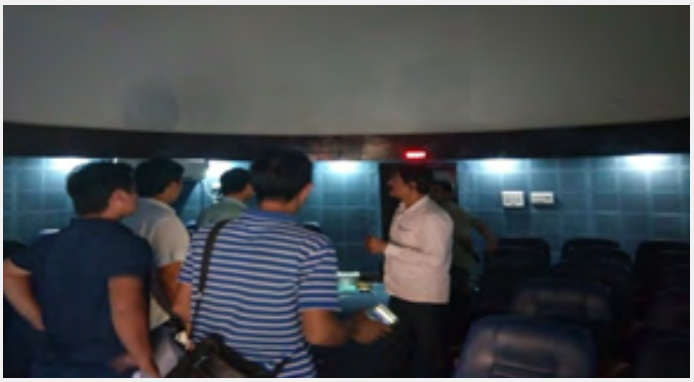
1. To make science and scientific facts easily understandable.

2. Develop a database on the understanding of science by incorporating all survey results.

3. To encourage people to learn about science through their language.

4. ***To promote the adaptation of science and technology and its know-how for gaining quality knowledge.***
5. ***To improve the stability of people through scientific intervention.***
6. ***To make an easy interpretation and identification of scientific words/terms.***
7. ***Make them desirous to learn to work more deeply towards achieving the final goal through local languages.***

4. SETTING UP OF SPACE EDUCATION CENTRE AND INNOVATION HUB



The Science Centre, IG Park, Itanagar: The Space Education Centre and Innovation Hub at the Arunachal Pradesh Science Centre was dedicated to the people of Arunachal Pradesh on 8th December 2018 with the inauguration by Hon'ble Minister Environment and Forest, SJE&TA, and Land Management, Shri Nabam Rebia, in presence of the Director of the Nehru Science Centre, NCSM, New Delhi, Shri Shiv Prasad Khened, Secretary (S&T), Er Gaken Ete, Itanagar MLA Shri Techi Kaso, and Chairman of APSCVS&T, Shri Bamang Mangha, were also present on the occasion.

The space education centre is a domed theatre where people can watch informative videos about space and technology used in space. The screen uses an immersive dome-based video projection.

The dome, horizontal or tilted, is filled with real-time (interactive) or pre-rendered (linear) computer animations, live capture images, or composite environments. The stunning visuals and the state-of-the-art computer graphics present fascinating ideas based on real science. Alongside, it also has a planetarium in it. Planetariums have a special fascination amongst the people as the stars, planets, and other celestial bodies have always aroused a keen interest in people and are scantly understood by students and it helps children become curious about life outside earth, the physics of planetary motions, mysteries of black holes, etc.

The 'Innovation Hubs' will help engage youth in innovative and creative activities. These will serve as springboards for new ideas and innovation and help society and the economy to face future challenges and meet the rising aspirations of the growing population. Following are the methodologies to enhance the impact of Innovation Hubs in the country:

The Innovation Hub will have the following facilities for students/mentors:

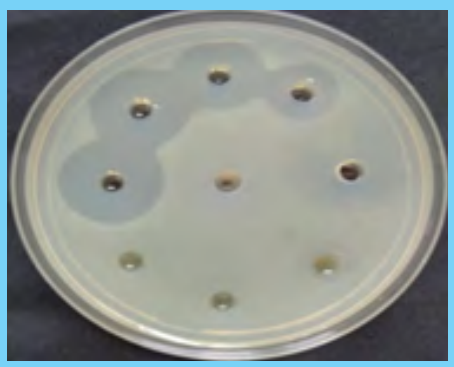
• Hall of Fame • Innovation Resource Centre • Idea Lab • Design Studio • Tod Fod Jod/Break & Make Corner • Kabhad se Jugad (making useful things from scraps) Corner • Idea Box

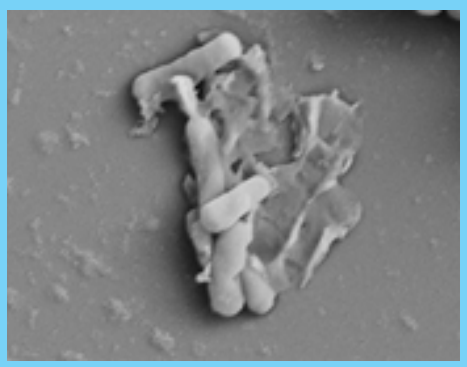
5. DOCUMENTATION AND SCIENTIFIC VALIDATION OF MEDICINAL PLANTS/ HERBS USED BY TRADITIONAL FOLK HEALERS OF ARUNACHAL PRADESH

The project on Documentation and Scientific Validation of Medicinal Plants/Herbs used by Traditional Folk Healers of Arunachal Pradesh has been taken with the following objectives:

- To do extensive field survey research of traditional folk healers/traditional healers in various districts of Arunachal Pradesh.
- To document and provide collection details (location, stage & development/growth time, pre-processing) of medicinal plants/herbs used by traditional healers of the state.
- The future perspective work will include data collection of chemical composition and identification of biologically active markers.
- Domestication and genetic enhancement of medicinal plants.

Cephalotaxus mannil A.assamica





Antimicrobial activity of A.assamica

6. STUDY ON WILD EDIBLE PLANTS AND DOCUMENTATION OF ETHNOBOTANICAL KNOWLEDGE OF DIFFERENT TRIBES OF ARUNACHAL PRADESH

The projects on the Study of Wild Edible Plants and Documentation of Ethnobotanical Knowledge of different tribes of Arunachal Pradesh has been taken with the following aims and objectives:

- 70 wild plant species used as food have been recorded, identified, and ethnobotanical information recorded.
- Ethnobotanical knowledge of utilization, practices on wild edible plants associated with different tribes has been recorded and documented.
- Five unexplored wild edible plant species having ethnomedicinal uses were selected and phytochemical analysis was done.
- Antioxidant and free radical scavenging and antibacterial properties of these plants have been studied.

Amomum serecium

Oenanthera javanica

Pilea melastomoides

Rhus semialata

7. PROVIDING VALUE ADDITION TO THE MOUNTAIN CROPS OF ARUNACHAL PRADESH

The project envisages providing skill development training to women, local entrepreneurs on sustainable utilization of bioresources and thus provide avenues for economic sustainability.

The objectives of the projects are:

- Identification of important mountain crops that are produced in large-scale initially in West Kameng and West Siang districts.
- Skill development training will be imparted to provide value addition to the mountain crops of the districts.
- Training to cover various aspects of marketing and process of obtaining necessary approvals.
- The project aims at helping or providing entrepreneurs with avenues to the local population of the state.

8. INVENTORY OF INDIGENOUS TRADITIONAL KNOWLEDGE ON TRIBAL MEDICINES/VEGETABLES AND LOCAL HANDICRAFTS AND OTHERS

The major objective of the project is to provide a comprehensive information system on wild edible plant resources available in the state and documentation of indigenous knowledge system associated with local tribal people. The work was executed such:

- Survey and observation of important tribal medicines/vegetables and local handicrafts.
- Collection of data through primary and secondary research.
- Data documentation.
- Developing database and safeguarding IPR.
- Assessment for communities.
- Linkup with the self-help groups for marketing of wild edible plants.

9. STRENGTHENING INTELLECTUAL PROPERTY RIGHT (IPR) CELLS IN DIFFERENT EDUCATIONAL INSTITUTIONS OF ARUNACHAL PRADESH

To generate awareness and address the IPR-related issues and facilitation of information on patent and patenting, the APSCS&T has established five Intellectual Property Rights (IPR) Cells in the educational institutions of:

1. Rajiv Gandhi University, Rono Hills, Doimukh.
2. North Eastern Regional Institutes of Technology, Nirjuli.
3. National Institutes of Technology, Yupia.
4. Rajiv Gandhi Government Polytechnic, Itanagar.
5. Government College of Horticulture and Forestry, Pasighat.

Additionally, two more cells at the Arunachal University of Studies in Namsai at Namsai district and Himalayan University, Jullang at Papum Pare district will be established.

10. DEMONSTRATION OF TECHNOLOGY ON GEOTHERMAL ENERGY FOR HEATING AND COOLING SYSTEM AT GENERAL HOSPITAL, KIMIN, PAPUM PARE DISTRICT.

Ground Source Heat Pump (GSHP) systems, also referred to as geothermal heat-pump or geo-exchange systems, are electrically-powered space heating and cooling technologies that take advantage of the earth's (or surface water's) relatively constant temperature, below certain depths, to provide building space conditioning.

The subsurface is a source of heat in the winter and an efficient heat-rejection medium in the summer. GSHP systems are clean as there are no onsite greenhouse gas emissions because it does not combust any fuel, is an energy-efficient technology that can effectively replace conventional heating and cooling technologies, and increase a building's comfort level.

The primary benefit of installing a GSHP system is to reduce energy consumption and a resultant decrease in utility expenses. In terms of heating, GSHP with variable speed compressors can have a coefficient performance of 6.0 or higher. This means that for every unit of energy consumed, six units are generated (GSHP systems are 600% or more efficient as compared to electric heating). In comparison, the efficiency of most boiler-based heating systems are 80% or less. Other benefits of GSHP systems include increased conditioned space comfort(?)- Heat pumps run almost constantly, ramping heating and cooling up and down as needed (i.e., there are no on-off fluctuations); provide superior humidity regulation, and are quiet.

GSHP systems work optimally in climate regimes where heating and cooling are relatively balanced. However, they are versatile, and with minor system adaptations, modifications, or hybridizations, GSHP systems can be deployed effectively in heating-dominated or cooling-dominated climates.

The two main components that comprise GSHP systems are- electromechanical equipment and geothermal loop field referred to as a ground heat exchanger. The electromechanical equipment consists of a heat pump and an air distribution system. The loop fields are geothermal systems which are used to reject or extract heat from the subsurface or water body.

The loop fields could be configured in several ways that comprise open or closed loops. The type (open versus closed) and configuration (vertical, horizontal, or surface water) are constrained by accessibility to surface or groundwater and subsurface parameters, such as thermal conductivity, thermal diffusivity, and in situ temperature.

The size of a GSHP system, which is critical to its overall performance, is a function of the building's heating and cooling load (which is a combination of the building's use, envelope quality, and local climate) and loop type and configuration.

Open-loop systems can be installed where groundwater is readily accessible and/or where surface water (e.g., river, stream, lake, pond) can be accessed. Water is typically pumped through a plate heat exchanger to mitigate fouling of the heat pump before being discharged or reinjected. In rare cases where the groundwater or surface water is exceptionally clean, water can be pumped directly through the heat pump. Important constraints on the ability to utilize an open-loop system are local, state, and/or federal regulations, especially in areas where contamination may be present.

Closed-loop systems circulate water, mixed with some antifreeze solution like glycol, through a high-density polyethene (HDPE) pipe. Closed-loop systems are installed in areas where groundwater or open water is either inaccessible or not permissible.

Loop fields, whether open or closed, can be installed horizontally, vertically, or in surface water. The initiative of the project for demonstration of the technology on geothermal energy for heating and cooling system at the Kimin General Hospital in Papum Pare district has been pursued with the following objectives:

- Demonstration of heating & cooling systems (geothermal technology) integrated with renewable energy system and;
- To meet the energy requirements of the Kimin General Hospital.

11. ESTABLISHMENT OF SEA BUCKTHORN NURSERY AT BOHA VILLAGE OF KALAKTANG CIRCLE, WEST KAMENG DISTRICT

Sustainable agriculture is very difficult in high mountain areas because of fast decreasing soil fertility, high degree of fragile topography, and consistent soil and water erosion problems. The frequent landslides in a fragile ecosystem often leads to fast depletion of existing forest cover. These areas suffer from an acute shortage of fuelwood and fodder apart from soil and water erosion problems.

Sea-buckthorn (Hippophae rhamnoides L.) plant offers an amazing opportunity to mountain farmers for a sustainable livelihood by protecting their fragile ecosystem through soil and moisture conservation. It also has tremendous value addition properties. Growing this plant is the best option to mitigate the problems of a fragile ecosystem which will help maintain the economic sustainability of marginal farmers in these mountain areas.

This project will demonstrate the establishment of a sea-buckthorn nursery for large-scale production of sea-buckthorn in the higher mountains of Arunachal Himalayas. It will be established at Boha village of Kalaktang Circle in West Kameng District of Arunachal Pradesh.

Review of work already done:

The sea-buckthorn plant grows mostly wild throughout a few of India's cold, dry regions. Areas in which the fruit naturally thrives are the Hindu Kush range along the far northern border of Pakistan and India, Ladakh, Kumaon-Garwal in Uttaranchal, Lahaul-Spiti and Kinnaur in Himachal Pradesh, and the sacred forests of Sikkim and Arunachal Pradesh.

Sea-buckthorn encompasses a decent amount of landmass such as 30,000 hectares in Ladakh alone. However, the country's commercialization efforts are still at a nascent stage. After seeing China's growing interest in the fruit, a few of India's agricultural departments are now taking note and pledging to cultivate one million hectares of sea-buckthorn by 2020 (pre-Covid) as part of the Green India Mission.

The rationale for taking up the project:

The proposed sea-buckthorn nursery will employ local people and improve the socio-economic condition of the villagers. It may also cater to the needs of the entire country and thus achieve its goal of improving the socio-economic condition of mountain farmers. The project is a demonstration of a model that could be replicated elsewhere.

Relevance to the state's priorities

The state has large areas of land at the 11000 feet to 14000 feet altitude and meets the favourable environmental conditions and has great potential for sustainable cultivation of the sea-buckthorn fruit.

Objectives of the project:

1. To develop a modern sea-buckthorn nursery at Boha village in Kalaktang circle of West Kameng district for participatory horticultural programmes/schemes in high-altitude areas of Arunachal Pradesh.
2. Promoting economic development of the rural community.
3. Employment-generation and capacity-building at the local level.
4. Encouraging community action for the operation and maintenance of assets.

Summary of Progress:

The project is being implemented by the APSCS&T in association with a reputed local registered NGO, Shar Chhok Khochi Farmers Society, based in Kalaktang, West Kameng district.

Following work components of the Nursery has been completed.

1. Site Preparation (one ha), fencing and maintenance of irrigation source.
2. Purchase of materials (for 1st year's work) including seeds for the first year.
3. Nursery operations (1st year)

Maintenance of nursery and its growing seedlings and marketing are also underway.

Achievements so far:

1. Jungle clearance & site preparation, 2. Barbed wire fencing and angle post, 3. Irrigation for nursery, 4. Purchase of implements for nursery, 5. Purchase of diesel pump set, 6. Water tank for nursery, 7. Preparation of nursery shed, 8. Purchase and installation of shade net, 9. Preparation of seedbeds, 10. Construction of nursery path, 11. Preparation of poly beds, 12. Purchasing seeds, polybags, pot mixture, fertilizer and chemicals, lubricants etc. and sowing of seeds.

The maintenance of a nursery and its growing seedlings are already underway. Interactions with line departments, NGOs, industries and the public for marketing of the products are also operating.

12. WORLD BIO-DIVERSITY SITE: PROGRAMME ON CONSERVATION OF CLIMATE INDICATOR WILDFLOWER RHODODENDRONS OF EASTERN HIMALAYA, NORTH-EAST INDIA

Introduction:

Arunachal Pradesh, situated on the north-eastern tip of the country, is a part of the Eastern Himalayan Ranges located between 26º 28' to 29º30 North latitudes and 91º 30' to 97º30' East longitudes. Arunachal Pradesh occupies the largest area (83.743 sq. km) in the north-eastern region of India and consists of mountainous ranges sloping to the plains of Assam. The state stretches from the snow-capped eastern Himalayas to the plains of the Brahmaputra River valley. It is surrounded by Bhutan, China, and Burma. Assam lies to its south. The Kangto and Nyegi Kangsang, and the Gorichen Peak are some of the highest peaks in this part of the Himalayas.

As per the 1999 State of Forest Report of the Forest Survey of India, about 82% of the total geographical area of the 83,740 sq. km., which is about 62% of the total geographical area includes 10185.40 sq. km of Reserve & Protected Forests which is about 12% of the area. The Protected Area Network covers an area of 9527.99 sq. km which is 12% of the area and the remaining 38% falls under Unclassified Forests.

The diversity of the topographical and climatic condition has favoured the growth of luxuriant forests that are home to myriad plant and animal forms, adding beauty to the landscape. Living in this incredible cradle of nature are the colourful and vibrant tribes of Arunachal Pradesh for whom the forests and wildlife hold special significance.

The state's vegetation falls under four broad climatic categories. This is further classified into five broad forest types. These are tropical forests, sub-tropical forests, pine forests, temperate forests and alpine forests. There are bamboos and forests of other grasses too. The important forests types found in the state are tropical evergreen, semi-evergreen, deciduous, pine, temperate, alpine and grassland etc. Forests are the mainstay for the people and are the richest biogeographical province in the Eastern Himalayan zone.

The state also has 20% of the country's fauna species, 4,500 species of flowering plants, 400 species of pteridophytes, 23 species of conifers, 35 species of bamboo, 20 species of cane, 52 rhododendron species and more than 500 species of orchids and is considered as one of the 12 mega diversity hotspots of the world. The climate varies in elevation. Areas with very high elevation enjoy an alpine or tundra climate. Areas near the Middle Himalayas experience a temperate climate. Areas at the sub-Himalayan and sea-level elevation experience a humid subtropical climate with very hot summers and mild winters.

In the era of climate change, Arunachal Pradesh has remained relatively cut-off from such phenomenon maintaining more than 61% forest cover against India's average of 21% forest cover. This 21% of forest cover absorbs about 10% of India's annual greenhouse gases. However, with increasing population, development activities and unsustainable land-use practices like jhumming, the pressure on forest resources is consistently increasing leading to their degradation, affecting regeneration and productivity.

Objectives:

Rhododendrons trees are scientifically proven to be a climate change indicator plant and are found in abundance in the geographical spread of more than 20,000 sq. km area of the state.

- To kickstart an initiative to preserve and promote rhododendrons across the alpine forests of Arunachal Pradesh as a World Biodiversity Heritage Site.
- This geographical spread is home to more than 111 species of rhododendrons and is a matter of pride for the state that it has the highest recorded species of rhododendrons in the country.
- This will help preserve the richness of the flora and fauna that grows in these forests, especially the alpine forest wherein more than 111 species of rhododendrons are found which is highest in the country.

Progress Made:

This project on 'Conservation of Climate Indicator Wildflower Rhododendrons of Eastern Himalaya, North-East India' seeks to spark imagination and creativity and to further human understanding and wisdom by providing access to knowledge through its magnificent collections, programmes, publications, and exhibitions. Many of the project's resources had to be collected through inaccessible roads and forest.

