

# Annual Report

## 2022 - 2023



Manipur Science & Technology Council

Science & Technology Complex, Takyelpat, Imphal-795001

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**ANNUAL ACTIVITY REPORT FOR THE YEAR 2022-2023**  
**OF**  
*MANIPUR SCIENCE & TECHNOLOGY COUNCIL*



*Submitted to*

**SSTP Division,**  
**Department of Science & Technology, Government of India,**  
**Ministry of Science & Technology,**  
**New Mehrauli Road, New Delhi-110016**

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## **1.0 Background**

The Manipur Science & Technology Council (MASTEC) formerly, State Council of Science, Technology and Environment, Manipur was set up in the year 1985 with the initiatives from the Department of Science and Technology, Government of Manipur. The Council got registered as an autonomous organisation of the Department of Science & Technology, Government of Manipur in January 1996 under the Manipur Societies Registration Act, 1989.

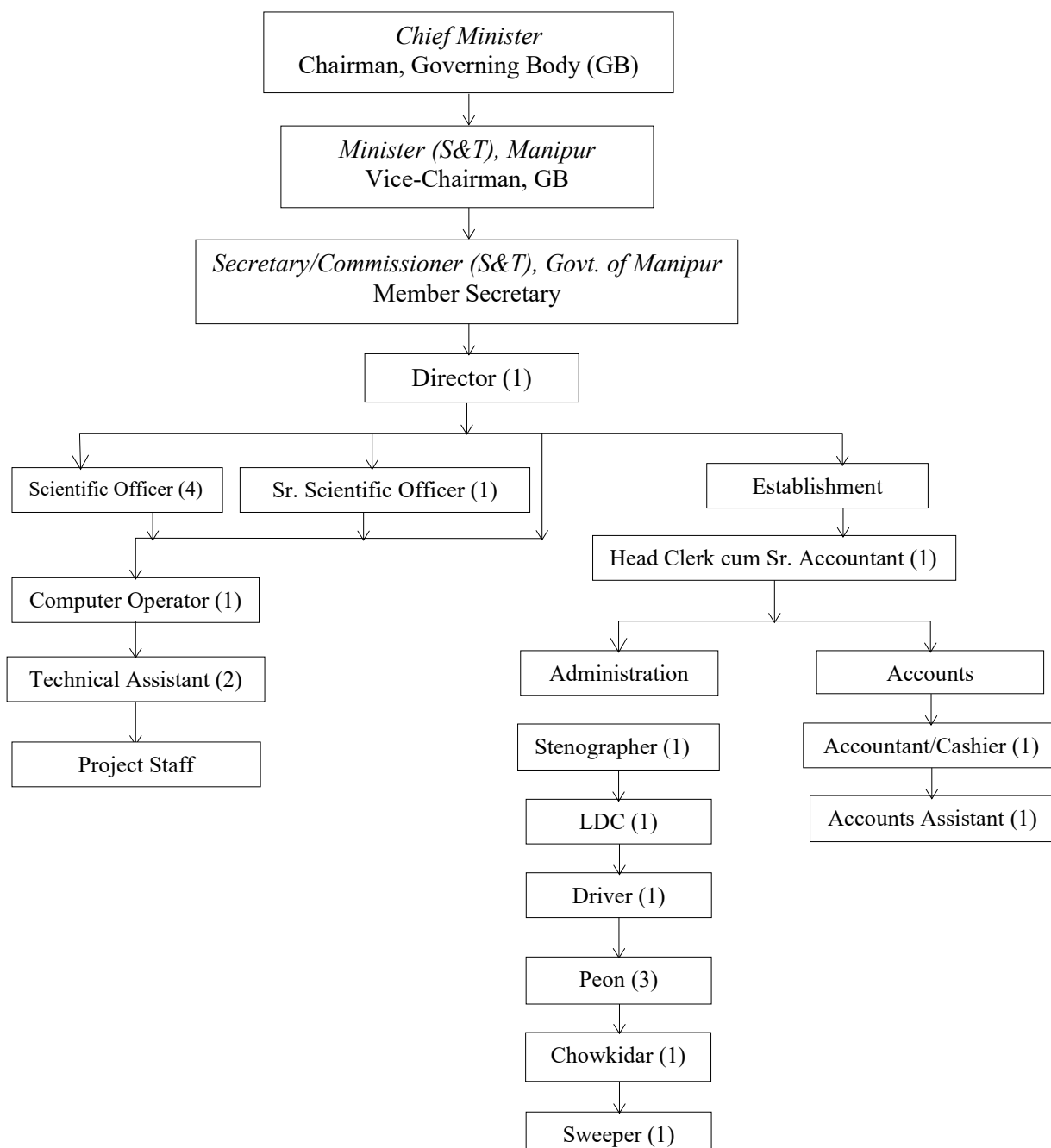
The autonomous Council is served by its own Secretariat of twenty-man powers supported by the Department of Science and Technology (DST), Government of India. The Council Secretariat operates with the grants received from DST, Government of India, DST, Government of Manipur and the funds received from various agencies through projects and programmes. The Council works in co-ordination with the State Directorate of S&T in various areas of activities.

### **1.1 Objectives of the Council**

- To identify areas in which Science, Technology and Environment can be utilised for the achievement of the Socio-economic objectives of the State and in particular, tackling the problems of backwardness and underprivileged sections of Society;
- To advise on policies and measures necessary to promote Science, Technology and Environment and their utilisation for achievement of socio-economic objectives;
- To initiate, support, promote and co-ordinate Research Design and Development projects and programmes, including demonstration projects which are likely to be relevant to the problems, surveys and optimum utilisation of natural resources of the State;
- To promote and undertake activities for the popularisation of Science and Technology and the spread of a Scientific Temper and attitude among the people of the State;
- To supplement and complement the ongoing technical efforts of the State Government;
- To interact with other State, National and International S&T bodies having similar or related objectives;
- To identify priority areas of Science & Technology for long term development of the State;
- To promote, support and undertake the application of renewable sources of energy for the benefit of the people;
- To accept donations and receive grants, and subsidies from Government of India, Government of Manipur and other supportive agencies and to invest the resources towards the achievement of the objectives of the Council.

## 1.2 Organisation

The Council has a Governing Body which consists of a wide distribution of members having expertise in various fields, with the Chief Minister as the Chairman, and the Minister in charge, S&T, Manipur as the Vice Chairman. The Council has an Executive Committee to assist the activities towards achieving the objectives of the Council. The Vice- Chairman of the Governing Body of the Council heads the Executive Committee as its Chairman. The Secretary/Commissioner (S&T), Government of Manipur is the Member Secretary of the Council. The Member Secretary is the Chief Executive of the Council Secretariat. The organisation chart is shown below.



### 1.3 Existing Staff

#### Scientific Staff:

Sl. No	Name	Qualification	Designation
1.	Dr. L. Minaketan Singh	M.Sc., PGDRS, Ph.D., Foundation Training of Scientists/Technologists (DST, GoI. Sponsored)	Director
2.	Dr. Kh. Rakesh	M.Sc., Ph.D.	Sr. Scientific Officer
3.	Er. Ch. Sarat Singh	B.Tech., M.Tech. (Civil)	Scientific Officer
4.	Dr. R.K. Pritamjit Singh	M.Sc., Ph.D.	Scientific Officer
5.	Dr. Ch. Shivaji	M.Sc., PGDCA, Ph.D.	Scientific Officer

#### Technical Staff:

6.	Mrs. H. Binodini Devi	B.Sc.	Technical Assistant
7.	Y. Shyamsunder Singh	B.Sc., LLB	Technical Assistant

#### Ministerial Staff:

8.	R.K. Bhanisana Devi	B.Sc.	Sr. Accountant cum Head Clerk
9.	H. Thangthianmang	B.A.	U.D.C./Accountant
10.	L. Ronel Singh	M.Com.	Accounts Assistant
11.	L. Boyai Singh	VIII	Driver
12.	L. Open Singh	X	Peon
13.	S. Devendra Singh	X	Peon
14.	Jamkhanmuan	VIII	Peon (Dak Runner)
15.	Chingthanching	VIII	Chowkidar
16.	Kh. Leidou Maring	VIII	Sweeper

#### Project Staff:

17.	L. Surjit Singh	M.Sc. PGDCA	J.R.F. (PIC)
18.	S. Sanjay Singh	XII -Sc.	Attendant cum watchman
19.	H. Sanjay Singh	X	Attendant cum watchman
20.	T Siampu	VIII	Attendant cum watchman

### 2.0 Short-term Activities including Science Popularisation

The Manipur Science and Technology Council (MASTEC) organised various state and centrally sponsored workshops/trainings relevant to the state including science popularisation to fulfil the objectives for establishment of the Council. The following were the short-term programmes implemented during the year 2022- 2023.

## 2.1 Celebration of National Mathematics Day 2022

The National Mathematics Day 2022 was celebrated for one day on December 22, 2022, followed by a number of activities during January 14-17, 2023, Imphal. A series of lecture was also conducted on the theme “Importance of Mathematics in Day-to-Day Life” at selected schools in the districts of Manipur during February-March 2023. The programme was catalysed and supported by NCSTC, Department of Science & Technology, Government of India, New Delhi



*Lecture on Life & Works of S. Ramanujan in the Celebration of National Mathematics Day 2022*

The main activity of the 1-day programme organised on December 22, 2022 included Lecture-cum-interaction and Mathematics Written Quiz Competition for students of Class IX-XII. Smt. Homila Hongrei, Director, Department of Science & Technology, Govt. of Manipur, Prof. S. Dorendrajit Singh, Dept. of Physics, Manipur University and Dr. L. Minaketan Singh, Director, MASTEC were the Chief Guest, Guest of Honour and President of the Celebration respectively. In his speech Dr. L. Minaketan Singh, Director, MASTEC highlighted the objectives of Celebration of National Mathematics Day. Prof. S. Dorendrajit Singh, Physics Dept., Manipur University delivered a lecture on Life and Works of the Great Indian Mathematician, Srinivasa Ramanujan. Smt. Homila Hongrei, Director, Dept. of Science & Technology, Govt. of Manipur mentioned that such programmes will help motivate the tribal students of hill Districts. About 500 students participated in the Celebration.



*Mathematics Written competition 2022*

### Mathematics Written Quiz

Altogether 220 students from different schools from all over the State took part in the said mathematics Quiz. The following were the winners of Mathematics Quiz Competition held on December 22, 2022.

Position	Name of the Winners	Class	Name of the School
First	Maibam Nareshwar Singh	X	ADL English School
Second	Bidyachandra Huidrom	X	The K.M. Blooming Hr. Sec. School, Khangabok
Third	Paree Taorem	X	Jawahar Navodaya Vidyalaya, Khumbong
<b>Consolations</b>			
1	Nepoliyan Thokchom	IX	The K.M. Blooming Hr. Sec. School, Khangabok
2	Kelvin Singh Naorem	X	Diligent Public School, Moirang

## Continuing activity

As continuing activity of National Mathematics Day celebration, a 4-day multi activity programme was held during January 14-17, 2023 at MASTEC Complex, Imphal. The programme was inaugurated by Hon'ble Minister (Science & Technology), Manipur Shri Th. Biswajit Singh in the presence of Shri M. Yaikul Meitei, IAS, Commissioner (Science & Technology), Govt. of Manipur, Smt Homila Hongrei, Director, Dept. of Science & Technology, Govt. of Manipur and Dr. L. Minaketan Singh, Director, MASTEC. The main features of the programme were Mathematics Model Exhibition-cum-Competition, Mathematics Competition and Hands on activities (Origami).



*Students attending lecture on mathematics*



*Student Exhibitors displaying their Mathematics Models*

## Mathematics Model Exhibition

The competition was organised for students reading in Class VIII – XII. Altogether forty-two Mathematics Models were exhibited by students from different schools. The following were the winners of the Science Model Competition.