In the implementation of the project, discussions and meetings on the research materials, consultations with scientists and subject-matter experts were held. Resource materials were gathered from various sources and facilitated all the materials for the project.

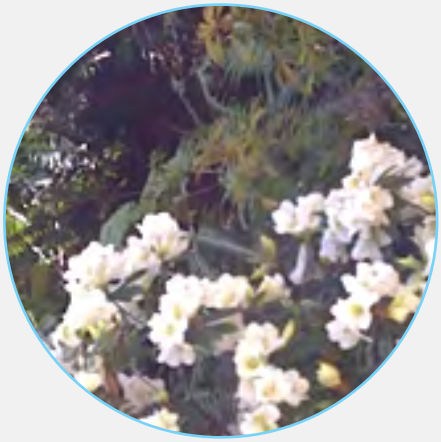
Extensive travel was undertaken to document the rhododendron species in rhododendron forests in the snowline areas to inaccessible parts of the Eastern Himalayas. The shooting of rhododendron forest was carried out with crew and experts along the Eastern Himalayan Zone.

The highest Rhododendron Taxa is recorded from Arunachal Pradesh which has 115 of the 123 taxa recorded in India. The detail of the Rhododendrons was studied, researched and collected for the programme.

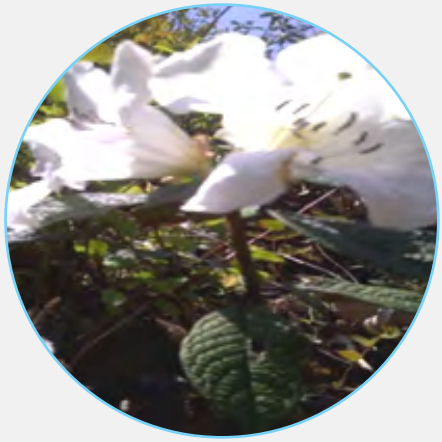
Rhododendron virgatum
Location: Bomdila, Rupa, Shergoan to Meyodia and Mechuka.

Rhododendron grande
Location: Morsing and Mandela in West Kameng district.

Species found in Ziro, Lower Subansiri:



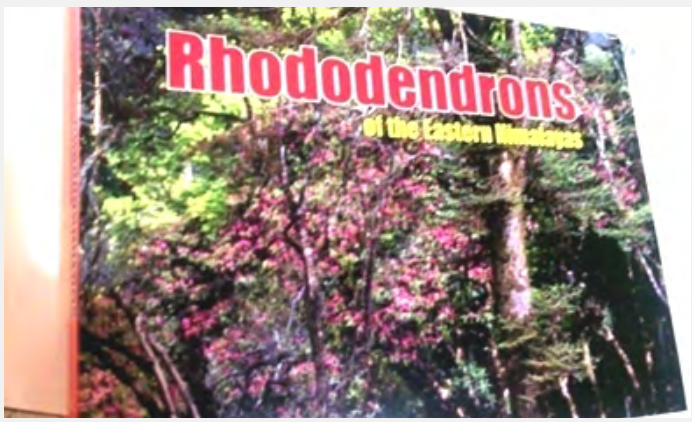
Rhododendron moulmainense



Rhododendron coxianum

Rhododendron keysii

Rhododendron nuttalii



An encyclopaedia on rhododendrons has been published by the Arunachal Pradesh State Council for Science & Technology entitled;

"Rhododendron of the Eastern Himalayas".

Shooting for the documentary film on Rhododendron in progress in different locations along varied climatic regions and altitude of Arunachal Pradesh.

13. STUDY ON TRADITIONAL ALCOHOLIC BEVERAGES- 'BLACKAPONGAND CHANG'-FORPRESERVATIONANDCOMMERCIALIZATION

Introduction:

Traditional alcoholic beverages of indigenous communities reflect their traditional knowledge of brewing and has the potential to develop it as an alcoholic beverage for the contemporary world and as a market-compatible product.

In India, such an example has been set by the popular product 'Feni', the traditional alcoholic beverage of Goa. There is a similar potential for different alcoholic beverages produced among the different indigenous ethnic groups of Arunachal Pradesh to promote and market them to the present markets.

The proposed research work involved documentation of traditional knowledge adopting the methodological tool of Rapid Rural Appraisal (RRA), Participatory Rural Appraisal (PRA), Focus Group Discussion (FGD) and interviewing key informants along with documentation of the brewing process. Biochemical analysis of ingredients including the yeast and rice variety used for brewing, and final product adopting chromatographic techniques, HPCL, spectroscopic techniques and chemometric tools along with another set of test protocols for assessing alcoholic component, nutrient value and chemical constituents.

It will be followed by market experiments through networking with different wine clubs of the country, promotional communication through wine and tourism magazines along with a market survey. There will be in-house initiatives in the state S&T council to carry out this research with engagement experts. However, the biochemical analysis will be carried out with research institutions with experiences in doing similar works.

The proposed research can ably provide information for applying such alcoholic beverage for GI registration like Feni of Goa, popularization of the beverage in the contemporary market, developing a standard protocol for production and create a potential ground for the brewing industry along with ground and strategies to introduce wine tourism.

Generally, rice-based brews have an alcohol content measuring around 18-20% which are traditionally prepared all over Asia. In Japan, it is known as Sake which holds a good market share. In Assam, it is Lao or Hanjpani, and in Arunachal Pradesh it is generically called Apong. Similarly, the beverage produced from barley is known as Chhang all over Tibet, Ladakh, and in some parts of Arunachal Pradesh.

Objective:

However, unlike Japanese Sake, the quality (texture, colour, odour and taste) is not standardized and does not adhere to laid norms. As the shelf-life is very short, it cannot be stored for commercial use. Moreover, its appearance (depends on total suspended solids), odour (due to presence of other secondary metabolic materials), presence of acids such as lactic acid and fumaric acids which lowers the pH levels to facilitate growth kinetics of yeast, is not quantified. Similarly, the other minor product of yeast metabolism such as amyl, isoamyl, and phenylethyl alcohol which give a distinct flavour to the final product has to be specific and standardized.

In consideration of all the above factors the objective of the present project is to find out the following:

1. Documenting traditional knowledge and practices of brewing.
2. Optimization of the protocol for quality improvement of local rice/barley beer i.e., Apong or Chhang in terms of colour, odour, taste and flavour.
3. Methods to enhance shelf-life up to two years.
4. Cost-benefit and market feasibility analysis.
5. Possibility of establishing a pilot plan to produce 100 litres per day of rice beer.
6. Study the use of different plant metabolic materials and yeast source in rice fermentation.
7. Use of different flavouring agents for value addition to the final product.
8. Strategic planning for Intellectual Property Right protection for indigenous communities.

The project will be implemented in active collaboration with the Chemistry Department of the Dibrugarh University, Dibrugarh, Assam, and is aimed to be completed within 24 months.

Progress made:

Field study/survey/work conducted: Before conducting experimental work, we visited different villages of Namsai, Lohit, Lower Dibang Valley, Lower Subansiri districts including Mahadevpur village, Kebaligoan, Chowkham, Luhitpur village, Ziro to collect rice cakes made by their different communities.
Laboratory work was conducted at the Dibrugarh University.

Experiments Conducted:

The main goal of the work is to preserve the white and black rice beers without altering their parameters such as its taste, colour and texture for a long period. At first, beer samples were prepared in the laboratory by using yeast sourced differently (traditional as well as commercial), and the fermentation process was carried out in incubator at 32°Celsius.

Work under progress:

a. Efforts are being made to preserve rice beer for up to 8-12 months by using other stabilizing agents such as potassium sorbate, sodium benzoate, etc.
b. Controlling alcohol production between 11-12% (v/v) by fermenting ~130-140 hours keeping at 300°C.
c. Colloidal instability in beer is caused mainly by the interaction between polypeptides and polyphenols. They combine to produce a visible haze that reduces the shelf-life of the product. Reducing the levels of both precursors using suitable stabilizing treatments (with silica gel, polyvinylpolypyrrolidone) may extend its physical stability.

14. COLLABORATIVE PROGRAMME ON SCIENCE AND TECHNOLOGY COMMUNICATION FOR ENTREPRENEURSHIP DEVELOPMENT AMONG THE TRIBAL WOMEN OF ARUNACHAL PRADESH AND ASSAM

Introduction:

Science and technology are an indispensable aspect of development of any society which helps accelerate the process of modernization and empowerment. It is an important aspect for women empowerment which helps in critical thinking and pragmatic decision-making as well as leveraging solutions in their daily life.

Scientific and technological literacy helps women develop their entrepreneurial skill and support them in becoming economically self-reliant.

In the context of the North Eastern Region of India in general and in Arunachal Pradesh and Assam specifically, women are associated with different aspects of household and societal management activities. In doing so, they take the opportunity of their natural surroundings and gather different materials for food, fodder, fibre, and medicine. In the process, they acquire precious traditional knowledge of biodiversity and their application in their daily life.

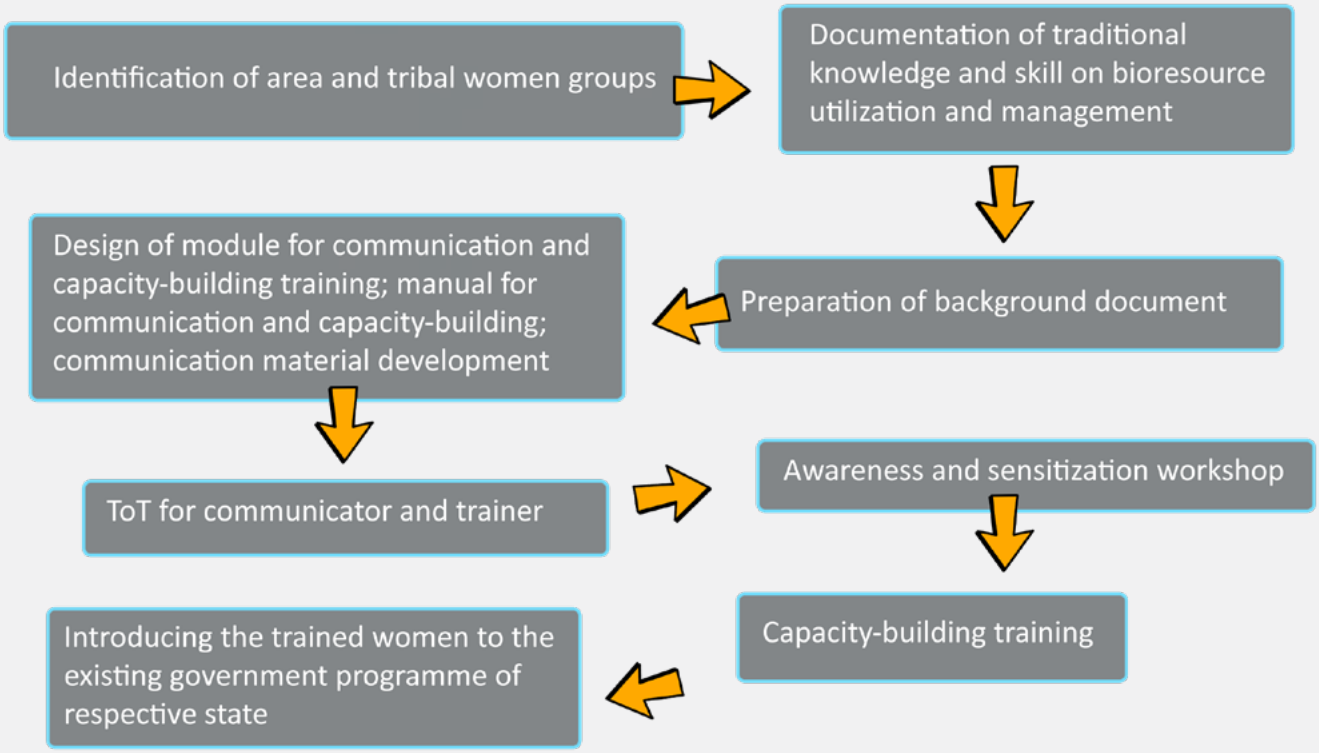
Women of ethnic tribal groups of the region have profound knowledge and experiences in such areas. Such knowledge, skill, and experiences can be properly tapped to develop entrepreneurial ventures with the appropriate use of science and technology in a specific area.

Therefore, the proposed programme will focus on augmenting traditional knowledge of tribal women through appropriate adaptation of scientific approaches and technological application to produce value-added products and develop entrepreneurial skills among them. It will be targeted to tribal women of Assam and Arunachal Pradesh.

Objective:

- To create awareness among tribal women on entrepreneurship and application of science and technology in the entrepreneurial venture.
- To increase capacity-building amongst tribal women on entrepreneurship and application of science and technology in an entrepreneurial venture.

Approach:



Core area of awareness and capacity-building:

Nursery development: Different approach of nursery development will be introduced along with the concept of ex-situ conservation of important non-cultivated wild edible flora. Techniques to be covered are:

a. Vegetative propagation will be introduced; viz. cutting, layering, division and separation, grafting and budding, b. Seedbed preparation and management, c. Composting, d. Drip irrigation, e. Pot culture, f. Hydroponics, g. Seeds preservation, h. Harvesting, i. Weed management, j. Herbal pesticides production, k. Packaging, l. Marketing.

Food processing: Preservation and value-addition of different food products, covering vegetative products from non-cultivated sources, agricultural field sources, homestead agroforestry sources, animal-based food product from fisheries and piggeries. The different techniques to be covered include:

a. Drying (including use of solar drier; developing low-cost solar drier with locally available material);
b. Cooling with the use of appropriate technology-based cold storage (like earthen pot, icebox, underwater storing, etc) along with modern freezing techniques;
c. Smoking- improvisation of the processes of smoking and introduction of low-cost smoking devices.

d. Salting and pickling - preservation with salt, salt solution, use of vinegar, use of oil, including producing vinegar from locally available vegetative sources;
e. Sugaring - use of sugar or sugar syrup;
f. Lye- use of sodium hydroxide (lye) to make saponify fats in food;
g. Jellying - cooking to solidify to form a gel;
h. Fermentation - improvising traditional fermentation process;
i. Process of pasteurization;
j. Bio preservation - use of microbiota or antimicrobials;
k. Storing, packaging, bottling and;
l. Marketing.

Herbal dyeing: The focus this initiative will be on improving and reviving traditional herbal dying practices. In the process, the following areas will be covered in the awareness and capacity-building exercises:

a. Identification of locally available herbal dying resources and verification of their potentialities;
b. Desizing: the washing of processed greased cloth starts with removing sizing(are these two different processes?), gums and oils used in the course of weaving by washing with natural mineral-rich water and salts;
c. Bleaching: the fabric is exposed to direct sunlight and grass or other vegetative or animal-based raw material is used to start the process of bleaching;
d. Mordanting: to brighten the colour, herbal products like rhubarb leaves, oil and alum are used;
e. Dying: with the use of locally available and already tested herbal sources like turmeric, mehndi, terminaliachebula, etc;
f. Finishing: finishing is done by sprinkling pure water on the cloth and then stretching under pressure using hand rolls;
g. Diversified product development: use of herbal dye fabric and;
h. Marketing.

Targeted tribal women:

State	District	Area /Block	Women from tribal community
Assam	Nagaon	Roha	Tiwa
	Morigaon	Mayanong	Tiwa
	Karbi-Anglong	Rongmongbey	Karbi
	Baksa	Bhuayanpara/Jalah	Bodo
	Chirang	Panbari	Bodo
	Goalpara	Balijana	Rabha
Arunachal Pradesh	West Kameng	Dirang	Monpa
	Lower-Subansiri	Joram	Apatani and Nyishi
	West Siang	Aalo	Galo
	Namsai	Namsai	Khampti
	Lower Dibang Valley	Roing	Idu-Mishmi
	Papum Pare	Kimin	Nyishi

A three-day 'Workshop for Communication Package Development on Science & Technology-Based Entrepreneurship Development for Tribal Women of North East India' at Tezpur University, Assam from 23 to 25 March 2019 was organised by the Vigyan Prasar in coordination with the APSCS&T and SSEAEP, Nagaon, Assam.

The workshop was inaugurated by Prof DK Saikia, the Pro-VC of Tezpur University in presence of Er. CD Mungyak, Director and Member Secretary of the APSCS&T.

Experts from Tezpur University, Assam Agriculture University, TISS-Guwahati, Rajiv Gandhi University, APSCS&T, Aaranyak, SSEAEP, Indian Institute of Entrepreneurship, Guwahati, participated in the workshop along with layout artists, illustrators, translators, research scholars and students of Tezpur University.

Thirty-three people worked for 32 hours in three days to formulate the first draft of the resource book, communication brochure, poster, and flex exhibits for four different thematic areas along with modules for the awareness programme, ToT and capacity building programme in the 12 selected districts of Arunachal Pradesh and Assam.

The communication materiel will be produced in English, Hindi, Assamese, Bodo, Karbi, Galo and Khampti languages.

Prof MK Sharma from the MBA Department and the Coordinator, Teaching & Learning Experiment cum Research Centre of the Tezpur University and Dr AK Misra, Director, ASTEC, interacted with the participants and review the ongoing work during the workshop.

Works covered in the workshop:

1. First draft of the resource book complete;
2. First draft of the brochure;
3. Structure, punchline along with the idea for illustration of the poster complete;
4. Structure, content text and idea for illustration of flex exhibit series and;
5. Module structure for awareness programme, ToT and capacity-building

Works under progress:

a. Review of communication material developed at the workshop;
b. Copy editing of communication material developed in the workshop;
c. Translation of the communication material into *Hindi, Assamese, Bodo, Karbi, Galo and Khampti*.
d. Illustration, typesetting, layout design.
e. Cover design of resource book.
f. Printing and binding.
g. ToT for nursery development, food-processing and natural dyeing.

15. CONSTRUCTION OF RAIN WATER HARVESTING UNIT AT ARUNACHAL PRADESH SCIENCE CENTRE IN ITANAGAR

Introduction:

Water scarcity in Arunachal Pradesh's capital is currently a big issue that residents face. During the summer, it has been seen that the Arunachal Pradesh state government's base gravity flow water supply system fails randomly due to natural calamities like incessant rainfall and landslides.

The diversion systems at the natural streams fail to supply water due to deposition of heavy silt and debris. The water conductor system to distribution units have also been observed to have failed due to the failure of saddle support from landslides.

During the winter, the groundwater table decreases due to the increasing number of deep borewells operating in the Capital Complex and the ever-increasing population.