Position	Name	Class	School	Model Title
1 <sup>st</sup>	Longjam Bengkof	IX	St. George High School, Wangkhei	Clinometers
2 <sup>nd</sup>	Irashini Laiphprakpam	IX	Diligent Public School, Moirang	DECI-BIN Calculator
3 <sup>rd</sup>	Sapam Pibarel Meitei	IX	K.M. Blooming Hr. Sec. School, Khangabok	To find the value of HCF and LCM
<b>Consolations</b>				
1.	Nongyai Keisham Meitei	IX	St. George High School, Wangkhei	Smart Study & Maths Visualizer App
2.	Nevidita Phairembam	IX	Diligent Public School, Moirang	Square of 5 Ending Numbers

## Best Guide Teacher

Shri Oinam Ibochou Singh, St. George High School, Wangkhei was given the Best Guide Teacher Award

## Mathematics Competition

The Mathematics Competition was organized for students of different classes viz., Class



-III, Class- IV, Class -V, Class- VI, Class- VII and Class -VIII. Altogether 1350 students from different schools (both valley and hills) participated in the competition. The following were the winners of the competition.

**Class III:**

Position	Name of the Winners	Name of School
1 <sup>st</sup>	Khundrakpam Preetina Devi	K.M. Blooming Hr. Sec. School, Khangabok
2 <sup>nd</sup>	Laishram Juvaraj Singh	K.M. Blooming Hr. Sec. School, Khangabok
3 <sup>rd</sup>	Changkhonbi Leimapokpam	Catholic School, Canchipur
<b>Consolation</b>		
1	Umakanta Thokchom	K.M. Blooming Hr. Sec. School, Khangabok
2	Khundrakpam Kelvin Singh	K.M. Blooming Hr. Sec. School, Khangabok

**Class IV:**

Position	Name of the Winners	Name of School
1 <sup>st</sup>	Paritosh Rajput	Assam Rifles Public School, Mantripukhri, Imphal
2 <sup>nd</sup>	Adarsh Sapam	K.M. Blooming Hr. Sec. School, Khangabok
3 <sup>rd</sup>	Rudraneel Mallik	Assam Rifles Public School, Mantripukhri, Imphal
<b>Consolation</b>		
1	Bolex Thokchom	K.M. Blooming Hr. Sec. School, Khangabok
2	Laishram Ronjina Devi	K.M. Blooming Hr. Sec. School, Khangabok

**Class V:**

Position	Name of the Winners	Name of School
1 <sup>st</sup>	Abethoi Sagolsem	Modern Academy, Imphal East
2 <sup>nd</sup>	Laishram Albert Sana Singh	K.M. Blooming Hr. Sec. School, Khangabok
3 <sup>rd</sup>	Yaingamba Nandeibam	Rama Krishna Mission School, Imphal West
<b>Consolation</b>		
1	Basista Moirangthem	K.M. Blooming Hr. Sec. School, Khangabok
2	Ningthoujam Bobo Meetei	K.M. Blooming Hr. Sec. School, Khangabok

**Class VI:**

Position	Name of the Winners	Name of School
1 <sup>st</sup>	Moirangthem Yaiphaba	K.M. Blooming Hr. Sec. School,

		Khangabok
2 <sup>nd</sup>	Roshan Khundrakpam	K.M. Blooming Hr. Sec. School, Khangabok
3 <sup>rd</sup>	Laishram Satish Singh	K.M. Blooming Hr. Sec. School, Khangabok
<b>Consolation</b>		
1	Lamjingba Loushambam	Ningombam Junior High School, Thoubal
2	Henjit Khundrakpam	K.M. Blooming Hr. Sec. School, Khangabok

Class VII:

Position	Name of the Winners	Name of School
1 <sup>st</sup>	Soibam Aron Singh	Tiny Tots' Unique School, Imphal
2 <sup>nd</sup>	Linthoi Thongam	Wisdom Foundation, Khangabok
3 <sup>rd</sup>	Dhanachandra Ngariyanbam	Regular English High School, Kwakeithel
<b>Consolation</b>		
1	Alistair Limbu	Ramakrishna Mission School, Imphal
2	Chabungbam Pakhangba Meitei	Pitambara English School, Kwakeithel

Class VIII:

Position	Name of the Winners	Name of School
1 <sup>st</sup>	Shoibam Apson	Unacco School, Khongman
2 <sup>nd</sup>	Denison Moirangthem	K.M. Blooming Hr. Sec. School, Khangabok
3 <sup>rd</sup>	Moirangthem Windeet Singh	K.M. Blooming Hr. Sec. School, Khangabok
<b>Consolation</b>		
1	Ningthoujam Mangalsana	K.M. Blooming Hr. Sec. School, Khangabok
2	Mangalthoiba Khundongbam	K.M. Blooming Hr. Sec. School, Khangabok

### Hands on Activities (Origami)

Mathematical demonstration (Origami) was one of the activities of Celebration of National Mathematics Day 2022. About 30 (thirty) Mathematical items were demonstrated followed by interaction by two Resource Persons, Shri N. Shyamkishore Singh of Science Teachers Forum, Manipur and Dr. Oinam Arunkumari Devi, Lecturer, Lilong Higher Secondary School, Lilong.

### Prize Distribution Function

Prizes for various competitions of Celebration of National Mathematics Day 2022



*Book releasing function*

were distributed on the 17<sup>th</sup> January 2023 with a function with Shri M. Yaikul Meitei, IAS, Commissioner (Science & Technology), Govt. of Manipur, Smt. Homila Hongrei, Director, Dept. of Science & Technology, Govt. of Manipur and Dr. L. Minaketan Singh, Director, MASTEC as dignitaries on the Dias. A science book written by Dr. O. Joychandra Singh, Consultant, Shija Academy of Health Sciences, Imphal was released.