Being located in a hilly region, developmental activities in and around the state capital also increases the water demand. After examining the facts, it has been found that setting up a Rainwater Harvesting System at the Arunachal Pradesh Science Centre in Itanagar will be beneficial. It can be treated both as an outdoor exhibit for demonstration and also as a useful unit for visitors and employees of the science centre. With these objectives in mind, this project has been prepared and seeks to augment future and present water needs.

The initiative of the rainwater harvesting unit will use rainwater from the rooftop as a catchment area from roof slabs of the existing RCC building. Rainwater harvesting is a simple technique of catching and holding rainwater where it falls. The rainwater can be stored in tanks or used to recharge groundwater depending upon the situation. This will help reduce the water shortage for households that are dependent on government supply, especially during the lean period.

The project has been developed with the following objectives:

1. Reduce urban flooding;
2. Easy construction in less time;
3. Help utilise the primary water source and prevent runoff from going into sewers or drains, thereby reducing load on treatment plants.
4. Recharging water into the aquifers which help improve the quality of existing groundwater through dilution.

Methodology:

Firstly, the required data was collected including the volume of the tank. An optimum location of the tank based on hydrological analysis was done on the campus of the Arunachal Pradesh Science Centre. The gutter design, its analysis, first flush and filtration mechanisms have also been completed.

Components of Rainwater Harvesting System

A rainwater harvesting system comprises of components for transporting rainwater through pipes or drains, filtration, and tanks for storage of harvested water. The common components of a rainwater harvesting system are:

1. Catchments:

The surface which directly receives the rainfall and provides water to the system is called the catchment area. It can be a paved area like a terrace or courtyard of a building or an unpaved area like a lawn or open ground. A roof made of reinforced cement concrete (RCC), galvanized iron or corrugated sheets can also be used for water harvesting.

2. Coarse Mesh:

It prevents the passage of debris and is placed on the roof.

3. Gutters:

Channels which surround the edge of a sloping roof to collect and transport rainwater to the storage tank. Gutters can be semi-circular or rectangular and mostly made locally from the plain galvanized iron sheets. Gutters need to be supported so they do not sag or fall off when loaded with water. How gutters are fixed depends on the construction of the house. In most cases, iron or timber brackets are fixed on the walls.

4. Conduits:

Conduits are pipelines or drains that carry rainwater from the catchment or rooftop area to the harvesting system. Commonly available conduits are made up of materials like polyvinyl chloride (PVC) or galvanized iron (GI).

5. First-flushing:

A first flush device is a valve which ensures flushing out the first spell of rain away from the storage tank that carries a relatively larger number of pollutants from the air and catchment surface.

6. Filters:

The filter is used to remove suspended pollutants from rainwater collected from rooftop water. The various types of filters generally used for commercial purpose are charcoal water filter, sand filters, horizontal roughing filter and slow sand filter.

7. Storage facility:

There are various options available for the construction of these tanks concerning the shape, size, material of construction and the position of tank and they are:

a) **Shape:** Cylindrical, square and rectangular;
b) **The material of construction:** RCC, masonry, ferrocement etc and;
c) **Position of tank:** Depending on land space availability these tanks can be constructed overground, partly underground or fully underground. Some maintenance measures like disinfection and cleaning are required to ensure the quality of water stored in the container does not deteriorate.

8. If the harvested water is required to recharge the underground aquifer/reservoir, recharge structures need to be used. Harvested rainwater can also be used to recharge groundwater aquifers through suitable structures like dug wells, borewells, recharge trenches and recharge pits.

Various recharge structures can be built, some of which promote the percolation of water through the soil strata at a shallower depth (e.g., recharge trenches, permeable pavements) whereas others conduct water to greater depths from where it joins the groundwater (e.g., recharge wells).

At many locations, existing structures like wells, pits and tanks can be modified as recharge structures, eliminating the need to construct any fresh structures. Some of the few commonly used recharging methods are recharging of dug wells and abandoned tube wells, settlement tank, recharging of service tube wells, recharge pits, soak ways/percolation pit, recharge troughs, recharge trenches, modified injection well.



16. PROJECT ON 'BIOACTIVE EFFICACY AND CONSERVATION OF TRADITIONAL ANTI-POISONOUS PLANTS OF ARUNACHAL PRADESH'

Introduction

Arunachal Pradesh is home to 26 major tribes and more than 120 sub-tribes, each of whom have traditionally lived within a specified geographical area, maintaining their distinct linguistic, cultural and social identity. Most of the population continue to depend on agriculture for their daily survival.

Poisonous plants have been used by hunter-gatherer peoples worldwide and are still widely used in many countries of Africa, Asia, and South America. Arrow-poisoning and poisoning of wells have been prevalent methods to kill civilians as well as combatants in many areas of the world since the ancient period.

However, in today's world where nuclear and chemical weapons are the preferred choice of weapons, there is a need to preserve such ancient knowledge about poisonous plants which were used in traditional warfare for self-defence, and territorial and national security. In a tribal-majority state like Arunachal Pradesh that is rich in ethnic diversity, poisonous plants are mainly used for fishing and hunting of animals. Our documentation of ethnomedicinal plants has shown that some plants are highly poisonous. However, no specific research has been done on poisonous plants found in Arunachal Pradesh. Even in India, only a few works on poisonous plants have been done.

Objectives of the project

- Survey, observation, identification and data collection on indigenous uses of poisonous plants of Arunachal Pradesh.
- Availability, distribution, growth, cultivation requirements and practices, propagation methods, habitat, ecological notes and raw materials of plant species under study.
- Documentation of extraction, utilization and conservation processes of these plants by tribal communities of the state.
- Prepare herbarium specimens for all collected plant species;
- Screening of phytochemical analysis of qualitative and quantitative study of wild poisonous plants.
- Developing a database on plants incorporating all the above information for revitalizing indigenous knowledge systems and safeguarding IPR-related issues to be given priority.
- Collection of poisonous plants.

Duration for study tour

A weeklong field trip was conducted on 15th June 2019 to Tirap and Longding districts.

Study tour area

The study tour area was confined to the districts of Tirap and Longding. The villages selected were: Khonsa Old, Thinsa, and Longding to record the available poisonous plants in the region.

Specific Benefits/Outcome

Local hunters and farmers were interviewed about the poisonous plants that they used regularly. A total of seven plants were recorded from the region which were used for fish-poisoning by the local fishermen. Listed in the table are some of the plants' names used by the local people for fish-poisoning.

Sl. No.	Name of Plant	Family	Local name	Habit	Parts used	Photos
1.	*Acacia pennata L.*	Fabaceae	Nyasuh	Shrub	Roots and bark	Img. 1
2.	*Rhus spp.*	Anacardiaceae	Minchang	Tree	Bark	Img. 2
3.	*Derris scandens Benth.*	Fabaceae	Rutui	Vine/ climber	Roots	Img.3
4.	*Gynocardia odorata*	Acariaceae	Bakhei	Tree	Leaves & stem	Img. 4
5.	*Juglans regia L.*	Juglandaceae	Ruhmei	Tree	Leaves	Img. 5
6.	*Zanthoxylum armatum DC.*	Rutaceae	Chaangtik	Shrub	Seed and leaves	Img. 6
7.	Sp. A (Unknown)	unknown	Ringtik	Tree	Seed	Img. 7

Table: List of Poisonous Plants Used by the People of Tirap and Longding (shown in pictures below)

Img.1

Img.2

Img.3

Img.4

Img.5

Img.6

Img.7

Summary of significant S&T Achievements

The plants' that were sampled are used in traditional medicine for the treatment of various ailments. These plants are a rich source of bioactive compounds and aporphine alkaloids together with other minor constituents. Although these plants are reputable and revered in various traditional medicine systems, many have not yet been screened chemically or pharmacologically and so there is a vast amount of research still to be conducted to validate their traditional use.

17. PROJECT ON INDIGENOUS USES OF WALLICHIA OBLONGIFOLIA GRIFF.: A FAMINE CROP PLANT FOR SUSTAINABLE LIVELIHOOD OF ARUNACHAL PRADESH

Introduction

Arunachal Pradesh has the second largest area under forest cover in India covering 68,045 sq km. These forests also home to a sizeable tribal population who continue to live in close association with nature and utilize a wide variety of forest resources for sustenance and livelihood. The varied climatic condition of the state ranges from tropical and temperate to alpine zone with 80 % relative humidity (Tag & Das 2004).

Wallichia oblongifolia Griff is a genus of seven species of flowering plants in the Aceraceae (palm) family. The genus is distributed in the Eastern Himalayas, northern Indochina, and southern China.

A famine food or poverty food is any inexpensive or readily available food used to nourish people in times of hunger and starvation, whether caused by extreme poverty such as during economic depression, by natural disasters such as drought or by war or genocide. Quite often, the food is thereafter strongly associated with the hardship under which it was eaten and is therefore socially downplayed or rejected as a food source in times of relative plenty.

Wallichiaoblongifolia Griff is a genus of ten currently recognized species (Govaerts and Dransfield, 2005), found in Nepal, Bhutan, north-eastern India, Myanmar, Thailand, Laos, Vietnam, and China. The palm trees are trunkless, shrubby or tree-shaped. The stem has contracted or extended internodes.

This palm is commonly seen in the foothills along the tropical semi-evergreen belt and subtropical lower zones (Anupam Sarmah et al. 2006). They are used by communities for production of a kind of starch through indigenous methods. This is also a food for pigs. The stem is cleaned by scraping the outer parts and chopped into pieces and smashed to a pulp underwater. The starch solution is sieved and the collected starch is dried and made into cakes which are used subsequently for domestic consumption and trade. The information of such activity is recorded from Kurung Kumey and East Kameng districts in Arunachal Pradesh. The starch is considered a famine food.

Objectives of the project

- Survey, observe, identify and collect data on indigenous uses of *W. oblongifolia.*
- Availability, distribution, growth, cultivation requirements and practices, propagation methods, habitat, ecological notes, raw materials and market trends of plant species under study.
- Documentation of extraction, utilization and conservation of these plants by tribal communities of the state.
- Nutritional analysis of plant species using modern techniques.
- Developing a database on the plants incorporating all the above information for revitalizing the indigenous knowledge system and safeguarding IPR-related issues to be given priority and;
- Assessment for community linkups with self-help groups for marketing of the plants.

Duration for study tour

The duration of the study tour was from March 29 to 01 September, 2008.

Study tour area

The study tour area was in the district of Kurung Kumey. The villages selected were Leel and Gida under Sangram circle of the district.

Specific Benefits/Outcome

The ethnobotanical surveys were carried out in Kurung Kumey district following the method of Jain & Rao (Jain et al, 1989). Local guides and informants were used to locate and collect the ***W. oblongfolia*** samples. To get the information about the indigenous processing of plant materials and mode of preparation of ***'Tashe'*** and understanding of the natural habitats of the plant species, personal interviews were conducted with elderly persons, villagers, and group discussions were held with the help of local translators.

Respondents were selected randomly representing both sexes and various age groups to gather information for the uses of Tashe in their life. The herbarium of the collected plant samples has been prepared and identification of the species was done with the assistance of the systematic botanist at the State Forest Research Institute, Itanagar and Botanical Survey of India, Itanagar.

The Indigenous Processing of *'Tashe'*

Collection of plant species:

The stem of the tree is cut down and properly cleaned in a stream and then soaked in the flowing water to make it easy to cut. The stem is thoroughly cleaned from both ends. The sheaths of the stem have to be removed properly. The trunk/stem is cut into 3-4 pieces and taken to a site called 'Sapper' in the Nyishi language.

Cleaning and shredding of the stem:

After chopping off the stem into pieces, with the help of a locally-designed hoe made of bamboo and wood called 'Satung Sappe', the softwood stem is shredded into slices. The shredded pieces of the softwood of the stem are then gathered in a single place and beaten with a tool called 'Sepya' until it turns into thin slices.

Process of separation:

The thin slices of the stem are dipped in a nearby small well called as 'Redang' and allowed to settle for a few minutes. A few minutes after the pieces are soaked inside the water, all the shredded slices are rubbed thoroughly with bare hands to properly separate the fibre and softwood matter of the plant. This process is repeated 5-6 times. With the process of sedimentation, the softwood matter settles to the bottom of the well and the fibrous stem is removed.

Process of filtration:

After removing the fibrous stem, the soaked matters are then collected from the Redang with the help of a local mug called as 'Pajuk'. The water containing the plant matter inside the mug is filtered in a net bag made of cane called 'Karing'. Sometimes, a plastic bag is also used for filtration.

The settled residue or Tashe is collected in an elongated open tank called as 'Raiju'. The Raiju is covered with a muslin or cotton cloth. Finally, the excess water is removed from the local tank and the filtered residue is left out and the final product is 'Tashe'.

Drying of Tashe.:

After collecting the Tashe, it is left to dry for one hour to remove the excess water from the residue and made into a dry paste.

Summary of Significant S&T Achievements

The tribal communities of the area have been consuming Tashe for ages and has been considered as a famine food. The traditional preparation of Tashe from the stem of the Wallichia oblongfolia has been considered sacred especially among the Puroik tribe.

Their methodologies of production are documented by research establishments especially concerned with sociology. There is enough scope and need to improve upon the techniques used by the community and enhance product recovery as it is high in carbohydrates and other nutrients. They can also be incorporated in massive plantation programs for progressive farmers.

Processing of *'Tashe' making*

Villagers heading to the cultivation area

The processing site

Cultivation of W. oblongfolia

Chopping of tree

Cleaning the outer bark

Shredding of softwood

The Final Product 'Tashe'

18. PROMOTION OF SUSTAINABLE LIVELIHOODS FOR RURAL WOMEN IN ARUNACHAL PRADESH THROUGH TRAINING IN VALUE-ADDITION OF TRADITIONAL FOODS

Introduction

Arunachal Pradesh's economy is largely agrarian. The state is blessed with good rainfall and climate suitable for the growth of diverse crops. It is a hilly state with deep valleys and high mountain peaks traversed by several rivers and rivulets. It has agro-climatic zones which can be classified as tropical zone, sub-tropical zone, temperate zone and alpine zone.

The heterogeneous climate and soil conditions of the state are considered to be an advantage. Vast areas suitable for the cultivation of temperate fruits of both high and low-chilling temperatures are available. The major fruits of Arunachal Pradesh are Apple, Mandarin, Sweet Orange and Pineapples.

The major crops available in various districts of Arunachal Pradesh can be classified as below
(Courtesy: World Food India 2017, Ministry of Food Processing Industries, Govt. of India):

S. No	Crops	Regions/Districts
1	Kiwi	Upper Siang, Tawang, Dibang Valley Lower Subansiri, West Kameng
2	Walnut	Tawang, West Kameng, Lower Subansiri
3	Apple	Tawang, Dibang Valley, Lower Subansiri, West Kameng
4	Potato	West Siang, Tawang, Lower Dibang Valley, East Siang, Lohit
5	Ginger	Changlang, Lower Dibang Valley, East Siang
6	Rice	East Siang, Tawang, Dibang Valley, Lohit
7	Maize	Tawang, East Kameng, Upper Subansiri, East Siang, Papum Pare
8	Fisheries	Papum Pare, West Siang, Changlang, Upper Subansiri
9	Sugarcane	Papum Pare, Upper Subansiri, Upper Siang
10	Cabbage	Upper Siang, West Siang, Lower Dibang Valley, East Siang, Lower Subansiri
11	Large Cardamom	Papum Pare, West Kameng, Lower Subansiri, West Siang, Lohit

A few famous ethnic/traditional foods of Arunachal Pradesh are

1. ***Pikke Pilla:*** A type of alkaline taste-enhancer made by using bamboo shoot and pork fat with a little addition of King Chilli. There are many variations of Pikke Pilla using ingredients such as local vinegar, local fermented pork and vegetables
2. ***Luktir:*** It is a combination of cooked dry meat and chilli flakes. The dish is served with rice.
3. ***Momo:*** It is a dumpling stuffed with various meats and vegetables like cabbage, potato, etc.
4. ***Churpi:*** It is made by fermenting soybeans or Yak milk.

Value addition to traditional fermented food will improve quality, packaging, form and ease of possession to the traditional foods. It will help provide economic sustainability to the local population and farmers. Value addition to traditional foods also helps provide higher income, improved nutrition, avoiding post-harvest loss and provide market avenues. The characteristics of the traditional food value products are:

- They are mostly small-scale and home-based.
- Major producers are women.
- Operations are labour-intensive and time-consuming.
- Often fermented (spontaneously) and have been packed poorly.

Objectives of the Project

- To identify crops and traditional food that have the potential to improve the economy of the local populace through value addition;
- To train the women and local population on various avenues of value addition;
- To provide economic sustainability & entrepreneurial avenues to the local populace.

Location

The two districts identified for the training program were West Siang and West Kameng. The crops identified for providing value addition are listed below:

S. No	West Siang	West Kameng
1	Pineapple- Organic Jam	Apple- Organic Jam
2	Banana- Chips	Pulses- Fermented *Churpi* Product

The training programme was provided to women entrepreneurs on different aspects of value addition of crops and traditional food. Hands-on training on preparation of jams and banana chips were imparted to a group of women. The objective of the project was to provide value addition to mountain crops and traditional food through scientific intervention. Future work will include providing a market for the products.

Figure A: Procedure for Making Pineapple Jam

Figure B: Procedure for Making Banana Chips

Events, Training Workshops & Seminars
Conducted During 2017-18

1. Master Resource Person Training for teachers on NCSC

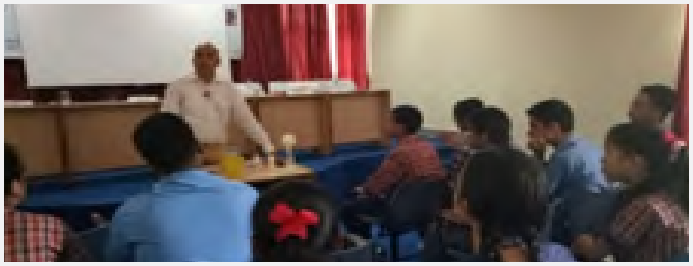
A State Level Resource Persons Training Programme on NCSC activities has been the mandate for organizing the National Children's Science Congress activities in the state every year to sensitise teachers, and district coordinators to conduct the NCSC's activities. In return, trainers will guide students in their districts to participate at the NCSC at the state and national level events.

The APSCS&T organised a day-long Master Resource Persons training on NCSC activities on 8 September 2017 on the theme of 'Science, Technology and Innovation for Sustainable Development, and on 27 June 2018 on the theme of 'Science, Technology and Innovation for a Clean, Green and Healthy Nation' that saw the participation of teachers and district coordinators.