### Mathematics Lecture Series

Most of the students particularly the hill district students think that Mathematics is a very tough subject and after their 10<sup>th</sup> exam they try to avoid Mathematics. With an objective to remove this misconception from the mindset of the students to certain extent, A series of lecture was organised on the topic “**Importance of Mathematics in Day-to-Day Life**” as a continuing activity of Celebration of National Mathematics Day 2022 at 15 (fifteen) different schools in Manipur including hill districts during February-March 2023. Shri S. Jugeshwor Singh, Assistant Professor, JCRE Global University, Imphal was engaged as Resource Person to deliver Lecture Series at the following schools.



*Outreach activity- Lecture in schools in rural areas/districts*

S. No.	Name of the School
1.	Eminent English School, Khoijuman, Bishnupur District
2.	Diligent Public School, Moirang, Bishnupur District
3.	Victory High School, Kakching, Kakching District
4.	Sophia English School, Thoubal Okram, Thoubal District
5.	Toupokpi Govt. High School, Toupokpi, Chandel District
6.	Chakpi Karong Govt. Higher Secondary School, Chakpikarong, Chandel District
7.	Wunghon Govt. High School, Ukhrul, Ukhrul District
8.	Emanuel English School, Yaingnagpokpi, Imphal East District
9.	Ram Krishna Mission School, Uripok, Imphal West District
10.	S.K. Ideal High School, Ngairangbam, Imphal West District
11.	Renkai Govt. Higher Secondary School, Churachandpur, Churachandpur District
12.	Vimala Raina Govt. High School, New Lamka, Churachandpur District
13.	Sharon English School, Longmai, Noney District
14.	Children’s Training School, Noney, Noney District
15.	Phuba Govt. High School, Phuba Khuman, Senapati District

## 2.2 Celebration of National Science Day 2023

MASTEC, in association with four science NGOs namely, Science Teachers’ Forum Manipur (STFM), Manipur Association for the Promotion of Science (MAPS), Manipur Science Communicators' Association (MASCA) and Generation De New Image (GENIM) organised a 5-day Celebration of National Science Day 2023 during February 28 - March 4, 2023 at MASTEC Complex, Takyelpat, Imphal. The programme was catalysed and supported by National Council for Science & Technology Communication (NCSTC), Department of Science &

Technology, Government of India, New Delhi. The theme for National Science Day 2023 was “**Global Science for Global Wellbeing**”. The programme was inaugurated by Hon’ble Minister (Science & Technology) Manipur, Shri Th. Biswajit Singh in the presence of Prof. N. Rajmuhon Singh, Vice Chancellor, Dhanamanjuri University, Imphal, Shri M. Yaiskul Meitei, IAS, Commissioner (Science & Technology), Govt. of Manipur and Dr. L. Minaketan Singh, Director, Manipur Science & Technology Council, Imphal.

### Activities of National Science Day 2023 Celebration

The activities of National Science Day 2023 Celebration included Science Short Play competition (Class VI-XII), Science Model Exhibition-cum-competition (Class VIII–XII Science), Science Quiz (Class IX–XII Science), Spot Painting competition in three categories (Sub-junior: Class III-V, Junior: Class VI-VIII & Senior Class IX-XII Science), Declamation Contest (Class IX–XII Science), Best Appreciation Award (Open) and Best Guide Teacher Award for Science Model, etc. Apart from competitions for students/teacher, activities such as Innovators’ Exhibition, Science Behind Miracles Show, Hands on Experiments, Online interaction of students with Scientists from Manipur origin working in reputed R&D Institutions in India outside Manipur were organised in the Celebration of National Science Day 2023.

### Science Short Play Competition

The competition was organised for the students reading in Class VI-XII Science. The number of students per team was limited to 8 (eight) from the same school and the time duration for a Play was limited to 30 minutes. Altogether 12 (twelve) teams from 10 (ten) Schools participated in the competition. The result of the Science Short Play Competition of National Science Day 2023 Celebration was as given below:

Position	Name of the Team	School
First	Keithelakpam Prinson Singh & Party	Model Hr. Sec. School, Imphal
Second	Jeson & Party	Wangkhei High School, Imphal
Third	Bidya & Party	JNV, Yaralpat

### Science Model Competition & Exhibition

The competition was organised for students reading in Class VIII – XII. A single student or a team of two students from the same school were allowed to participate in the model exhibition and display an Exhibit Model. Altogether seventy-four Science models were exhibited by 98 students from different schools of the State. The following were the winners of the Science Model Competition of Celebration of National Science Day 2023.



*Hon’ble Minister (S&T), Manipur seeing students’ science exhibition*

Position	Name	Class	School	Model Title
1 <sup>st</sup>	Rishita Athokpam	IX	JNV, Yaralpat	Smart Village
2 <sup>nd</sup>	T.M. Ashma-UI-Nisha	IX	Manipur Creative School	Cutting Vegetable Machine
3 <sup>rd</sup>	Yengkhom Jessica Devi	X	Brighter Academy Khumbong	Holographic Image for Effective Learning

<b>Consolations</b>				
1.	St. Catharine Anal Hranglin Torina Anal	IX IX	Toupokpi High School, Toupokpi	To Ripen Green Banana by Artificial method
2.	Tashiya Lukram	VIII	Maria Montessori Sr. Sec. School, Koirengei	Lightning Conductor

### **Best Guide Teacher**

The **Best Guide Teacher Award** for the Science Model Competition in recognition of the guide teachers in developing and designing the science model for the competition was awarded to Bisheshwari Kshetrimayum, Post Graduate Teacher (Science), Jawahar Navodaya Vidyalaya, Yarangpat, Imphal East for guiding the model entitled “Smart Village.”

### **Science Quiz Competition**

The competition was organised for students reading in Class IX-XII Science. Altogether ninety-six teams comprising of two students from the same school from 74 schools were enrolled for the competition. Three teams were selected for the final round through a preliminary written test. The following were the winners of the final round Science Quiz competition.