2. Workshops on 'Hands-on activity in Science Under Sci-connect NE Stage-II'

The three-day workshop on 'Hands-on Activity in Science' under the Sci-connect 2017 was organised at the Arunachal Pradesh Science Centre in Itanagar from 23 to 25 June by the APSCS&T in collaboration with the Vigyan Prasar.

Simultaneously, a quiz competition was also arranged for students during the programme. Students from different schools of the Capital Complex and other districts of the state took part in the quiz.



3. Orientation and Training Programme on Mathematics for Teachers

A programme on mathematics for teachers was organised on 21 September 2018 at the Arunachal Pradesh Science Centre. The total number of participants was around 150 teachers from different schools of the Capital Complex and the Dera Natung Government Degree College.

The programme highlights included a keynote address by the Chief Guest, an introductory speech on Ramanujan and hands-on activity on mathematics entitled 'Mathematics is Fun'.

The objectives of the programme were to:

- Expose participants to the culture and process of mathematics.
- Create and promote interest in mathematics and.
- Promote that the art of teaching mathematics can also be fun.

4. Organised the 18th Annual All-India Conference of Heads of Science Centres/ Museums

The 18th Annual Conference of the Heads of Science Museums/Centres, India (ASCMI) was held at the Arunachal Pradesh Science Centre from 8 to 10 December 2018 on the theme of aligning science museums/ centres' activities with the National Science Promotion policies and agenda. The main objective of the conference was useful sharing and exchanging of professional knowledge and experiences on the theme 'Science Museums/ Centre: Pushing Towards Inclusiveness'.

Science museums play a strong role in inclusive and active participation of various societal groups for effective communication of science and technology through various exhibitions and outreach programmes. Issues and techniques on financial inclusion, methods for making science centres' inclusive physically, intellectually, culturally, demographically and digitally were discussed and elaborated upon. The delegates strongly felt that the activities of science centres & science museums need special policy patronage particularly because several types of researches have pointed that scientific literacy is directly proportional to the socio-economic development of the country.

5. Organised Science Model Making Competition

A science model-making competition was organised on 14 November 2017 at the AP Science Centre in Itanagar. During the model-making competition, students displayed their innovative ideas to highlight social problems. The models that drew the most attention were the ones that showed a model village and a sewage treatment plant through which the students passed a massage by portraying clean and green village practices and from the sewage treatment plant they came up with an idea to treat water for recycling and reuse.

6. Organised Science Motivational Lecture Through Vigyan Prasar Edu-Sat Network

A science motivational lecture through the Vigyan Prasar Edu-Sat Network was held on 2 and 3 November 2017 and saw the participation of:

1. Dr. Seyed Ehtesham Hasnain, Vice-Chancellor of Jamia Hamdard;
2. Dr. Nandkumar, Professor at the AIIMS' Department of Psychiatry.
3. Popular Science Lecture Solar Family on 5th June 2018

7. Observation of Lunar eclipse at the AP Science Centre

The observation event of a lunar eclipse was held on 30 January 2018 with students, teachers, and the public at the AP Science Centre.

8. Organised a state-level workshop on IPR on awareness and importance in a growing world

The two-day state level workshop on Intellectual Property Right (IPR) on awareness and importance in the growing world was organised from 25 to 26 May 2017 at the AP Science Centre at the IG Park by the Patent Information Centre (PIC) under the aegis of the APSCS&T in collaboration with the Technology, Information, Forecasting and Assessment Council (TIFAC) of the Government of India's Department of Science and Technology.

A total of 58 participants from RG Polytechnic, scholars from NERIST, RGU, and the Department of Textile & Handicraft, and representatives from NGOs participated in the two-day workshop.

Dr YD Panwar, Scientist-E & Head, PFC (TIFAC), Prof SK Jain, DMS, IIT, New Delhi, Dr Mahuya Hom Choudhary, Scientist C, nodal officer, PIC, West Bengal Council of Science & Technology, Kolkata, Dr RK Barman, Head, S&T Division & Nodal Officer, PIC, Assam Science Technology & Environment Council (ASTEC), and Dr NK Singh, Examiner of Patent & Design, Patent Office, Kolkata were the resource persons and gave their lectures and presentations during the programme.

9. Organised awareness workshop on Geographical Indicators

The Patent Information Centre under the APSCS&T organised a daylong workshop on Intellectual Property Rights (IPR) on Geographical Indicators on 7 August 2018.

Participants from different institutions, R&D Departments and NGOs from the Capital Complex were part of the one-day workshop.

The Patent Information Centre organises IPR workshops every year to give awareness to scientists, innovators, researchers, students, and stakeholders towards safeguarding IPR-related issues through patent filing, Geographical Indication Registration, etc.

10. State-level workshop on mainstreaming grassroots innovators

A State Level Workshop on Mainstreaming Grassroots Innovators was organised by the APSCS&T on 9 November 2017 in association with the NIF, DST.

11. Training of scientists of PIC and APSCS&T in the following institutions:

I. Advanced workshop on IPR management organised jointly by the Patent Facilitating Centre, Technology Information Forecasting and Assessment Council, New Delhi and Defence Research and Development Organisation from 12-14 January 2017.

II. Training on Geographical Indication Registration process at the Patent Information Centre, Assam Science Technology and Environmental Council, Guwahati from 6-9 February 2018.

III. Advanced workshop on Identifying, Protecting and Managing Intellectual Property in the Era of Industrial Revolution 4.0 organised jointly by the Patent Facilitating Centre, Technology Information Forecasting and Assessment Council, New Delhi and the Defence Research and Development Organisation on 6-7 December 2018.

SURVEY AND RESEARCH

1. Patent search carried out:

Seven patent searches were carried out and two inventions sent to the Patent Facilitating Centre (PFC) TIFAC for patent filing and two (3) (is it two or three) inventions are awaited.

Title of inventions:

1. Creative Modification of Aggressive Packed Combining Scheme to Achieve Reasonable Higher Throughput and Good Conclusively Better Efficiency.
2. First-Ever Nobel Implementation Scheme of Perfect Security, Automatic Variable Key in Various Forms.
3. Semi-circular curved Rhombohedra Passive Micromixer.
4. Manually Operated Solar Paddy Harvester.
5. Goggles for the blind.
6. Robust Flip-Flop Low Power Application invented by Mr Alak Majumder, Assistant Professor (ECE), NIT.
7. Voltage-keeper Based Robust Flip-Flop for Low Power Application

Fig. Model of Google for Blind

2. Bamboo Rice for Geographical Indication Registration for Arunachal Pradesh

Rice cooked in bamboo (Khaow lam) of the Khampti tribe of Arunachal Pradesh is in the final stage for Geographical Indication Registration for Arunachal Pradesh. Scientists of the Patent Information Centre visited Namsai district periodically to gather information on bamboo rice for documentation required for Geographical Indication registration process. The field survey started on 25 June 2018 and the sample has been sent for chemical analysis to the CSIR- NEIST, Jorhat, Itanagar branch.




3. Study on traditional alcoholic beverage “Black Apong, Chang” For Its Preservation and Commercialization

Before conducting experimental work, we visited different villages to collect rice cakes made by different communities. The laboratory work was conducted at the Department of Chemistry, Dibrugarh University. been sent for chemical analysis to the CSIR- NEIST, Jorhat, Itanagar branch.


Achievements of the Council During 2017-18

1. Demo based Dori 2x100kW R&D Micro Hydel Project at Dokoputu, West Siang District

Introduction:

Arunachal Pradesh has the highest unexplored hydropower potential of India.In Arunachal Pradesh, electricity is a key ingredient to improve the socio-economic status of the local populace and fuel for the development process is in short supply and the inhabitants are dependent only on local natural resources of fuelwood and other biomass to meet their daily needs till today.

The undulating topographical features and remoteness of Arunachal Pradesh is a major constraint for providing power through conventional systems. Despite having huge hydropower potential, there is a massive gap between the demand and supply of electricity all over the state and West Siang district in particular.

The Dori Mini Hydel Project on the Dokoputu river is situated ten km from Yomcha, the administrative sub-divisional HQ in West Siang district. The project envisages the tapping of water from the Sika river, which shall be conducted through a powerful channel to forebay tank and then would be carried to the powerhouse located in a plain area on the right bank of Dokoputu.

Vision and Goals:

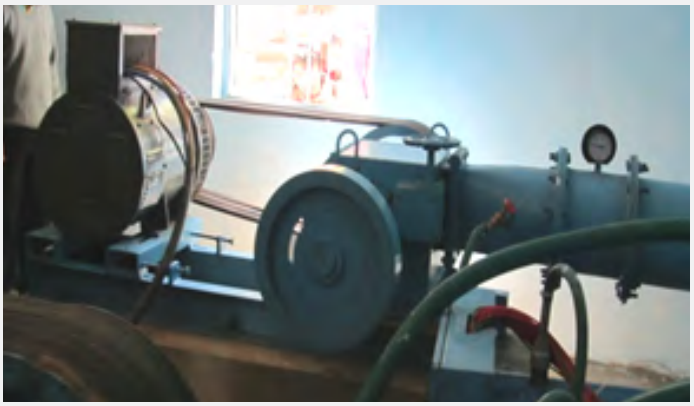
To provide electricity to the remote villages of Arunachal Pradesh for better livelihood.

Objectives:

i. Improve basic living conditions and educational standard in nearby areas;
ii. Reduction of carbon emission caused due to burning of fuel, wood and petroleum products to meet heating and cooking energy requirements and;
iii. Improve agricultural productivity by getting assured reliable power supply for their irrigation need, cottage industries and other commercial activities.

Establishment and sustenance of cottage, small-scale, and rural agro-based industries. The development of the Dori Mini Hydel Project is quite favourable due to the availability of proven technology, short gestation period of the project, cheap and simple operation due to proximity of other similar projects, no escalation in cost of production, long service life and no impact on the environment.

This will not only stimulate economic activity in the area but also help preserve and develop a well-balanced environment. The cross-flow technology can be replicated in the entire Himalayan region for the generation of electricity in remote locations.



2. Improving Traditional Water Mills for Income Generation and Improvement of Livelihood of Tribals in Arunachal Pradesh

Introduction:

Traditional Water Mill is used only for grinding, husking paddy, maize, and rice and is hydraulically less efficient due to the use of locally available materials like a wooden shaft, wooden blade, wooden chut and stone for grinding. With technology interventions, efficiency will improve and also generate electricity. Thus, the ITWM has bearings on the socio-economic improvement of the tribal people.

Vision and Goals:

Improve efficiency of traditional watermills and also generate electricity for better livelihood.

Objectives:

a. Water mills have been used from time immemorial for grinding wheat, rice, maize, etc.

b. The efficiency of traditional water mill is very less hydraulically as locally available materials like wooden shafts, wooden blades, wooden chutes and stones were used earlier.

c. In the absence of appropriate technology, water mills were never used for any other purpose other than on which they run now which is the same as that of the hydroelectric projects.

d. Upgradation of watermills will help rural households to gain access to electricity for indoor lightning, cooking purposes, and economic enterprises.

e. Increasing the output of these mills with technological intervention will undoubtedly increase the socio-economic status of society.

The model can be replicated in the entire Himalayan region for income generation and production of electricity in remote locations.

3. Scientific Evaluation of Water Purification Systems in Arunachal Pradesh (Selection, Installation and Assessment)

Introduction:

As an outcome of the Phase-I of the project, the Council has obtained the test results of water quality of 20 schools. This phased focused on time-bound selection and installation of commercially available water filters of appropriate capacity and their scientific assessment.

Vision and Goals:

(i) Performance analysis of different types of commercially available domestic drinking water purification systems to provide safe drinking water to school children;

(ii) Performance of water purification system over twelve months covering various seasons monitoring the quality of treated water and raw water, total quantity of treated water of potable quality, power consumption, backwashing, impact of non-use, continuous running, the unit cost of treated water, and other related observations;

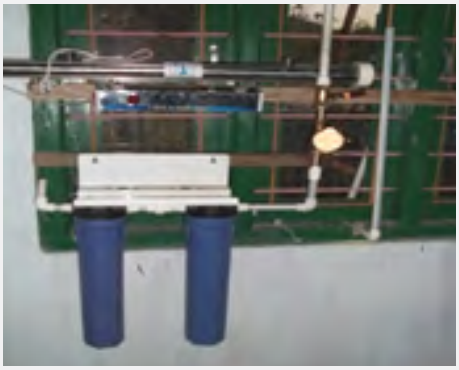
(iii) Performance reliability of the system under field conditions at varying turbidity levels, extreme conditions of biological loads, total dissolved solid loads, different microbial strains such as protozoa cysts, bacteria, etc.

Approach/Strategy

(a) Installation of suitable filters based on results obtained from water test analysis at identified schools. System instrumented with flow meters and energy meters.
(b) The system with a suitable test kit, standard observation templates and training provided to each school to monitor the identified parameters as per the prescribed time interval.
(c) Monthly analysis of the identified parameters of raw water and treated water of each school analysed in a laboratory.
(d) Testing of raw water and treated water samples of each school for all parameters as per BIS norms at NABL accredited laboratory with three months interval.
(e) Scientific evaluation and analysis of observations with recommendations and suggestions.

Achievement

Installation of suitable and need-based type of water purification units have addressed the much-needed basic requirement of having safe drinking water available for students and teachers in remote schools. Implementation of the project has brought awareness among the students towards the importance of safe drinking water for being healthy and as well as understanding the procedures and methods of testing and monitoring water quality through hands-on activities. Demonstration and experimentation have infused curiosity and awareness among the students for testing of water samples of nearby water bodies and sources.


4. Study on Wild Edible Plants and Documentation of Ethnobotanical Knowledge of Utilization Practices associated with Different Tribes of Arunachal Pradesh

Introduction:

The tribal communities of the state were found to be consuming wild edible leaves and fruits extensively. However, other plant parts like seeds, flowers, tubers, stem, and whole plants are also utilized infrequently.

A number of the wild edible plant species, more frequently consumed by the local people, were also found to have some other ethnobotanical importance and medicinal uses.

Objectives

- Survey, observation, identification and data collection of wild plant species used as food.
- Data collection on availability, distribution, growth, cultivation requirements and practices, propagation methods, habitat, ecological notes, raw materials and market trends etc.
- Documentation of traditional knowledge practised by tribal communities of the state regarding extraction, utilization and conservation of these plants.
- Chemical analysis of some selected plant species using modern techniques for knowing their chemical constituents.
- Developing a database on the plants incorporating all the above information for revitalizing the indigenous knowledge system and safeguarding the IPR relates issues would be given priority.
- Assessment for community link-up with self-help groups for the marketing of these wild edible plants.

Achievement

About 70 wild plant species used as food have been recorded and were identified from their vernacular names and ethnobotanical information recorded.

Out of the collected 70 wild plant species, 58 were scientifically identified. Ethnobotanical knowledge of utilization, practices on wild edible plants associated with different tribes has been recorded and documented. Five unexplored wild edible plant species of Arunachal Pradesh having ethnomedicinal uses which, are being used in their fresh form by the local people was selected for phytochemical analysis, the antioxidant and free radical scavenging properties and also antibacterial properties of these plants have been studied.

5. Organising of National Children's Science Congress 2017 Activities

Introduction

Organized the National Children's Science Congress 2015 activities at the districts and state levels in 2015 were part of the science popularization and communication programmes undertaken by the APSCS&T, based on the selected focal theme, guidelines and instructions provided by the National Council for Science and Technology Communication.

Objectives

The main objective of the project is to create scientific temperament, curiosity and nurture creativity among children in the age group of 10-17 years of the state. The main emphasis was laid on the concept of 'Learning by Doing' such that it renders children to pursue projects, studies for solving the area-specific local problems as selected by them related to the focal theme of NCSC 2015 with the infusion of scientific thinking and attitude.

The Children's Science Congress, 2015, provided a forum to the children of the state aged 10-17 years to address the problems identified by them and express their scientific perception, views and share their knowledge among themselves both at the districts and state level and finally at the national level CSC 2015.

Achievement

In the district(s) level CSC 2017, a total of 178 projects were presented with the participation of 155 schools from both government and private sectors from all 20 districts of the state in the programme.

During the two-day State Level Children's Science Congress in 2017, altogether 53 projects were presented by child scientists from 18 of the 19 districts covering all the seven sub-themes under the selected focal theme of the 25th National Children's Science Congress in 2017. In total, 183 group members out of whom 73 female and 110 male representing the 36 schools participated.

Out of the 53 projects presented and scrutinized at the state level CSC 2017, ten projects in order of their merit and relevance to the focal theme were adjudged and selected for presentation and represent Arunachal Pradesh at the 25th National Children's Science Congress 2017 held at Science City, Ahmedabad, Gujrat, from 27-31 December 2017.

6. Establishment of DBT-APSCS&T Centre of Excellence for Bioresources and Sustainable Development. and DST Funded Setting up of Appropriate Rural Technology Demonstration Centre at Kimin

Introduction

The APSCS&T initiated the proposal for the establishment of DBT-APSCS&T Centre of Excellence for Bioresources and Sustainable Development and Appropriate Rural Technology Centre in the state to cater to the need for scientific interventions in sustainable utilization and conservation of rich bioresource and to improve the socio-economic status of the people of the state.

The project proposals were sanctioned by the Department of Biotechnology and Department of Science & Technology and are currently being successfully implemented. The foundation stone to setup the centre was laid by Dr Harsh Vardhan, Hon'ble Union Minister for Science & Technology & Earth Sciences, at Kimin on 22 December 2016.

On 22 December 2018, Chief Minister Shri Pema Khandu inaugurated the makeshift building of the DBT-APSCS&T, CBSD at Kimin.

Objectives

1. To set up state-of-the-art biotechnology research facilities at the state for work on sustainable development of bioresources using tools of modern biology;
2. To harness the rich medicinal plants, animal, microbial and traditional products which could lead to further research and conservation and also to attempt documenting the abundant biodiversity and bioresources (plant, animals and microbes);
3. To collaborate with national and international research institutions/organizations/central universities for research pursuits in bioresource development and sustainable utilization;
4. To undertake capacity building (human resource development) in bioresource conservation, development and utilization;
5. To improve the socio-economic status by developing the technological package and collaborating with biotechnology industry for IP & Knowledge Transfer and to create a niche market for the bio-resource products and patents.