<b>Position</b>	<b>Name of the Winners</b>	<b>Class</b>	<b>Name of the School</b>
<b>First</b>	Chinneikim Khongsai	XI	Jawahar Navodaya Vidyalaya, Yarangpat, Imphal East
	Ashita Nongthombam	XI	
<b>Second</b>	Paree Taorem	XI	Jawahar Navodaya Vidyalaya, Khumbong, Imphal West
	Laishram Yaichenba Singh	IX	
<b>Third</b>	Md. Danish Hussain	IX	Jawahar Navodaya Vidyalaya, Yarangpat, Imphal East
	G.A. Ricky Sharma	IX	

### **Online interaction of Students with Scientists of Manipur Origin working outside the State in different prestigious institutions in India**

As part of the NSD-2023 celebration, an event of online interaction of students with Manipuri Scientists working outside the state was introduced in this year’s celebration of National Science Day. Altogether 8 (eight) Scientists from different prestigious R&D institutions of India took part in the event on 2<sup>nd</sup> and 3<sup>rd</sup> March 2023. More than eighty students interacted with the scientists.

Scientists who took part in the interaction programme included:

1. Dr. L. Radhapiyari Devi, Scientist ‘F’, SSPL, New Delhi
2. Dr. Chandrakant S. Aribam, Associate Prof, IISER, Mohali
3. Dr. Ch. Debojit Singh, Deputy Director General, GSI, Jaipur, Rajasthan
4. Prof. Upendra Nongthombam, IISc, Bangalore
5. Dr. Rocky Pebam, Scientist, NESAC, ISRO, Shillong
6. Dr. Ranjan Singh, Scientist ‘G’, Atomic Energy Regulatory Board, Mumbai
7. Dr. Raghmani Singh Ningthoujam, Scientific Officer ‘G’, BARC, Mumbai
8. Prof. L. Boeing Singh, Department of Civil Engineering, IIT, Guwahati

### **Spot Painting Competition**

Spot painting competition was organized in 3 (three) categories/groups viz., i) Sub-Junior Group (Class III-V), ii) Junior Group (Class VI-VIII) and iii) Senior Group (Class IX-

X). Altogether 140 students from 82 schools, 158 students from 132 schools and 103 students from 88 schools participated in the competition of the Sub Junior, Junior and Senior Category respectively. The following was the results of the Spot Painting competition.

#### Sub-Junior Group (Class III – V)

Position	Name of the Winners	Class	Name of the School
First	Nongmaithem Korounganba	V	Heritage Convent, Imphal
Second	Chahaonu Ningombi	III	Pitambara English School, Imphal
Third	Denyson Khundrakpam	IV	Pitambara English School, Imphal
<b>Consolations</b>			
1	Parash Moirangthem	III	Heritage Convent, Imphal
2	Ningombam Pristina	IV	Lee Faith School, Imphal

#### Junior Group (Class VI – VIII)

Position	Name of the Winners	Class	Name of the School
First	Sunaina Saikhom	VII	Kendriya Vidyalaya No.1, Imphal
Second	Angela Heikrujam	VII	Kendriya Vidyalaya No.1, Imphal
Third	Kalpita Laishram	VIII	Irom Meijrao High School
<b>Consolations</b>			
1	Brikrama Lourembam	VI	The Comprehensive School, Oinam
2	Kelvin Elangbam	VII	Pitambara English School, Imphal

#### Senior Group (Class IX – XII)

Position	Name of the Winners	Class	Name of the School
First	Onia Konsam	XI	Jawahar Navodaya Vidyalaya, Yaralpat
Second	Yaikhombi Loitongbam	XI	K.V. No.1, Imphal
Third	Abinash Sairem	IX	Jawahar Navodaya Vidyalaya, Yaralpat
<b>Consolations</b>			
1	Hijam Priyobrata Meitei	X	New Public Hr. Sec. School, Khangabok
2	Diviya Ningthoujam	X	New Public Hr. Sec. School, Khangabok

#### Declamation Contest

The competition was organised for students reading in Class IX-XII Science. Seventy-four students from various schools participated in the competition. Only 15 contestants were selected for the contest through a preliminary written test. The students gave an oral presentation for 7 minutes either in English or Manipuri with Slide/Power Point Presentation on any of the four topics viz., i) Global Science for Global Wellbeing ii) Living Sustainably in Harmony with Nature iii) Science & Technology for Self-Reliant India and iv) Science Communication in Regional Language followed by questions by judges. The following was the result of the Declamation contest



Declamation Contest of students in progress

Position	Name of the Winners	Class	Name of the School
First	Rajluxmi Moirangthem	IX	Diligent Public School, Moirang
Second	Pitamber Abujam	IX	Jawahar Navodaya Vidyalaya, Yaralpat, Imphal east
Third	Laishram Sonia Devi	IX	K.M. Blooming Hr. Sec. School, Khangabok

### Best Appreciation Award

The most prestigious award of Celebration of National Science Day 2023 “Best Appreciation Award 2023” was organised on the last day of Celebration. The award was given to an individual student who proved to have gained the maximum knowledge of science and technology from Celebration of National Science Day 2023 as judged by questionnaire response and personal interview. The Best Appreciation Award 2023 was selected from 156 participants of various classes from different schools. The award was given to Sania Ahmed Tampak, Class IX of Manipur Creative School, Imphal.



*Final Round of Best Appreciation Award of National Science Day celebration 2023*

### Innovators' Exhibition

As a part of the Exhibitions, Innovators' Exhibition for local Innovators of Manipur was also organised to showcase their innovative products/items. The following 4 (four) local individuals/firms participated in the Innovators' Exhibition.

S.No.	Name of Innovator	Product/Item
1.	Smt. Jina Khumujam	Hand Made Soap (Mangal)
2.	Dr. Wangkheirakpam Sujata	Novel Method of separation and isolation of indirubin from <i>strobilanthes flaccidifolius</i> leaves
3.	Shrimayum Gita Devi	Innovative Designs of Traditional Jewellery & Ornaments of Meitei Women of Manipur (Made from Cocoon)
4.	Ms. Samjetsabam Shanti	Innovative Badge made of Cocoon

### Science Miracles Show

Explaining Science behind Miracles was one of the most popular scientific shows of Celebration of National Science Day 2023. About 30 miracle items were performed and demonstrated during the Celebration of National Science Day 2023 and the scientific backgrounds of the shows were also explained to the audience. The participating students could learn how science is related with miracles.