Inauguration of makeshift building of the DBT-APSCS&T, CBSD at Kimin on 22nd Dec 2018 by Shri Pema Khandu, Hon'ble Chief Minister, Arunachal Pradesh

7. Inauguration and Space Education Centre and of Innovation Hub at Arunachal Pradesh Science Centre, Itanagar on 8th December 2018

Introduction

The state is equipped with a state of the art building, the Innovation Hub and Space Education Centre (Planetarium) inaugurated by Hon'ble Minister Land Management and Environment & Forest, Government of Arunachal Pradesh, Shri Nabam Rebia, on 8 December 2018 at the Arunachal Pradesh Science Centre complex in Itanagar in the august presence of Guest of Honour Shri SM Khened, Director of the Nehru Science Centre, NCSM, Ministry of Culture, Government of India, Mumbai, Special Guest Shri Techi Kaso, Hon'ble MLA, Itanagar Constituency, dignitaries of the state government and other parts of India (Heads of Science Museums/Centres) at Arunachal Pradesh Science Centre.

Inauguration of Innovation Hub and Space Education Centre by Hon'ble Minister on 8th Dec 2018

The new facility, a two-storied building, is an initiative of the National Council of Science Museums (NCSM), Ministry of Culture, GoI, Kolkata and APSCS&T with a probable cost of Rs 4.00 crore.

The civil part was completed by the state PWD, Capital Division- 'B', Government of Arunachal Pradesh.

Located on the ground floor of the building, the innovation hub has various corners like robotics, idea lab, design studio and chemistry, physics and biology laboratories to help students quench their thirst for science and further innovate and experiment.

The first floor has a 50-seater space education centre (planetarium) which will hold shows on mysteries of the universe and space. An Innovation Hub is a place which provides facilities to nurture new ideas and help develop an inquisitive perspective in youths of today.

The Innovation Hub created by the NCSM, GoI, and the APSCST, will engage youth in innovative and creative activities. These hubs will serve as springboards for new ideas and innovation and thus helping the society

and economy to face future challenges and meet rising aspirations of the growing population. Specifically, embedding such creative pedagogies in science education through 'Innovation Hubs' would have the potential to retain talent in modern science.

Objectives

- To promote innovation, creativity and engagement in science;
- To foster problem-solving ability and project-based learning;
- To provide hands-on/practical learning and engagement in the process of science, technology and innovation;
- To excite the young minds about innovation for a better future and;
- To help the society and economy to face future challenges in science & technology.

The Innovation Hub will have the following facilities

1. Discovery Hall: This area has 10 to 15 interactive science exhibits/experiments to create excitement about science through exploration and discovery of underlying principles. This will help promote logical thinking.

2. Innovation Resource Centre and Hall of Fame: This space will be used to showcase innovative ideas/ products/implements that have transformed our world or have made a significant impact on the way we conduct our lives along with respective inventors & innovators. Stories or inspirations behind such innovations/inventions will also be mentioned through appropriate modes. Besides these, implements/samples of appropriate technology and traditional knowledge systems, art and craft and other areas of importance in public life in the respective regions shall be exhibited.

3. Innovation Lab: This lab is well equipped with necessary basic facilities to pursue creative and innovative hobbies/activities that involve model making, basic science experimentation, design & fabrication of useful gadgets of practical use, teaching/learning kits or aids for better classroom transactions, testing of samples like soil, water, food items etc.

   i. Thod Phod Jod (Break & Remake) Corner: Students learn to do things with their own hands, dismantle, reassemble and remake devices/gadgets.
   ii. Kabad Se Jugad (Build from scraps): Students learn more by doing things practically using day-to-day scrap.
   iii. Idea Box: Students generate their innovative ideas and create an idea bank. The best ideas are chosen for experimentation/model making/project work.

4. Design Studio: This area will offer a creative environment to design various objects products, etc.

5. Space Education Centre (Planetarium)

The digital planetarium (50-seater 08-metre dome) of this centre simulates the night sky of Itanagar or any other place in the northern hemisphere. One learns to identify stars and constellations easily here. The real sky no longer remains an enigma thereafter. It can also display space.

8. 18th All India Conference of Heads of Science Museums/Centres

The APSCS&T organised the 18th Annual Conference of heads of Science Museums/ Centres, India (ASCMI). The programme was held at the APSC from 8 to 10 December 2018. With the theme: Aligning Science Museums/Centres activities with National Science Promotion policies and agenda.

The main objective of organising the conference was very useful in sharing and exchanging professional knowledge and experiences on the theme of 'Science Museums/ Centre: Pushing Towards Inclusiveness'.

Science museums play a strong role in inclusive and active participation of various societal groups for effective communication of science and technology through various exhibitions, exhibits and outreach programmes. Issues and techniques on financial inclusion, methods to make science centres more inclusive in terms of physical, intellectual, cultural, demographic and digital were discussed and elaborated.

The delegates strongly felt that the activities of science centres & science museums need policy patronage particularly because several researchers have pointed out that scientific literacy is directly proportional to the socio-economic development of the country.

Photo Gallery

Winners of State Level NCSC-2017

Student participating at National Level NCSC-2017

Master Resource Persons Training on NCSC-2018

Child scientist from Arunachal participating at National Level NCSC-2018

Students presenting his project during AP Science Centre Annual day celebration-2017

Organised painting competition during Annual day celebration-2017

Organised quiz competition under Sci-connect programme at Itanagar-2017

Regional Level Quiz competition under the programme Sci-Con during 2018 at Guwahati

Kingcup schools from Arunachal Pradesh won the prestigious Wipro-Earthian Award 2017

Meritorious Students exposure tour during 17th – 23rd July 2018

Establishment of DBT-APSCS&T Centre of Excellence for Bioresources at Kimin, Papum Pare district. HCM, inspecting the 3D model of the DBT building

Inauguration of Sustainable Development and DST Funded Setting up of Appropriate Rural Technology Demonstration Centre at Kimin, Arunachal Pradesh by HCM Shri Pema Khandu

Inauguration of Innovation Hub and Space Education Centre by Shri Nabam Rebia, Minister, Env. & Forest Etc. on 8th December 2018

Innovation Hub and Space Education Centre at Arunachal Pradesh Science centre Complex., Itanagar

Witnessing the Lunar Eclipse at Science centre on 30-01-2018

3D show at Science Centre

Organised training/workshop on sanitary Napkin Production at Durpa-I, Kimin, Papum Pare district during 23rd May- 1st June 2018

Organised workshop on Geographical Indication on 7th August, 2018

Organised Awareness workshop on Menstrual Hygiene Management training programme at Namsai on 14th October 2018

During a workshop on Menstrual Hygiene Management training programme at Namsai on 14th October 2018

Participants are seen during Science awareness camp at Kimin

Semi-Automatic sanitary Napkin production Unit of KTNWS, Namsai

APSCS&T IN NEWS

5

Screen test conducted among students under 'Sci-Connect' prog

ITANAGAR, Jul 11: The Arunachal Pradesh State Council for Science & Technology, department of Science and Technology, under the programme 'Sci-Connect: connecting science with young talents with science', conducted a screen test for students of registered schools of the state for selection of candidates in the regional level science quiz competition.

In total, 886 students appeared for the test, out of which, 15 have been selected to participate in the regional level science quiz competition to be held at Mizoram during the first week of August, informed Deputy Director (Technical), AP State Council for Science and Technology Pakngu Lombi, in a release.

The test was conducted in collaboration with Vigyan Prasar at different centres in Arunachal Pradesh on 10 July.

'Sci-Connect: Connecting science with young talents with science', is a first of its kind programme designed and initiated by the Vigyan Prasar, an autonomous organisation under the department of Science and Technology, Government of India, especially for children of the eight North Eastern states of India.

The objective of the programme is to sensitise young children from upper primary to secondary levels about science in daily life, the release said.

...ivities under the Swachhta NDRF for its initiative.

Students leave for exposure tour

ITANAGAR, Jul 18: A group of 10 meritorious students, along with three teachers on Wednesday left for Bangalore to visit the Indian Institute of Science, IISC, Bengaluru as part of a three-day (19 to 21 July)science exposure visit of meritorious students from Arunachal Pradesh.

The team will visit important centres, such as the ISRO-Exhibition centre, Heritage Centre & Aerospace Museum, Hindustan Aeronautics Limited, Indian Institute of Science, Lalbagh Botanical Garden and Visvesvaraya Industrial and Technological Museum (VITM), etc.

The visit is expected to help the students gain scientific temperament and encourage them to take up science as a career in the future.

The team is led by Pakngu Lombi, Scientist-'B' & Deputy Director (Technical), Arunachal Pradesh

Federation calls for traffic awareness progs

The two-day 25th National Children's Science Congress concluded at Itang Wednesday evening with 10 participants (in picture) selected for the Congress held at Ahmadabad from 27th to 31st November 27 to 31. The ten winners in or merit were: Gyati Ankha (VKV Nirjuli), Kiran Ngadong (VKV Tafragram, Lohit d Phasang Dolma (VKV Shergoan, West Kameng), Sarmistha Dutta (VKV Roing Dibang Valley), Poorvee Mosi (VPS, Daporijo , Upper Subansiri), Udaiso Kreng Amliang (Anjaw), Lakpa Tsering (VKV Shergoan), Bakin Nasho (VKV, Itanagar tal Complex), Nongong Gammo (GHSS Kharsang ,Changlang) and Thuton Tsom Kitpi ,Tawang).

Opinion / NORTHEAST / NATIONAL

Workshop on Intellectual Property Right held

f Arunachal

expedite trials

Young innovator 'adopted' by state council of science and tech

ITANAGAR, Mar. 31: Following the state government's intervention, young innovator of 'googles for blind' fame, Anang Tadar has been adopted by the Arunachal Pradesh State Council for Science & Technology. The Council has agreed to support him in patenting his innovation through Patent Information Centre (PIC) under APSC&T and all other possible help for his innovative research works.

Further, it has been suggested that any further correspondence in regard to his innovation should be routed through APSCS&T for providing him proper guidance in this regard.

Earlier today, Anang Tadar was visited by Chairman APSCS&T Bamang Mangha in his chamber for discussion. Joint Director Dr. Debasis Mahanta and Project Scientist (PIC), Tapin Ratan of the Council also interacted with the young innovator. Chairman on the occasion to the Council encouraged the young innovator for and agreed to help all possible

Workshop on Intellectual Property Right

ITANAGAR, May 26: A two day workshop on Intellectual Property Right (IPR) on its awareness and importance was organized on May 25-26 at AP Science Centre, IG Park by Patent Information Centre (PIC) under Arunachal Pradesh State Council for Science & Technology, Itanagar in collaboration with Technology Information, Forecasting and Assessment Council (TIFAC), Department of Science and Technology, Govt of India, New Delhi. Participants from higher institutes, Department of Textile & Handicraft, representatives from NGOs participated in the workshop.

The programme was inaugurated by Bamang Mangha, Chairman, AP State Council for Science and Technology, Department of Science and Technology, in presence of Secretary, Science and Technology, Dr Gaken Ete, Director and Member Secretary, APSCSTE; T Ronya.

In his welcome address Er T Ronya expressed happiness over the expertise on such important issue by the expert from TIFAC, New Delhi for the benefit of the people of Arunachal Pradesh. He urged the scientist who were present as Resource Person to extend their support in formulating and implementing such programmes and policies being taken up in the state in future.

Er. Gaken Ete, emphasised on geographical indications (GI) on plant species, agricultural products, eco-culture and traditional practices of various tribes of Arunachal Pradesh. He said, the department will look forward for more such awareness levels in future in the state which will create more awareness at the grass root level and there are lot of areas for patenting.

Chairman Bamang Mangha, highlighted on the development of innovative technology in rural based areas for more invention and innovation which can lead to more patent and geographical indications (GI). In the Technical session, Prof Sudhir K Jain has spoken on innovation and Intellectual Property Rights (IPR).

Lecture on Overview of IPR and case studies and Patentability and Developing research ideas using patent information in Universities and R&D Institutes was presented by Dr. Yashawant Dev Panwar.

In her power point presentation Dr. Mahuya Hore Chaudhary has emphasized on Geographical Indication documentation, filing, prosecution and further role of PIC

Stress laid on intellectual property rights on WIPD

ITANAGAR, Dec 08: Environment and Forest Minister Nabam Rebia inaugurated the Innovation Hub and Space Education Centre at IG Park here today amidst a huge gathering including local MLA Techi Kaso.

With the inauguration, the 3-day All India annual conference of heads of science centers/museums under the aegis of Arunachal Pradesh State Council for Science and Technology and Department of Science and Technology, got off to a colourful start.

In his address after the inaugural function, Rebia said that he was deeply enriched by the learned deliberations presented by the esteemed speakers and urged the students to take full advantage of the conference and also the facilities that were being made available to them at the science centre. While appealing to the young students to strive hard to become scientists, the minister told them that the young Indians are shining all over the world in-all spheres.

He opined that the science centre at Itanagar may be named after the former iconic Prime Minister Atal Bihari Vajpaye who had contributed so much for the nation. While replying to a demand by the chairman of Arunachal Pradesh State Council for Science and Technology Bamang Mangha, Rebia assured to provide land and forest clearance for construction of a proper road up to the science centre near the IG Park.

While warmly welcoming the participants from various parts of the country the minister hoped that the conference would be useful in formulating innovative ideas for growth of science in the state. Earlier, the minister along *Cont. P.3*

Audit Report 2017-18

STATEMENT OF ACCOUNT

&

AUDIT REPORT

ARUNACHAL PRADESH STATE COUNCIL FOR

SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR
ARUNACHAL PRADESH

YEAR : 2017-18

MUKESH PARIK & CO.
CHARTERED ACCOUNTANTS
N T ROAD, BELOW ALAHABAD BANK
NORTH LAKHIMPUR
ASSAM
EMAIL: MUKESHPARILNLP1@GMAIL.COM
M-9957207048

MUKESH PARIK & CO.
Chartered Accountants

Ph.No.9957207048M)
N T ROAD, BELOW ALLAHABAD BANK
NORTH LAKHIMPUR, ASSAM

AUDIT REPORT

We have examined the attached Balance Sheet of **ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE (MICRO HYDEL PROJECT) & TECHNOLOGY,ESS SECTOR MAUNG-PHI COMPLEX, ITANAGAR,ARUNACHAL PRADESH-791113** as at 31st March 2018 and the Income & expenditure Account for the year ended on that date ,which are in agreement with the books of account maintained by the Council at the above address.

We have obtained all the information and explaination which to the best of our knowledge and belief were necessary for the purpose of the audit.In our opinion except to the Notes on Account proper books of account have been kept by the council so far as appears from our examination of books .

In our opinion and to the best of our information and according to the explanation given to us , the said accounts, give a true and fair view:-

a) In case of the Balance Sheet ,of the state of the above named Council's affairs as on 31st March 2018.
AND

b) In case of the Income & Expenditure Accounts ,of the Surplus of the above named Council for the accounting year ending on 31st March 2018.

FOR **MUKESH PARIK & CO..**
Chartered Accountants

DATE: 01/06/2020.
PLACE:ITANAGAR

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

MUKESH KUMAR PARIK,FCA
(Proprietor)
M.No. 306251
FRN-328425E

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
&
DEPARTMENT OF SCIENCE & TECHNOLOGY , GOVT.OF ARUNACHAL PRADESH

ESS SECTOR : MAUNG - PHI COMPLEX : ITANAGAR

ARUNACHAL PRADESH.

BALANCE SHEET AS AT 31ST MARCH , 2018

LIABILITIES :	*SCHEDULE*		AMOUNT(Rs)
CAPITAL FUND ACCOUNT	1		18,87,40,804.31
RESERVES & SURPLUS			
Depreciation Reserve	2		11,74,27,011.04
GRANT-IN-AID			
OTHER LIABILITIES	3		32,74,028.00
		TOTAL	30,94,41,843.35

ASSETS :	*SCHEDULE*		AMOUNT(Rs)
Fixed Assets			
At Cost	4		19,12,19,275.88
Sundry Advance:	5		2,62,26,109.00
Bank Balances:	6		9,19,92,547.02
Cash in Hand (OB)			3,911.45
		TOTAL	30,94,41,843.35

In terms of our report of even date.

FOR, **MUKESH PARIK & Co.**
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020.
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

1. CAPITAL FUND

Balance b/f			16,17,04,552.92
Add / Less : (Surplus / Deficit transferred)	Surplus	Deficit	
(1 DBT TERI DNA Project		3,69,679.00	
(2) Infrastructure Development of Science & Technology		45,262.00	
(3) Science Centre	76,07,679.00		
(4) A.P.State Council for Science & Technology (NEW)	69,59,145.88		
(5) A.P.State Council for Science & Technology (OLD)		1,72,127.94	
(6 Survey & Investigation	7,184.00		
(7) Water Technology Initiative Project		5,38,233.00	
Add : Opening Capital from MHP	4,47,27,293.45		
(8) Thongleng Rong MHP	20,832.00		
(9) Kodak MHP		1,56,36,553.00	
(10) Siru Riju MHP		23,30,929.00	
(11) Micro Hydel Project	4,023.00		
(12) Dori MHP	2,89,437.00		
(13) Payi MHP		12,481.00	
(14) Pyani MHP		11,777.00	
(15) Shokthang Rong MHP	38,670.00		
(16) Agro Forestry		92,13,929.00	
(17) State Plan Scheme		2,18,323.00	
(18) Improving Traditional Water Mill Project		3,85,666.00	
	5,96,54,264.33	**2,89,34,959.94**	
Surplus for the year			3,07,19,304.39
Add:Earlier Year Rectification			1,44,000.00
Less: Handover of Projects to Saperate DDO_STATE REMOTE SENSING			
(1) Integreted Development of Jhumland	84,301.00		
(2) Geomomophology Project	2,067.00		
(4) SIS-DP Project	29,04,140.00		
(3) Rajiv Gandhi National Drinking Water Project	5,960.00		
(4)Watershed Project	58,460.00		
(6) Map Sale	5,85,958.00		
(7) Snow & Glacier Project	40,527.00		
Dhooso Senki	1,42,421.00		
(8) Development and Application of Space	3,219.00		
			38,27,053.00
			18,87,40,804.31

2. RESERVE & SURPLUS

Depreciation Reserve b/f	8,73,42,256.00
Add : Depreciation Provision for the year	3,00,84,755.04
	11,74,27,011.04

3. CURRENT LIABILITIES::

Labour Cess	51,306.00
SSS	13,510.00
Vat payable	25,140.00
Vat payable (IDST)	15,495.00
GPF	31,120.00
GIS	1,440.00
SSS	120.00
CIVIC WATER CHARGES	1,320.00
SCIENCE CENTER :	
GST Payable	52,380.00
APSTC NEW :	
GST Payable	1,20,077.00
Vat Payable	616.00
APSTC (OLD) :	
GST Payabe	21,102.00
TDS	1,38,673.00
WATER TECHNOLOGY INITIATIVE :	
Labour Cess Payable	4,500.00
IMPROVING TRADITIONAL WATER MILL PROJECT :	
Labour Cess Payable	39,260.00
KODAK MHP :	
Labour Cess payable	60,760.00

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Transferred from Micro Hydel Projects :		
Security Deposit	18,41,522.00	
Royalty payable	55,581.00	
Vat payable	3.00	
Personal Deposit	8,000.00	
Labour Cess (Kodak)	2,92,103.00	
Temporary Loan from APSTC	5,00,000.00	
	32,74,028.00	**32,74,028.00**

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306281 North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,

North Lakhimpur.
Ph.No.9957207048(M)

4.SHEDULE OF FIXED ASSETS AND DEPRECIATION THEREON:

SL NO.	Description of the Assets	Gross Block Cost as on 01/04/2017	Addition during the year	TOTAL	Rate	Depreciation upto 31.03.2017	Depreciation for the year 31.03.2018	TOTAL	NET Block as on 31.03.2018	NET Block as on 31.03.2017
1	Vehicles	1,11,84,555.00	63,65,667.00	1,75,50,222.00	15%	97,67,566.70	26,32,533.30	1,24,00,100.00	1,49,17,688.70	**95,06,871.75**
2	Furniture & Fittings	43,47,053.00	-	43,47,053.00	10%	21,74,408.60	4,34,705.30	26,09,113.90	39,12,347.70	**39,12,347.70**
3	Office Equipments	4,99,56,138.00	94,90,675.88	5,94,46,813.88	10%	2,43,44,433.00	59,44,681.39	3,02,89,114.39	5,35,02,132.49	**4,49,60,524.20**
	Transferred from MHP	25,44,624.00		25,44,624.00	10%		2,54,462.40	2,54,462.40	22,90,161.60	
4	Computer Equipments	3,84,36,615.00	21,22,436.00	4,05,59,051.00	33.33%	4,64,14,522.43	1,35,18,331.70	5,99,32,854.13	2,70,40,719.30	**2,56,25,691.22**
5	EPABX System	38,070.00		38,070.00	10%	42,688.00	3,807.00	46,495.00	34,263.00	**34,263.00**
6	Office Building (Preperation of Map)	1,43,99,966.00		1,43,99,966.00	10%	36,73,119.20	14,39,996.60	51,13,115.80	1,29,59,969.40	**1,29,59,969.40**
7	Purchase of Office Building	3,00,00,000.00		3,00,00,000.00	5%	45,00,000.00	15,00,000.00	60,00,000.00	2,85,00,000.00	**2,85,00,000.00**
8	Electrical Equipments	15,68,857.00		15,68,857.00	15%	5,38,752.10	2,35,328.55	7,74,080.65	13,33,528.45	**13,33,528.45**
9	Bakery Equipments	6,40,300.00		6,40,300.00	15%	2,88,135.00	96,045.00	3,84,180.00	5,44,255.00	**5,44,255.00**
10	Laboratory Equipment	2,01,24,319.00	-	2,01,24,319.00	20%	79,82,829.60	40,24,863.80	1,20,07,693.40	1,60,99,455.20	**1,60,99,455.20**
	Total	**17,32,40,497.00**	**1,79,78,778.88**	**19,12,19,275.88**		**9,97,26,454.63**	**3,00,84,755.04**	**12,98,11,209.67**	**16,11,34,520.84**	**7,35,14,042.37**

DETAILS OF ADDITION	Rs
APSTC (NEW) :	
Office Equipment	28,51,233.88
Vehicle	22,57,669.00
APSTC(OLD) :	
Vehicle	41,07,998.00
Equipment	48,48,407.00
Computer Equipment	6,26,508.00
SCIENCE CENTRE :	
Computer Equipment	14,95,928.00
Office Equipment	16,49,498.00
Water Technology Initiative :	
Office Equipment	1,31,638.00
Infrastructure Development :	
Office Equipment	9,899.00
	1,79,78,778.88

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik, ACA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

5. SUNDRY ADVANCES

A. SCIENCE & TECHNOLOGY

A. T A Advance	Op. Balance	Addition	Adv.Realised	Closing Balance
D Mahanta	12,20,901.00	1,08,000.00	12,80,341.00	48,560.00
P Lombi	36,741.00	26,000.00	59,000.00	3,741.00
Dado Tadung	850.00		-	850.00
R Konwar	19,352.00		-	19,352.00
Tenzin Sherap	3,874.00	63,000.00	51,527.00	15,347.00
Kemo Lollen	50,000.00		-	50,000.00
Terpo Ronya	15,211.00	3,17,300.00	3,09,000.00	23,511.00
Rup Jyoti Konwar-Delhi Tour	25,000.00		-	25,000.00
Belong Donyi-Delhi Tour	25,000.00		-	25,000.00
A K Smanta	-	1,09,000.00	1,09,000.00	-
Chairmen , Education Cultural De	6,40,000.00	-	-	6,40,000.00
Y Yumgum	-	30,000.00	30,000.00	-
P Lambi	-	4,85,952.00	4,85,952.00	-
Ranjan DAS	60,000.00	2,00,000.00		2,60,000.00
CD MUNGYAK	-	36,000.00	30,552.00	5,448.00
S R Kochey``	-	91,000.00	90,000.00	1,000.00
S Dawa		36,000.00	21,953.00	14,047.00
BamanG Mangha		47,000.00	47,000.00	-
T pokhral			-	-
Chock Khochi		12,48,000.00		12,48,000.00
V Kumar		95,000.00	95,000.00	-
	20,96,929.00	28,92,252.00	26,09,325.00	23,79,856.00
b. Medical Advance				
R K Mission Hospital	45,000.00	-		45,000.00
	45,000.00	-	-	45,000.00
c. Other Advance				
J katans	30,500.00	-	-	30,500.00
S R Kochey	82,746.00	-	-	82,746.00
J K Bhattacharjee	2,573.00			2,573.00
B M Enterprises	-	57,70,500.00	-	57,70,500.00
Sona Enterprises	1,44,000.00		1,44,000.00	-
P Lombi			-	-
B Kumaar		4,44,500.00	1,34,500.00	3,10,000.00
Indegenious Pottery Devt	7,50,000.00	8,73,000.00	8,73,000.00	7,50,000.00
Education and Cultural Development	1,60,000.00	-	-	1,60,000.00
Tath Enterprises	8,00,000.00	-	-	8,00,000.00
Riyam Enterprises	9,00,000.00	-	-	9,00,000.00
Nitish Das		15,000.00		15,000.00
Tilok Pokhet		5,000.00	5,000.00	-
PES Sanitary Napkin		2,12,000.00		2,12,000.00
	28,69,819.00	73,20,000.00	11,56,500.00	90,33,319.00
d. POL Advance				
Dado Tatung	3,000.00			3,000.00
C K Mowlong(SRAC)	20,000.00			20,000.00
	23,000.00	-	-	23,000.00
e. HLTC Advance			5,280.00	(5,280.00)
B M	-	-	18,43,000.00	(18,48,280.00)
f. FESTIVAL ADVANCE	-		-	-
Total (A=e to f)	50,34,748.00	1,02,12,252.00	56,14,105.00	96,32,895.00

B. REMOTE SENSING

A. T A Advance	Opening Balance	Addition	Adv. Realised	
R K Thongdok	4,800.00			4,800.00
C K Manlong	39,798.00		-	39,798.00
P lumbi	255.00			255.00
Dr. S Acharjee	5,646.00			5,646.00
B Kumar	2,452.00			2,452.00
L Tajo	56,038.00			56,038.00
Jutsam Khatang	8,211.00			8,211.00
H K Dutta	-			-
H K Dutta	7,998.00			7,998.00
	1,25,198.00	-	-	1,25,198.00
b. HLTC Advance				

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

T Ronya	2,200.00			2,200.00
Festival Advance P Perme	-		-	-
	-			-
	2,200.00	-	-	2,200.00
c. Medical Advance				
Jutsan Khatang	50,000.00			50,000.00
	50,000.00	-	-	50,000.00
d. OTHER ADVANCE				
y YUMGAM	1.00			1.00
D. Mahanta	3,82,299.00			3,82,299.00
A P Homeo	8,500.00			8,500.00
Festival Advanced	1,850.00			1,850.00
S Acharjee	2,500.00			2,500.00
	3,95,150.00	-	-	3,95,150.00
e. MATURE PROJECT (Since Discontinued)				
Tenzing Sherap	4,218.00			4,218.00
	4,218.00	-	-	4,218.00
f. FAST TRACK	310.00		-	310.00
	310.00	-	-	310.00
	5,77,076.00	-	-	5,77,076.00

C. DBT TERI DNA CLUB PROJECT

	Opening Balance	Addition	Adv. Realised	
D Mahanta	-	5,00,000.00	-	5,00,000.00
	-	5,00,000.00	-	5,00,000.00

D. INTEGRATED DEVELOPMENT OF WASTE LAND

Advance for T E

	Opening Balance	Addition	Advance Realised	Closing Balance
S Dev.	20,000.00	-	-	20,000.00
	20,000.00	-	-	20,000.00

E. SCIENCE CENTRE	Opening Bal.	Addition	Adv. Realised	Closing Balance
Vivek Kumar	52,000.00	56,000.00	14,400.00	93,600.00
Gem Peri	7,000.00	-	-	7,000.00
Bamang Mangha	-	90,000.00	-	90,000.00
Energy Reknown Institute	65,169.00	-		65,169.00
N.E Construction Agency	30,000.00	-	-	30,000.00
Neelam Maj		4,30,000.00		4,30,000.00
Nitish Das		1,40,000.00	1,40,000.00	-
Momo Polo		43,500.00		43,500.00
	1,54,169.00	7,59,500.00	14,400.00	7,59,269.00

F. RGNDWM

S Deb	44,401.00			44,401.00
	44,401.00			44,401.00

G. KODAK MH PROJECT

Tenjeen Sherap	5,206.00			5,206.00
R K Thongdok	11,500.00			11,500.00
T Ronya	17,200.00			17,200.00
	33,906.00			33,906.00

H. SIS-DP PROJECT

C K Manglong	5,400.00			5,400.00
M/s Emergent Technology	5,00,000.00	-		5,00,000.00
Dr.Binita Baruah	6,750.00			6,750.00
	5,12,150.00	-		5,12,150.00

K. GEOMORPHOLOGY PROJECT

S DEB(Advance for TE)	85,500.00			85,500.00
	85,500.00			85,500.00

L.SNOW AND GLACIER PROJECT

S Acharjee	35,807.00		-	35,807.00
	35,807.00		-	35,807.00

M. WATER TECHNOLOGY INITIATIVE

S & G India Private Limited	-	-		-
Pradeep Ronia	5,105.00	-		5,105.00
D Mahanta	35,000.00	-		35,000.00
	40,105.00	-		40,105.00

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M.NO 306431 North Lakhimpur

N. PYANI MHP

T.Sherap	-	-	-	*30,000.00*
	-	-	-	*30,000.00*
B. STATE PLAN SCHEME				
N Das(J. E)	(2,00,000.00)			-2,00,000.00
GRAND TOTAL				-2,00,000.00
C. MICRO HYDEL PROJECT	1,55,000.00			1,55,000.00
GRAND TOTAL				1,55,000.00
D. SIRU RIJO MHP				-
M/s T.Gamkak Enterprise	1,20,00,000.00			1,20,00,000.00
M/s T.G.Enterprise	20,00,000.00			20,00,000.00
				1,40,00,000.00
	65,37,862.00	*1,14,71,752.00*	*56,26,505.00*	***2,62,26,109.00***

MUKESH PARIK & CO.
CHARTERED ACCOUNTANTS
FRN 328425E
M NO 306251
North Lakhimpur

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

6. BANK BALANCES

(1) A.P.State Council for Science & Technology (OLD)	
Vijaya Bank	*4,14,89,062.10*
(2) A.P.State Council for Science & Technology (NEW)	
Canara bank	*3,13,936.00*
(2) Science Centre	
Vijaya Bank	*1,05,86,423.00*
(3) Water Technology Initiative	
Vijaya Bank	*2,606.00*
(4)Improving Traditional Water Mill Project	
Allahabad Bank	-
(5)DBT TERI DNA Project	
Allahabad Bank	*4,96,983.00*
(6) Survey & Investigation	
Vijaya Bank	*17,951.00*
(7) Infrastructure Development	
Vijaya Bank	-
(8) Thongleng MHP	
Vijaya Bank	*3,11,046.00*
(9) Kodak MHP	
Vijaya Bank	*2,40,832.00*
(10) Siru Riju MHP	
Allahabad Bank	-
(11) Micro Hydel Project	
Axis Bank	*1,11,958.00*
(12) Dori MHP	
Vijaya Bank	*3,06,199.00*
(13) Payi MHP	
Vijaya Bank	*7,204.00*
(14) Pyani MHP	
Vijaya Bank	*97,420.00*
(15) Sakthang Rong MHP	
Vijaya Bank	*1,20,112.00*
(16) Agro Forestry	
Vijaya Bank	-
(17) State Plan Scheme	
Vijaya Bank	*4,106.00*
(18) Improving Traditional Water Mill Project	
Allahabad Bank	-
Fixed Deposit With Bank	*3,78,86,708.92*
	9,19,92,547.02

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(1) SURVEY & INVESTIGATION

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Bank charges	95.00	By Interest received	7,279.00
To Excess of Income over Expenditure	7,184.00		
	7,279.00		7,279.00

In terms of our report of even date.

FOR, **MUKESH PARIK & Co.**
Chartered Accountants

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(2) INFRASTRUCTURE DEVELOPMENT OF SCIENCE & TECHNOLOGY

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Bank charges	20.00	By Interest received	2,039.00
To Transfered to APSTC	7,115.00	By Excess of Expenditure over Income	45,262.00
To Office expenses	40,166.00		
	47,301.00		**47,301.00**

In terms of our report of even date.

FOR,
MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(3) DBT TERI DNA CLUB

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Bank charges	197.00	By Interest received	40,931.00
To T A	8,240.00	By Excess of Expenditure over	
To Transfer to Bio Resources	4,00,000.00	Income	3,69,679.00
To Transfered to APSTC	2,173.00		
	4,10,610.00		**4,10,610.00**

In terms of our report of even date.

FOR, MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M.NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(4) SCIENCE CENTRE

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Salary	56,80,166.00	By Interest re ceived	3,53,478.00
To EPF	11,65,868.00		
To Security Salary	3,95,508.00	By Revenue Stamp	77,695.00
To H L T C	36,000.00		
To Office expenses	14,72,232.00	By Grant-in-Aid	2,21,00,000.00
To Installation of Exhibit	1,07,907.00		
To Upgradation of Science Centre	9,63,645.00	By SSS	1,64,076.00
To Digital Planterium	9,69,497.00	By Royalty	20,752.00
To Royalty	7,782.00		
To Liability clearance of Drainage	5,81,649.00	By EPF	4,04,129.00
To SSS	1,64,076.00		
To Civic Water charges	7,800.00	By Civic Water charges	7,800.00
To Electricity charges	60,000.00		
To Maintanance of Science Centre	8,35,552.00		
To T A	2,32,542.00		
To Internet Connection	2,04,406.00		
To Gratuity	1,46,915.00		
To Petty expenses	47,222.00		
To Hiring charges	4,500.00		
To Maintanance of Generator	12,466.00		
To P O L	1,46,131.00		
To Innovation of Hub Workshop	1,11,542.00		
To Telephone expenses	2,935.00		
To Science Drama	1,53,657.00		
To Papers & periodicals	2,080.00		
To Civil Work	19,46,008.00		
To Bank charges	500.00		
To Maitanance of Vehicle	61,665.00		
To Excess of Income over Expenditure	76,07,679.00		
	2,31,27,930.00		**2,31,27,930.00**

In terms of our report of even date.

FOR, MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(5) A.P.STATE COUNCIL FOR SCIENCE & TECHNOLOGY (NEW)

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Salary	1,08,000.00	By Transfer from APSTC-Old	1,88,50,000.00
To POL	2,22,336.00		
To Science Awareness Programme	12,50,000.00	By Contingency Grant	4,56,000.00
To State Plan Scheme :			
(i)Exposure Visit of Meritious Students	9,70,000.00	By Grant-in-Aid	35,16,000.00
(ii) Inventory of Indigenious & Traditional Knowledge	9,70,000.00	By D D collected For New Post	1,18,300.00
(iii)Study on Traditional alchoholic beverage	9,70,000.00	By Interest re ceived	41,918.00
To Office Expenses	24,08,360.12	By Revenue Stamp	11.00
To Printing charges	22,016.00		
To Maintanance of Vehicle	1,06,346.00		
To T A	66,805.00		
To Telephone expenses	4,860.00		
To Internet connection	70,000.00		
Petty expenses	33,114.00		
To T/f to Science Center	25,00,000.00		
To Electrical expenses	3,52,000.00		
To NCSC	8,10,632.00		
To Postal Stamp	3,436.00		
To Consultancy Fee	45,000.00		
To SLCSC	1,09,190.00		
To Bank charges	988.00		
To GIA Transfered to SRSAC	50,00,000.00		
To Excess of Income over Expenditure	69,59,145.88		
	2,29,82,229.00		**2,29,82,229.00**

In terms of our report of even date.

FOR, MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(6) A.P.STATE COUNCIL FOR SCIENCE & TECHNOLOGY (OLD)

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Salary	2,69,68,510.00	By Grant-in-Aid	12,63,47,673.00
To POL	6,83,561.00	By NEFT Grant In Aid	2,50,000.00
To TDS Filing fees	22,621.00	By Closure of Account	45,197.00
To Hiring charges	4,71,000.00	By Interest re ceived	8,47,925.00
To T/f to APSCTC New	1,88,50,000.00	By Vigyan Prashar	9,61,637.00
To E P F	56,00,842.00	By Sale of Vehicle	69,605.00
To S S S	14,48,004.00	By D D for New Post	4,87,925.00
To G I S	19,167.00	By Revenue Stamp	455.00
To G P F	3,64,000.00	By Civic Water charges	19,220.00
To Civic Water charges	20,540.00	By GPF	3,30,000.00
To Office Expenses	31,60,381.00	By G I S	20,487.00
To Maintanance of office building	82,59,146.00	By S S S	14,48,004.00
To Telephone expenses	20,940.00	By E P F	20,35,397.00
To T A	8,74,393.00	By Excess of Expenditure over Income	1,72,127.94
To Workshop on intellectual property right	3,02,359.00		
To Maintanance of Vehicle	2,74,223.00		
To Natural Oriental Workshop camp	2,00,859.00		
To HLTC	1,42,516.00		
To Science Awareness Programme	1,80,000.00		
To Printing charges	3,16,936.00		
To NCSC 2017	7,32,744.00		
To Science Connect	2,55,920.00		
To Study & Documentation of IKS	4,03,673.00		
To Gratuity / LIC	13,16,061.00		
To Land Revenue	13,200.00		
To GIA Transfered to SRSAC	2,93,50,000.00		
To Postal Stamp	2,500.00		
To Papers & periodicals	16,274.00		
To State Level Workshop	77,544.00		
To Indigenous Pottery	9,70,000.00		
To EDP - VP	2,20,051.00		
To Repairs & maintanance	49,500.00		
To Registration fees	1,460.00		
To Printing & stationery	10,40,005.00		
To Internet Connection	1,23,900.00		
To Bank charges	2,352.90		
To Petty expenses	42,809.00		
To Audit Fees	35,000.00		
To DD for New Post return	600.00		
To Honorarium	62,500.00		
To Sanitary Napkin	29,806.00		
To Advertisement	25,000.00		
To Depreciation	3,00,84,755.04		
	13,30,35,652.94		**13,30,35,652.94**

In terms of our report of even date.