### Prize Distribution Function

The 5-day Celebration of National Science Day 2023 was concluded on March 4, 2023. Prof. C. Amuba Singh, Former Vice Chancellor, Manipur University, Imphal, Shri M. Yaiskul Meitei, IAS, Commissioner (Science & Technology), Govt. of Manipur, Smt. Homila Hongrei, Director, Dept. of Science & Technology, Govt. of Manipur and Dr. L. Minaketan Singh Director, Manipur Science & Technology Council, Imphal distributed Cash prizes with citations and memento to the winners of various competitions.



*A section of Audience at the prize distribution function of NSD 2023*

### 3.0 Awards administration

MASTEC has instituted awards & incentives to recognize the best efforts in the challenging domain of science Communication, popularization and innovation. MASTEC administers three Awards namely, Dr. Ibeyaima Innovation Award, State Science Communicator Award and Dr. Pravabati Science Popularisation Award donated by Manipur Association of Canada (MAC), MASTEC & Pravabati Peace Foundation, Imphal respectively.

#### 3.1 Dr. Ibeyaima Innovation Award 2022

“Dr. Ibeyaima Innovation Award” was donated by the Manipur Association of Canada (MAC), based in Ontario, Canada in memory of its member (Late) Dr. Ibeyaima Devi. The Award is given biennially and designed for the individual (Scientist or Technologist or Entrepreneur or the like) or any organisation (academic or R&D organisation) for outstanding contributions towards scientific and technological innovations provided the innovation is originated from establishments within the state of Manipur. The Award carries a cash prize of Rs.20,000/-, a Memento and Citation. The Award is administered by MASTEC under the direction of a Trust chaired by the Member Secretary, MASTEC.



*Dr. Ibeyaima Innovation Award 2022 being distributed to the winners*

The Awardee was selected from amongst the applicants who applied for the Award by a Committee of Experts identified by Dr. Ibeyaima Innovation Award Trust. The following have been selected as the winners of the Award for 2022. And the award was distributed on 22<sup>nd</sup> December 2022.



S.No.	Name	Address	Name of the product/item
1.	Jina Khumujam	Our Rest House Khurai Thoidingjam Leikai	Ma-Ngal Handmade Soap.
2.	Dr. W. Sujata Devi	NIT Manipur	Novel Method of separation and isolation of indirubin from <i>strobilanthes flaccidifolius</i> leaves.
3.	Shrimayum Gita Devi	Gita Cocoons Fancy Centre, Khurai Thongam Leikai	Innovative Designs of Traditional Jewellery & Ornaments of Meitei Women of Manipur (Made from Cocoon).

### 3.2 State Science Communicator Award 2022

The State Science Communicator Award was instituted by MASTEC in the year 2015 to recognize outstanding efforts and achievements in communicating science & technology and promoting scientific attitude among the people. Individual who has made extra ordinary contributions in the field of science & technology communication over the last three years is considered for the Award. The scheme is open to Individuals who are resident of Manipur State. National Awardees in the field of Science Communication are not eligible for the Award. For this award outstanding work, efforts and achievements in the last three calendar years is considered. The value of the award is Rs 10,000/- + Citation + Memento.



*Director, MASTEC giving away the State Science Communicator Award 2022*

Applications from 4 (four) candidates were received for the State Science Communicator Award 2022. The Awardee was selected from amongst the applicants by a selection committee chaired by the Member Secretary MASTEC. On recommendation by Selection Committee, the State Science Communicator Award for the year 2022 was conferred to Dr. Oinam Joychandra Singh, Professor, Shija Academy of Health Sciences, Imphal. The Award carries Rs 10,000/- in cash, Citation and a Memento and was distributed to the winner on December 22, 2022.

### 3.3 Dr. Pravabati Science Popularisation Award 2022

MASTEC confers Dr. Pravabati Science Popularisation Award from the year 2022. The Award has been donated by Pravabati Peace Garden Trust, Changangei Uchekon, Imphal. The Award carries Rs 10,000/- in cash, Citation and a Memento.

The Award is given to any individual/ Science Popularisation Activist or organization domiciled in Manipur for outstanding contributions in Science Popularisation in the following areas in the previous 3 years.

- i) Science Popularisation through Electronic Media (TV & Radio).
- ii) Science Popularisation through lectures/hands on activities etc.

### iii) Guiding Students in the preparation of Science Models/Projects

Altogether 6 (six) applicants applied for the Dr. Pravabati Science Popularisation Award 2022. The Awardee was selected from among the applicants by a selection committee chaired by the Member Secretary MASTEC. The winner of the Prajapati Science Popularisation Award 2022 was Dr. Oinam Arunkumari Devi, Lecturer, Lilong Higher Secondary School, Lilong, Manipur. The Award was distributed at the Closing & Prize Distribution function of the Celebration of National Science Day 2023 organised by MASTEC on March 4, 2023.



*Founder, Pravabati Peace Garden Trust giving Dr. Pravabati Science Popularisation Award 2022*

## 4.0 Participation in Science Congress/Science & Technology Conclave

MASTEC took part in the National Science & Technology Conclave, Science Festivals such as Indian Science Congress (ISC) and India International Science Festival (IISF) to show cash its activities every year.

### 4.1 National Conclave on Science & Technology Empowerment of Tribal Community

As a part of Celebration of National Tribal Day, the Department of Science & Technology, Govt. of India in collaboration with the Ministry of Tribal Affairs, Govt. of India organised a 2-day National Conclave on Science & Technology Empowerment of Tribal Community during November 11-12, 2022 at IIT, Guwahati, Assam. The programme was inaugurated by Hon'ble Union Minister of State of Science & Technology & Earth Sciences, Dr. Jitendra Singh.