FOR, MUKESH PARIK & Co.
Chartered Accountants
Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(7) WATER TECHNOLOGY INITIATIVE PROJECT

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Salary	59,905.00	By Interest received	2,703.00
To Maintanance of Water Filter	4,50,000.00	By Revenue Stamp	6.00
To Bank charges	163.00	By Excess of Expenditure over Income	5,38,233.00
To Printing & Stationery	30,874.00		
	5,40,942.00		**5,40,942.00**

In terms of our report of even date.

FOR, MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M.NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(8) THONGLENG RONG MHP

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Salary	24,000.00	By Grant-in-Aid	9,51,000.00
To Civil Work	9,21,565.00	By Interest received	15,512.00
To Bank charges	115.00		
To Excess of Income over Expenditure	20,832.00		
	9,66,512.00		**9,66,512.00**

In terms of our report of even date.

FOR, **MUKESH PARIK & Co.**
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(9) KODAK MHP

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Salary	3,67,122.00	By Grant-in-Aid (Received from Govt.of India)	1,20,76,600.00
To Civil Work	90,86,908.00	By Interest received	2,23,680.00
To Bank charges	595.00	By Revenue Stamp	21.00
To Grant-in-Aid Transferred	1,84,82,229.00	By Excess of Expenditure over Income	1,56,36,553.00
	2,79,36,854.00		2,79,36,854.00

In terms of our report of even date.

FOR, MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(10) SIRU RIJU MHP

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Salary	1,17,677.00	By Interest re ceived	54,759.00
To Transferred to APSTC New	22,67,991.00	By Excess of Expenditure over Income	23,30,929.00
To Bank charges	20.00		
	23,85,688.00		23,85,688.00

In terms of our report of even date.

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

FOR: **MUKESH PARIK & Co.**
Chartered Accountants

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(11) MICRO HYDEL PROJECT

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Excess of Income over Expenditure	4,023.00	By Interest re ceived	4,023.00
	4,023.00		**4,023.00**

In terms of our report of even date.

FOR, MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. ★ CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 ★ North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(12) DORI MHP

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Civil Work	58,72,880.00	By Grant-in-Aid	62,45,229.00
To P O L	90,737.00	By Interest re ceived	7,920.00
To Bank charges	95.00		
To Excess of Income over Expenditure	2,89,437.00		
	62,53,149.00		**62,53,149.00**

In terms of our report of even date.

FOR, MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(13) PAYI MHP

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Bank charges	20.00	By Interest re ceived	284.00
To Transferred to APSTC	12,745.00	By Excess of Expenditure over Income	12,481.00
	12,765.00		**12,765.00**

In terms of our report of even date.

FOR, MUKESH PARIK & Co.
Chartered Accountants

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(14) PYANI MHP

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Bank charges	95.00	By Interest re ceived	5,918.00
To T A	17,600.00	By Excess of Expenditure over Income	11,777.00
	17,695.00		**17,695.00**

In terms of our report of even date.

FOR MUKESH PARIK & Co.
Chartered Accountants

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(15) SAKTHANG RONG MHP

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Civil Work	9,44,284.00	By Grant-inAid Received from State Govt.	9,75,000.00
To Bank charges	95.00	Interest re ceived	8,049.00
To Excess of Income over Expenditure	38,670.00		
	9,83,049.00		**9,83,049.00**

In terms of our report of even date.

FOR, MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(16) AGRO FORESTRY

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Salary	1,74,167.00	By Interest re ceived	2,62,549.00
To Civil Works	8,26,905.00	By POL (Cheque cancelled)	36,000.00
To Bank charges	61.00	By Excess of Expenditure over Income	92,13,929.00
To Transferred to APSTc	85,11,345.00		
	95,12,478.00		**95,12,478.00**

In terms of our report of even date.

FOR, MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(17) STATE PLAN SCHEME

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To P O L	2,21,450.00	By Interest re ceived	3,127.00
		By Excess of Expenditure over Income	2,18,323.00
	2,21,450.00		2,21,450.00

In terms of our report of even date.

FOR, MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(18) IMPROVING TRADITIONAL WATER MILL PROJECT

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

EXPENDITURE	AMOUNT	INCOME	AMOUNT
To Salary	18,000.00	By Interest re ceived	8,457.00
To Transfer of Fund	3,76,086.00	By Excess of Expenditure over Income	3,85,666.00
To Bank charges	37.00		
	3,94,123.00		**3,94,123.00**

In terms of our report of even date.

FOR, MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. ★ CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 ★ North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(1) SURVEY & INVESTIGATION

RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

RECEIPTS:		AMOUNT	PAYMENTS:		AMOUNT
To *Opening Balance :*					
Cash in Hand			By Bank charges		95.00
Cash at Bank	10,767.00	10,767.00			
To Interest re ceived		7,279.00			
			By Closing Balance :		
			Cash in Hand		
			Cash at Bank	17,951.00	17,951.00
		18,046.00			**18,046.00**

In terms of our report of even date.

FOR, MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(2) INFRASTRUCTURE DEVELOPMENT OF SCIENCE & TECHNOLOGY

RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

RECEIPTS:		AMOUNT	PAYMENTS:	AMOUNT
To *Opening Balance :*				
Cash in Hand			By Bank charges	20.00
Cash at Bank	55,161.00	55,161.00		
			By VAT	1,368.00
To Interest re ceived		2,039.00		
			By Transfered to APSTC	7,115.00
To VAT		1,368.00		
			By Office expenses	40,166.00
			By Office Equipment	9,899.00
			By Closing Balance :	
			Cash in Hand	
			Cash at Bank -	-
		58,568.00		**58,568.00**

In terms of our report of even date.

FOR, MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR
SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(3) DBT TERI DNA CLUB

RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

RECEIPTS:		AMOUNT	PAYMENTS:		AMOUNT
To *Opening Balance :*			By T A Advance		5,00,000.00
Cash in Hand			By Bank charges		197.00
Cash at Bank	13,66,662.00	13,66,662.00	By T A		8,240.00
			By Transfered to Bio-Resources		
To Interest received		40,931.00	and sustainable Development		4,00,000.00
			By Transfered to APSTC		2,173.00
			By Closing Balance :		
			Cash in Hand		
			Cash at Bank	4,96,983.00	4,96,983.00
		14,07,593.00			**14,07,593.00**

In terms of our report of even date.

FOR, **MUKESH PARIK & Co.**
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(4) SCIENCE CENTRE

RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

RECEIPTS:		AMOUNT	PAYMENTS:	AMOUNT
To *Opening Balance :*			By Salary	56,80,166.00
Cash in Hand			By EPF	11,65,868.00
Cash at Bank	1,16,76,890.00	1,16,76,890.00	By Security Salary	3,95,508.00
			By H L T C	36,000.00
To Interest re ceived		3,53,478.00	By Office expenses	14,72,232.00
			By Installation of Exhibit	1,07,907.00
To Labour Cess		50,062.00	By Upgradation of Science Centre	9,63,645.00
			By VAT	1,69,345.00
To Revenue Stamp		77,695.00	By Labour Cess	50,062.00
			By Digital Planterium	9,69,497.00
To Grant-in-Aid		2,21,00,000.00	By Royalty	7,782.00
From			By Liability clearance of Drainage	5,81,649.00
APSC S/T, DST	46,00,000.00		By SSS	1,64,076.00
Science Center	1,20,00,000.00		By Civic Water charges	7,800.00
Science & Maths	5,00,000.00		By Electricity charges	60,000.00
Science popolarization			By Maintanance of Science Centre	8,35,552.00
under ADA	5,00,000.00		By T A	2,32,542.00
Maint. /Printing of			By Internet Connection	2,04,406.00
Exhibit of ScienceCenter			By Short Term Deposit	50,00,000.00
	10,00,000.00		By Gratuity	1,46,915.00
Const. of Boundary			By Petty expenses	47,222.00
Wall	10,00,000.00		By Hiring charges	4,500.00
APSTC	25,00,000.00		By Maintanance of Generator	12,466.00
To Income Tax		1,04,748.00	By P O L	1,46,131.00
To SSS		1,64,076.00	By Innovation of Hub Workshop	1,11,542.00
To TA Advance Recovered		59,400.00	By Telephone expenses	2,935.00
To Royalty		20,752.00	By Advance	6,69,500.00
To V A T		1,69,345.00	By Science Drama	1,53,657.00
To Advance returned (Nitish Das)		1,40,000.00	By Papers & periodicals	2,080.00
To EPF		4,04,129.00	By T A Advance	1,35,000.00
To GST		52,380.00	By Civil Work	19,46,008.00
			By Income Tax	1,04,748.00
To Civic Water charges		7,800.00	By Bank charges	500.00
			By Maitanance of Vehicle	61,665.00
			By Computer Equipment	14,95,928.00
			By Office Equipment	16,49,498.00
			By Closing Balance :	
			Cash at Bank	1,05,86,423.00
		3,53,80,755.00		**3,53,80,755.00**

In terms of our report of even date.

FOR, MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(5) A.P.STATE COUNCIL FOR SCIENCE & TECHNOLOGY (NEW)

RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

RECEIPTS:		AMOUNT	PAYMENTS:		AMOUNT
To *Opening Balance :*			By Salary		1,08,000.00
Cash in Hand			By POL		2,22,336.00
Cash at Bank	-	-	By Science Awareness Programme		12,50,000.00
TO Transfer from APSTC-Old		1,88,50,000.00	By **State Plan Scheme :**		
To Contingency Grant		4,56,000.00	(i)Exposure Visit of Meritious Students		9,70,000.00
To Grant-in-Aid		35,16,000.00	(ii) Inventory of Indigenious & Traditional Knowledge		9,70,000.00
To D D collected For New Post		1,18,300.00	(iii)Study on Traditional alchoholic beverage		9,70,000.00
To Interest re ceived		41,918.00	By Advance		36,65,000.00
To Revenue Stamp		11.00	By Office Expenses		24,08,360.12
To GST		1,20,077.00	By Printing charges		22,016.00
To VAT		53,153.00	By VAT		52,537.00
To Advance recovered		20,08,000.00	By Maintanance of Vehicle		1,06,346.00
			By Purchase of Vehicle		22,57,669.00
			By T A		66,805.00
			By Telephone expenses		4,860.00
			By Internet connection		70,000.00
			By Petty expenses		33,114.00
			By T/f to Science Center		25,00,000.00
			By Electrical expenses		3,52,000.00
			By NCSC		8,10,632.00
			By Postal Stamp		3,436.00
			By Consultancy Fee		45,000.00
			By SLCSC		1,09,190.00
			By Bank charges		988.00
			By GIA Transfered to SRSAC		50,00,000.00
			By Office Equipment		28,51,233.88
			By Closing Balance :		
			Cash in Hand		
			Cash at Bank	3,13,936.00	3,13,936.00
		2,51,63,459.00			**2,51,63,459.00**

In terms of our report of even date.

FOR, MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(6) A.P.STATE COUNCIL FOR SCIENCE & TECHNOLOGY (OLD)
RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

RECEIPTS:		AMOUNT	PAYMENTS:		AMOUNT
To *Opening Balance :*			By Salary		2,69,68,510.00
Cash in Hand			By POL		6,83,561.00
Cash at Bank	2,39,40,720.00	2,39,40,720.00	By TDS		4,00,454.00
			By TDS Filing fees		22,621.00
			By Hiring charges		4,71,000.00
To Grant-in-Aid		12,63,47,673.00	By T/f to APSCTC New		1,88,50,000.00
To NEFT Grant In Aid		2,50,000.00	By E P F		56,00,842.00
			By S S S		14,48,004.00
			By G I S		19,167.00
			By G P F		3,64,000.00
			By Civic Water charges		20,540.00
			By Advance		62,08,952.00
			By Office Expenses		31,60,381.00
			By Maintanance of office building		82,59,146.00
To Closure of Account		45,197.00	By VAT		6,07,145.00
To Interest re ceived		8,47,925.00	By Labour Cess		74,609.00
To Vigyan Prashar		9,61,637.00	By Telephone expenses		20,940.00
To Sale of Vehicle		69,605.00	By T A		8,74,393.00
To TD Refund		1,38,673.00	By Procurement of Vehicle		41,07,998.00
To D D for New Post		4,87,925.00	By Workshop on intellectual property right		3,02,359.00
To GST		21,102.00	By Maintanance of Vehicle		2,74,223.00
To Revenue Stamp		455.00	By Natural Oriental Workshop camp		2,00,859.00
To TA Advance returned		6,65,846.00	By HLTC		1,42,516.00
To HRA Recovered		5,280.00	By Science Awareness Programme		1,80,000.00
To Labour Cess		74,609.00	By Printing charges		3,16,936.00
To Civic Water charges		19,220.00	By NCSC 2017		7,32,744.00
To GPF		3,30,000.00	By Science Connect		2,55,920.00
To G I S		20,487.00	By Study & Documentation of IKS		4,03,673.00
To S S S		14,48,004.00	By T A Advance		3,38,300.00
To E P F		20,35,397.00	By Gratuity / LIC		13,16,061.00
To TDS		4,00,454.00	By Land Revenue		13,200.00
To V A T		6,07,145.00	By GIA Transfered to SRSAC Morn Ann Multipurpose		2,93,50,000.00
To Advance		29,17,523.00	By Postal Stamp		2,500.00
To Advance recovered (Vivek Kumar)		17,456.00	By Papers & periodicals		16,274.00
			By State Level Workshop		77,544.00
			By Indigenous Pottery		9,70,000.00
			By EDP - VP		2,20,051.00
			By Repairs & maintanance		49,500.00
			By Registration fees		1,460.00
			By Printing & stationery		10,40,005.00
			By Internet Connection		1,23,900.00
			By Bank charges		2,352.90
			By Petty expenses		42,809.00
			By Office Equipment		48,48,407.00
			By Computer Equipment		6,26,508.00
			By Audit Fees		35,000.00
			By DD for New Post return		600.00
			By Honorarium		62,500.00
			By Sanitary Napkin		29,806.00
			By Advertisement		25,000.00
			By Closing Balance :		
			Cash in Hand		
			Cash at Bank	4,14,89,062.10	4,14,89,062.10
		16,16,52,333.00			**16,16,52,333.00**

In terms of our report of even date.

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

FOR

MUKESH PARIK & Co.
Chartered Accountants

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH L FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(7) WATER TECHNOLOGY INITIATIVE PROJECT

RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

RECEIPTS:		AMOUNT	PAYMENTS:		AMOUNT
To *Opening Balance :*			By Salary		59,905.00
Cash in Hand	-		By Maintanance of Water Filter		4,50,000.00
Cash at Bank	6,67,977.00	6,67,977.00	By Bank charges		163.00
			By Printing & Stationery		30,874.00
			By VAT		7,421.00
To Interest received		2,703.00	By Office Equipment		1,31,638.00
To Labour Cess		4,500.00			
To VAT		7,421.00			
To Revenue Stamp		6.00			
			By Closing Balance :		
			Cash in Hand		
			Cash at Bank :	2,606.00	2,606.00
		6,82,607.00			**6,82,607.00**

In terms of our report of even date.

FOR, MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. ★ CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 ★ North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(8) THONGLENG RONG MHP

RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

RECEIPTS:		AMOUNT	PAYMENTS:	AMOUNT
To *Opening Balance :*				
Cash in Hand			By Salary	24,000.00
Cash at Bank	2,90,214.00	2,90,214.00		
			By Civil Work	9,21,565.00
To Grant-in-Aid		9,51,000.00		
			By Bank charges	115.00
To Interest received		15,512.00		
			By Labour Cess	9,216.00
To Labour Cess		9,216.00		
			By Closing Balance :	
			Cash in Hand	
			Cash 3,11,046.00	3,11,046.00
		12,65,942.00		**12,65,942.00**

In terms of our report of even date.

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

FOR MUKESH PARIK & Co.
Chartered Accountants

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(9) KODAK MHP

RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

RECEIPTS:		AMOUNT	PAYMENTS:		AMOUNT
To *Opening Balance :*					
Cash in Hand			By Salary		3,67,122.00
Cash at Bank	1,58,16,625.00	1,58,16,625.00			
			By Civil Work		90,86,908.00
To Grant-in-Aid		1,20,76,600.00			
(Received from Govt.of India)			By Transferred to :		
To Interest received		2,23,680.00	(i) APSTC (New)	35,16,000.00	
			(ii) Dori MHP	62,45,229.00	
To Revenue Stamp		21.00	(iii) APSTC	87,21,000.00	1,84,82,229.00
To Vat		1,13,462.00	By Bank charges		595.00
To Labour Cess		60,760.00	By Vat		1,13,462.00
			By Closing Balance :		
			Cash in Hand	-	
			Cash at Bank	2,40,832.00	2,40,832.00
		2,82,91,148.00			**2,82,91,148.00**

In terms of our report of even date.

FOR MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. ★ CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 ★ North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(10) SIRU RIJU MHP

RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

RECEIPTS:		AMOUNT	PAYMENTS:	AMOUNT
To *Opening Balance :*				
Cash in Hand			By Salary	1,17,677.00
Cash at Bank	23,30,929.00	23,30,929.00		
			By Transferred to APSTC New	22,67,991.00
To Interest re ceived		54,759.00		
			By Bank charges	20.00
			By Closing Balance :	
			Cash in Hand -	
			Cash at Bank -	-
		23,85,688.00		**23,85,688.00**

In terms of our report of even date.

FOR MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(11) MICRO HYDEL PROJECT

RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

RECEIPTS:		AMOUNT	PAYMENTS:		AMOUNT
To *Opening Balance :*					
Cash in Hand				-	
Cash at Bank	1,07,935.00	1,07,935.00			
To Interest re ceived		4,023.00			
			By Closing Balance :		
			Cash in Hand	-	
			Cash at Bank	1,11,958.00	1,11,958.00
		1,11,958.00			**1,11,958.00**

In terms of our report of even date.

MUKESH PARIK & CO. North Lakhimpur CHARTERED ACCOUNTANTS FRN 328425E M NO 306251

FOR MUKESH PARIK & Co.
Chartered Accountants

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(12) DORI MHP

RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

RECEIPTS:		AMOUNT	PAYMENTS:		AMOUNT
To *Opening Balance :*			By Civil Work		58,72,880.00
Cash in Hand					
Cash at Bank	16,762.00	16,762.00	By P O L		90,737.00
To Grant-in-Aid		62,45,229.00	By Bank charges		95.00
To Interest re ceived		7,920.00	By Royalty		13,632.00
To Royalty		13,632.00	By Vat		16,413.00
To Vat		16,413.00	By Labour Cess		58,728.00
To Labour Cess		58,728.00			
			By Closing Balance :		
			Cash in Hand		
			Cash at Bank	3,06,199.00	3,06,199.00
		63,58,684.00			**63,58,684.00**

In terms of our report of even date.

FOR MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(13) PAYI MHP

RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

RECEIPTS:		AMOUNT	PAYMENTS:		AMOUNT
To *Opening Balance :*			By Bank charges		20.00
Cash in Hand	-				
Cash at Bank	19,685.00	19,685.00	By Fund Transfer to APSTC&T		12,745.00
To Interest re ceived		284.00			
			By Closing Balance :		
			Cash in Hand		
			Cash at Bank	7,204.00	7,204.00
		19,969.00			**19,969.00**

In terms of our report of even date.

FOR MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(14) PYANI MHP

RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

RECEIPTS:		AMOUNT	PAYMENTS:		AMOUNT
To *Opening Balance :*			By Bank charges		95.00
Cash in Hand	-				
Cash at Bank	1,39,197.00	1,39,197.00	By T A Advance (T.Sherap)		30,000.00
			By T A		17,600.00
To Interest re ceived		5,918.00			
			By Closing Balance :		
			Cash in Hand		
			Cash at Bank	97,420.00	97,420.00
		1,45,115.00			**1,45,115.00**

In terms of our report of even date.

FOR MUKESH PARIK & Co.
Chartered Accountants

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(15) SAKTHANG RONG MHP

RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

RECEIPTS:		AMOUNT	PAYMENTS:		AMOUNT
To *Opening Balance :*			By Civil Work		9,44,284.00
Cash in Hand	-				
Cash at Bank	81,442.00	81,442.00	By Bank charges		95.00
To Grant-inAid Received from State Govt.		9,75,000.00	By Labour Cess		9,443.00
To Interest re ceived		8,049.00			
To Labour Cess		9,443.00			
			By Closing Balance :		
			Cash in Hand		
			Cash at Bank	1,20,112.00	1,20,112.00
		10,73,934.00			**10,73,934.00**

In terms of our report of even date.

FOR MUKESH PARIK & Co.
Chartered Accountants

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(16) AGRO FORESTRY

RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

RECEIPTS:		AMOUNT	PAYMENTS:	AMOUNT
To *Opening Balance :*			By Salary	1,74,167.00
Cash in Hand	-			
Cash at Bank	92,13,929.00	92,13,929.00	By Civil Works	8,26,905.00
To Interest re ceived		2,62,549.00	By Transferred to …	84,93,662.00
To POL (Cheque cancelled)		36,000.00	By Transferred to APSTC	17,683.00
To Vat		37,153.00	By Bank charges	61.00
			By Vat	37,153.00
			By Closing Balance :	
			Cash in Hand	
			Cash at Bank -	-
		95,49,631.00		**95,49,631.00**

In terms of our report of even date.

FOR MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. North Lakhimpur CHARTERED ACCOUNTANTS FRN 328425E M NO 306251

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(17) STATE PLAN SCHEME

RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

RECEIPTS:		AMOUNT	PAYMENTS:		AMOUNT
To *Opening Balance :*			By P O L		2,21,450.00
Cash in Hand	-				
Cash at Bank	2,22,429.00	2,22,429.00			
To Interest re ceived		3,127.00			
			By Closing Balance :		
			Cash in Hand		
			Cash at Bank	4,106.00	4,106.00
		2,25,556.00			**2,25,556.00**

In terms of our report of even date.

FOR MUKESH PARIK & Co.
Chartered Accountants

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

MUKESH PARIK & CO.
Chartered Accountants
Mukesh Kumar Parik,FCA

North Lakhimpur.
Ph.No.9957207048(M)

ARUNACHAL PRADESH STATE COUNCIL FOR SCIENCE & TECHNOLOGY
ESS SECTOR, MAUNG-PHI COMPLEX, ITANAGAR.

(18) IMPROVING TRADITIONAL WATER MILL PROJECT

RECEIPTS AND PAYMENT ACCOUNT FOR THE YEAR ENDED ON 31.03.2018

RECEIPTS:		AMOUNT	PAYMENTS:	AMOUNT
To *Opening Balance :*			By Salary	18,000.00
Cash in Hand	-			
Cash at Bank	3,46,406.00	3,46,406.00	By Transfer of Fund	3,76,086.00
To Interest re ceived		8,457.00	By Bank charges	37.00
To Labour Cess		39,260.00		
			By Closing Balance :	
			Cash in Hand	
			Cash at Bank	-
		3,94,123.00		**3,94,123.00**

In terms of our report of even date.

FOR MUKESH PARIK & Co.
Chartered Accountants

MUKESH PARIK & CO. * CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 * North Lakhimpur

Mukesh Kr Parik,FCA
(Proprietor)
M.NO. 306251
FRN-328425E

Date : 01/06/2020
Place:North Lakhimpur

BANK RECONCILIATION STATEMENT

FOR THE YEAR ENDED 31ST MARCH-2018

(1) SURVEY & INVESTIGATION

ACCOUNT NO. 880101010006051 (Vijaya Bank)

Bank Balance as per Cash Book					17,951.00
Add:- Cheque issued but not presented into the bank before 31/03/18					
Sl.No.	CB Folio No.	CHQ. No.	Date.	Amounts	
1	2	141402	04.07.2017	1,74,000.00	
					1,74,000.00
					1,91,951.00

Add : Difference in Amount as per Cash Book and as per Pass Book :

CHQ. No.	Date.	Cash Book Amount	Pass Book Amount	Difference

Bank Balance as per pass Book	**1,91,951.00**

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

BANK RECONCILIATION STATEMENT

FOR THE YEAR ENDED 31ST MARCH-2018

(2) INFRASTRUCTURE DEVELOPMENT OF SCIENCE & TECHNOLOGY

ACCOUNT NO. 880101010006051 (Vijaya Bank)

Bank Balance as per Cash Book -

Add:- Cheque issued but not presented into the bank before 31/03/18

Sl.No.	CB Folio No.	CHQ. No.	Date.	Amounts
				-
				-

Add : Difference in Amount as per Cash Book and as per Pass Book :

CHQ. No.	Date.	Cash Book Amount	Pass Book Amount	Difference
				-

Bank Balance as per pass Book -

BANK RECONCILIATION STATEMENT

FOR THE YEAR ENDED 31ST MARCH-2018

(3) DBT TERI DNA CLUB

ACCOUNT NO. 50395805627 (Allahabad Bank)

Bank Balance as per Cash Book	4,96,983.00

Add:- Cheque issued but not presented into the bank before 31/03/18

Sl.No.	CB Folio No.	CHQ. No.	Date.	Amounts
				-
				4,96,983.00

Add : Difference in Amount as per Cash Book and as per Pass Book :

CHQ. No.	Date.	Cash Book Amount	Pass Book Amount	Difference
				-

Bank Balance as per pass Book	**4,96,983.00**

MUKESH PARIKH & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

BANK RECONCILIATION STATEMENT

FOR THE YEAR ENDED 31ST MARCH-2018

(4) SCIENCE CENTRE

ACCOUNT NO. 3116 (Vijaya Bank)

Bank Balance as per Cash Book						1,05,86,423.00
Add:- Cheque issued but not presented into the bank before 31/03/18						
Sl.No.	CB Folio No.	CHQ. No.	Date.	Amounts		
1	13	717588	24.04.2017	5,220.00		
2	134	942303	28.03.2018	71,036.00		76,256.00
						1,06,62,679.00
Add : Difference in Amount as per Cash Book and as per Pass Book :						
CHQ. No.	Date.	Cash Book Amount	Pass Book Amount	Difference		
398077	03.06.2015	4,813.00	4,812.00	1.00		
						1.00
						1,06,62,680.00
Less : Excess Cheque 074357 dated 10.06.2015				2,932.00		
Execss Cheque 570973 dated 23.05.2015				940.00		
Execss Cheque 570973 dated 23.05.2015				200.00		4,072.00
Bank Balance as per pass Book						**1,06,58,608.00**

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

BANK RECONCILIATION STATEMENT

FOR THE YEAR ENDED 31ST MARCH-2018

(5) A.P.STATE COUNCIL FOR SCIENCE & TECHNOLOGY (NEW)

ACCOUNT NO. 3435101004066 (Canara Bank)

Bank Balance as per Cash Book	3,13,936.00

Add:- Cheque issued but not presented into the bank before 31/03/18

Sl.No.	CB Folio No.	CHQ. No.	Date.	Amounts	
1	28	299744		936.00	
					936.00
					3,14,872.00

Add : Difference in Amount as per Cash Book and as per Pass Book :

CHQ. No.	Date.	Cash Book Amount	Pass Book Amount	Difference	
					-
					3,14,872.00

Less :

Bank Balance as per pass Book	**3,14,872.00**
	-

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 Nirmal Lakshmipur

BANK RECONCILIATION STATEMENT

FOR THE YEAR ENDED 31ST MARCH-2018

(6) SCIENCE & TECHNOLOGY

ACCOUNT NO. 880101010004108 (Vijaya Bank)

Bank Balance as per Cash Book 4,14,89,062.10

Add:- Cheque issued but not presented into the bank before 31/03/18

Sl.No.	CB Folio No.	CHQ. No.	Date.	Amounts	
1		540291	27.05.2011	1,275.00	
2		618751	02.04.2014	37,716.00	
3		614931	05.10.2015	15,000.00	
4		618982	17.08.2016	400.00	
5		650052	19.03.2018	15,000.00	
6		650062	28.03.2018	48,944.00	
7		650063	28.03.2018	13,059.00	
8		650066	28.03.2018	4,35,732.00	
9		650068	29.03.2018	1,23,900.00	
10		442276	14.02.2018	35,253.00	7,26,279.00
					4,22,15,341.10

Add / Less : Bank charges not written in cash book -

Add : Difference in Amount as per Cash Book and as per Pass Book :

CHQ. No.	Date.	Cash Book Amount	Pass Book Amount	Difference	
65076	28.06.2013	2,06,970.00	2,07,000.00	30.00	
531079	07.09.2007	10,878.00	10,653.00	(225.00)	
540255	01.04.2011	63,898.00	63,895.00	(3.00)	
652012	27.09.2013	6,05,012.00	5,81,742.00	(23,270.00)	
574991	16.03.2013	37,254.00	37,253.00	(1.00)	
Difference in sweep interest				28.00	(23,441.00)
Calculation mistake in the month of February 2018					100.00
Add / Less : Bank charges not written in Cash Book					0.10

Bank Balance as per pass Book **4,21,92,000.20**

MUKESH PARIKH & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

BANK RECONCILIATION STATEMENT

FOR THE YEAR ENDED 31ST MARCH-2018

(7) WATER TECHNOLOGY INITIATIVE PROJECT

ACCOUNT NO. 880101010001848 (Vijaya Bank)

Bank Balance as per Cash Book	2,606.00

Add:- Cheque issued but not presented into the bank before 31/03/18

Sl.No.	CB Folio No.	CHQ. No.	Date.	Amounts	
					-
					2,606.00

Add : Difference in Amount as per Cash Book and as per Pass Book :

CHQ. No.	Date.	Cash Book Amount	Pass Book Amount	Difference	
					-

Bank Balance as per pass Book	**2,606.00**

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306261 North Lakhimpur

BANK RECONCILIATION STATEMENT

FOR THE YEAR ENDED 31ST MARCH-2018

(8) THONGLENG RONG MHP

ACCOUNT NO. 880101010002064 (Vijaya Bank)

Bank Balance as per Cash Book	3,11,046.00

Add:- Cheque issued but not presented into the bank before 31/03/18

Sl.No.	CB Folio No.	CHQ. No.	Date.	Amounts
				-
				3,11,046.00

Add : Difference in Amount as per Cash Book and as per Pass Book :

CHQ. No.	Date.	Cash Book Amount	Pass Book Amount	Difference
				-

Bank Balance as per pass Book	**3,11,046.00**

MUKESH PARIKH & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306281 North Lakhimpur

BANK RECONCILIATION STATEMENT

FOR THE YEAR ENDED 31ST MARCH-2018

(9) KODAK MHP

ACCOUNT NO. 8801010100112853 (Vijaya Bank)

Bank Balance as per Cash Book	2,40,832.00
Add:- Cheque issued but not presented into the bank before 31/03/18	

Sl.No.	CB Folio No.	CHQ. No.	Date.	Amounts
				-
				2,40,832.00
Less : Cheque issued Rs. 27,111/- instead of Rs. 24,273/- vide cheque No. 118433 dated 18.06.2008				(2,838.00)
Bank Balance as per pass Book				**2,37,994.00**

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 308251 North Lakhimpur

BANK RECONCILIATION STATEMENT

FOR THE YEAR ENDED 31ST MARCH-2018

(10) SIRU RIJU MHP

ACCOUNT NO. 50396816210 (Allahabad Bank)

Bank Balance as per Cash Book -

Add:- Cheque issued but not presented into the bank before 31/03/18

Sl.No.	CB Folio No.	CHQ. No.	Date.	Amounts
				-

-

Bank Balance as per pass Book -

-

-

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M.NO 308251 North Lakhimpur

BANK RECONCILIATION STATEMENT

FOR THE YEAR ENDED 31ST MARCH-2018

(11) MICRO HYDEL PROJECT

ACCOUNT NO. 379010100041292 (Axis Bank)

Bank Balance as per Cash Book				1,11,958.00
Add:- Cheque issued but not presented into the bank before 31/03/18				
Sl.No.	CB Folio No.	CHQ. No.	Date.	Amounts
				-
				1,11,958.00
Bank Balance as per pass Book				**1,11,958.00**

MUKESH PARIKH & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 308251 North Lakhimpur

BANK RECONCILIATION STATEMENT

FOR THE YEAR ENDED 31ST MARCH-2018

(12) DORI MHP

ACCOUNT NO. 880101011003625 (Vijaya Bank)

Bank Balance as per Cash Book		3,06,199.00
Add:- Cheque issued but not presented into the bank before 31/03/18		
Sl.No. CB Folio No. CHQ. No. Date. Amounts		-
		3,06,199.00
Less : Cheque issued Rs. 88,456/- instead of Rs. 88,469/- vide Cheque No. 696966 dtd. 29.04.2016 (Cash Book No. 46)		13.00
Bank Balance as per pass Book		**3,06,212.00**

MUKESH PARIWAL & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

BANK RECONCILIATION STATEMENT

FOR THE YEAR ENDED 31ST MARCH-2018

(13) PAYI MHP

ACCOUNT NO. 880101011002062 (Vijaya Bank)

Bank Balance as per Cash Book					7,204.00
Add:- Cheque issued but not presented into the bank before 31/03/18					
Sl.No.	CB Folio No.	CHQ. No.	Date.	Amounts	
				-	
					7,204.00
Less :	Excess Cheque issued Rs. 1,76,515/- instead of Rs. 1,69,311/- vide Cheque No.577320 dtd. 02.07.2013				(7,204.00)
Bank Balance as per pass Book					-

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MUKESH PARIKH & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

BANK RECONCILIATION STATEMENT

FOR THE YEAR ENDED 31ST MARCH-2018

(14) PYANI MHP

ACCOUNT NO. 880101011002061 (Vijaya Bank)

Bank Balance as per Cash Book 97,420.00

Add:- Cheque issued but not presented into the bank before 31/03/18

Sl.No.	CB Folio No.	CHQ. No.	Date.	Amounts	
1	3	705949	30.04.2014	18,786.00	18,786.00
					1,16,206.00

Less :

Bank Balance as per pass Book **1,16,206.00**

MUKESH PARIK & CO.
CHARTERED ACCOUNTANTS
FRN 328425E
M NO 306251
North Lakhimpur

BANK RECONCILIATION STATEMENT

FOR THE YEAR ENDED 31ST MARCH-2018

(15) SAKTHANG RONG MHP

ACCOUNT NO. 880101011002063 (Vijaya Bank)

Bank Balance as per Cash Book 1,20,112.00

Add:- Cheque issued but not presented into the bank before 31/03/18

Sl.No.	CB Folio No.	CHQ. No.	Date.	Amounts
				-

1,20,112.00

Less :

Bank Balance as per pass Book **1,20,112.00**

MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

BANK RECONCILIATION STATEMENT

FOR THE YEAR ENDED 31ST MARCH-2018

(16) AGRO FORESTRY

ACCOUNT NO. 881010101011006055 (Vijaya Bank)

Bank Balance as per Cash Book -

Add:- Cheque issued but not presented into the bank before 31/03/18

Sl.No.	CB Folio No.	CHQ. No.	Date.	Amounts

-

-

Less :

Bank Balance as per pass Book -

-

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MUKESH PARIK & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur

BANK RECONCILIATION STATEMENT

FOR THE YEAR ENDED 31ST MARCH-2018

(17) STATE PLAN SCHEME

ACCOUNT NO. 912010012240367 (Axis Bank)

Bank Balance as per Cash Book 4,106.00

Add:- Cheque issued but not presented into the bank before 31/03/18

Sl.No.	CB Folio No.	CHQ. No.	Date.	Amounts
1	26	97321	10.02.2014	740.00
2	31	97326	10.07.2014	51,195.00
				51,935.00
				56,041.00

Less :

Bank Balance as per pass Book **56,041.00**

MUKESH PARIKH & CO. CHARTERED ACCOUNTANTS FRN 328425E M NO 306251 North Lakhimpur