The programme focused on strengthening institutional capacity; strengthening human capacity; livelihood centric technology development; knowledge system strengthening for the tribal welfare and science communication in local languages. Two officers of MASTEC took part in the celebration with display of activities related to tribal community of the State in the form of posters, publication, interaction in the exhibition. Besides, MASTEC took part in the round table conference for state S&T councils of north east region on November 12, 2022 on pineapple and turmeric cultivation. The session was chaired by Prof. Satish Angihotri, IIT, Bombay.



*MASTEC's stall at the Exhibition Hall*

### 4.2 108<sup>th</sup> Indian Science Congress

Two officers of this Council (Er. Ch. Sarat Singh and Dr. R.K. Pritamjit Singh representing Govt. of Manipur participated in the Pride of India Mega Expo of the 108<sup>th</sup> Indian Science Congress organised by Indian Science Congress Association (ISCA), Kolkata during January 3-7, 2023 at R T Maharaj Nagpur University (RTMNU), Nagpur, Maharashtra.

The features of the Science Congress among others, included Children Science Congress, Women Science Meet, Tribal Meet, Science Communicator Congress, Farmers' Meet, Science & Society, plenary sessions on Agriculture & Forestry Sciences, Animal, Veterinary & Fishery Sciences, Chemical Sciences, Earth System Sciences, Engineering Sciences, Environmental Science, Physical Sciences, Material Sciences, Medical Sciences, Mathematical Sciences, Plant Sciences, Information & Communication Sciences, Science & Technology, New Biology etc,

A 3m x 3m stall was reserved for Dept. of Science & Technology, Govt. of Manipur in the Pride of India Mega Expo Hall at the Indian Science Congress. The activities of Dept. of Science & Technology, Govt. of Manipur as well as MASTEC were displayed through printed posters in of the Science Congress. Apart from the posters, Information Brochures, pamphlets, publications of MASTEC etc. were also displayed in the stall.



*Visitors at MASTEC's stall at Indian Science Congress (ISC) at Nagpur*

### 4.3 8<sup>th</sup> India International Science Festival

The 8<sup>th</sup> India International Science Festival (IISF) an initiative of Ministry of Science and Technology and Ministry of Earth Science of Government of India was organized during January 21 – 24, 2023 at Maulana Azad National Institute of Technology (MANIT), Bhopal, Madhya Pradesh on the theme “Marching towards Amrit Kaal with Science, Technology and Innovation”. Artisan's Technology Village - Vocal for Local, Mega Science and Technology Exhibition, New Age Technologies Show, Students' Science Village, Start-up Conclave, Students' Innovation Festival (SIF), Science through Games and Toys, VIGYANIKA – Science Literature Festival, Young Scientists Conference, International Science Film Festival of India, Guinness World Records and State Science & Technology Conclave etc. were the main activities of the event. Two officers of the council participated in the Mega Science Exhibition showcasing the activities of MASTEC through posters and also displayed the 7 (seven) registered GI products – Shaphi Lanphi, Wangkhei Phee, Moirang Phijin, Kachai Lemon, Tamenglong Orange, Hathei Chilly and Chak-Hao to the visitors. Dr. L. Minaketan Singh, Director, MASTEC made a presentation on STI Ecosystem in the state of Manipur during Science & Technology Conclave of State S&T Councils hosted by MPCOST, Bhopal on 22-23 January 2023 at JC Auditorium of MPCOST, Bhopal.



*MASTEC Officers with DST, GoI Officer/scientists at IISF, Bhopal*

## 5.0 Projects

MASTEC implemented projects/local specific programmes funded by central agencies/ departments and state governments for different target groups/beneficiaries. The following were the projects implemented during 2022-2023.

### 5.1 Science communication through workshops/camps, book publication and rebroadcast of radio serial – a joint project with Vigyan Prasar, DST, GoI.

The project entitled “Science communication through workshops/camps, book publication

and rebroadcast of radio serial” was taken up jointly with Vigyan Prasar, DST, New Delhi. The activities of the project included - i) Rebroadcast of Radio serial on Traditional Knowledge system in 3 local language/ dialects from AIR, Imphal, ii) Translation and Publication of books in regional language, iii) Training workshop cum nature camp on understanding dynamics of nature including climate change, v) Workshop on Hands on Science (Chemistry & Physics) for Science Teachers of Hill districts of Manipur

#### **i) Rebroadcast of Radio serial on Traditional Knowledge system**

As part of the activities of the project, Radio Serials on traditional knowledge system in Manipuri language, Thadou/Kuki and Tangkhul dialects of Manipur were produced and the same was broadcast from All India Radio, Imphal. The programme attracted some sections of the listener community and based on the feedback of listeners, the same Radio Serials were again rebroadcast in Manipuri language, Thadou/Kuki and Tangkhul dialects from All India Radio, Imphal Station.

The programme aimed at sensitising people about the traditional knowledge system of Manipur. The serials covered the themes such as i) Customary practice of constructing a Meitei house, ii) Customary/Traditional guidelines for building a Bamboo house, iii) Traditional Arithmetic skill in Meitei society, iv) Science Associated with festivals of Manipur, v) Traditional System of Integrated Farming in Manipur, vi) Traditional knowledge on fishing, fishing crafts and gears, vii) Traditional Healing System, viii) Traditional practices for storing paddy and maize of Tangkhul tribe in Manipur, ix) Traditional knowledge on Thadou-Kuki system of Agriculture, x) Traditional medicine of Koireng tribe, xi) Traditional system of food preservation, xii) Traditional medicinal system and health, xiii) Bio-folklore and bioindicators, xiv) Use of ITK in horticultural crop production system in Manipur, xv) ITK practice for post-harvest handling and storage of horticultural crops, xvi) Traditional water harvesting system and practice of rice cultivation in Manipur, xvii) Traditional techniques of making earthen pots in Manipur, xviii) Traditional practices on Biodiversity conservation (Animal), xix) Traditional method of prospecting iron ore, xx) Traditional knowledge system in production of traditional costumes of Manipuri Meiteis, xxi) Myths and taboos concealed in the preparation of traditional costumes of Manipuri Meitei and its relation with science, xxii) Indigenous technical knowledge in pest management in various crops particularly staple rice, xxiii) Indigenous practices of dyeing in Manipur, xxiv) Folklore and sign of weather forecasting, xxv) Traditional forms of plant conservation in Manipur and xxvi) Traditional food and drinks of Kuki tribe of Manipur.

#### **Serial in Manipuri Language titled “SIDA YAI NADA YAI”**

Rebroadcast of the 26 episodes serial in Manipuri language titled “Sida Yai Nada Yai” was launched on December 4, 2022 in both Kangla (Medium Wave - Frequency: 882 kHz) and Sangai Channels (FM - Frequency:103.5 MHz) of AIR, Imphal at 7.00 a.m. and will continue on every Sunday at the same time. Duration of each episode is 30 minutes.

#### **Serial in Thadou/Kuki dialect titled “DAMTHEI PHATTHEINA”**

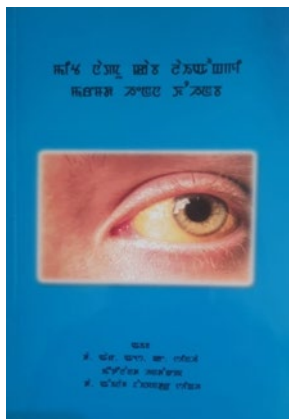
As time available for dialect programmes on All India Radio is limited, each episode of the Thadou/Kuki serial has been bifurcated into two episodes. Altogether, there were 52 episodes with each of 15 minutes duration. Rebroadcast of the serial in Thadou/Kuki dialect titled “Damthei Phattheina” was launched on December 7, 2022 at 5.00 p.m. in both Kangla (Frequency: 882 kHz) and Sangai (Frequency:103.5 MHz) channels of AIR and continued on every Wednesday at the same time.

### Serial in Tangkhul dialect titled “ACHALAKHA WUI ZATKHANA”

The Tangkhul dialect 52 episodes serial titled “Achalakha Wui Zatkhana” was launched on December 7, 2022 at 5.50 p.m. in both Kangla (Frequency: 882 kHz) and Sangai (Frequency:103.5 MHz) Channels of AIR and will continue on every Wednesday at the same time. Promos on All India Radio were made to entice listeners. Live streaming of the serials was also made available on You Tube.

### ii) Publication of Books

Under the project “Science communication through workshops/camps, book publication and rebroadcast of radio serial”, the translated version of 2 books in Manipuri in Meitei Mayek Script were published by MASTEC jointly with Vigyan Prasar, DST, GoI. The books were 1. Know More about Jaundice and 2. Let us Sing and Play. The books originally written in English were the publication of Vigyan Prasar, New Delhi. The book “Know more about Jaundice” was translated in Manipuri by Prof. O. Joychandra Singh, Shija Academy of Health Sciences, Langol, Imphal and the book “let us Sing and Play” was translated by Dr. O. Arunkumari Devi, Lecturer, Lilong Higher Secondary School, Lilong. It is planned to distribute the books to the schools of the state.



### iii) Workshop on Hands-on-Science (Chemistry) for Science Teachers of Hill Districts of Manipur

As part of the project entitled “Science Communication through Workshop, Camps, Book Publication & Rebroadcast of Radio Serial” jointly with Vigyan Prasar, DST, Govt. of India. As part of the project, a Residential Training Workshop on Hands-on-Science (Chemistry) for Science Teachers of Hill Districts of Manipur was organised during March 17-19, 2023 at Youth Hostel, Imphal. The main objective of the programme was to impart training to science teachers of hill districts in carrying out scientific experiments using readily available low-cost materials so that they may, in turn, conduct the same activities at their schools while teaching science to the students. Shri Th. Biswajit Singh, Hon’ble Minister (S&T), Manipur, in the presence of Shri M. Yaiskul Meitei, IAS, Commissioner (S&T), Govt. of Manipur; Smt. Homila Hongrei, Director (S&T), Govt. of Manipur and Dr. L. Minaketan Singh, Director, MASTEC inaugurated the training workshop.



*Demonstration of plant growth rate*

Altogether 31(thirty-one) science teachers from high and higher secondary schools nominated by the Directorate of Education (S), Govt. of Manipur participated in the training. During the three-day programme, 80 experiments were demonstrated/performed by the resource persons and the same was conducted/demonstrated by the participants with the guidance of the resource persons.

## 5.2 Radio Serial on Artificial Intelligence (AI)

Altogether, 52 episode of radio science serial on Artificial Intelligence (AI) titled “Hayengdi Youraklani” in Manipuri Language were broadcast from All India Radio, Imphal. Of the 52 episodes, 45 episodes were drama format and the remaining comprised of curtain raiser, interactive, summing up and conclusion sessions. The Science serial on AI in Manipuri language was launched on February 28, 2021 in both Kangla and Sangai Channel of All India Radio, Imphal and continued on every Sunday at 7.00 a.m. in both the channels. For wide publicity of the serial, promos were made to attract listeners.

During the year 2022 - 2023, fourteen (14) episodes (episode no. 39 – 52) had been broadcast on radio from April 3, 2022 to July 3, 2022. Live streaming of the serials was also made available on YouTube to cover maximum listeners.

After each episode, one question related to the particular episode was asked to the listeners and the answers were received through a designated e-mail ID and of the correct answers received, two winners were selected by drawing lottery. Prizes consisting of Books, CD, Kits of Vigyan Prasar etc. were distributed to 90 people.



*Prize distribution function*

The Serial in Manipuri language, surprisingly received tremendous positive feedback from various sections of people. The number of registered listeners was 1100000. About 2700 letters were received from listeners and shared their feedback and on average 54 letters were received per episode. 55 Phone calls/SMS/e-mails/post cards were also received from the listeners. The "Mani-Mala" programme of AIR, Imphal, garnered a lot of positive feedback from listeners regarding the serial on AI. The listeners thanked the whole production team of the Serial for giving scientific information about the Artificial Intelligence. All the broadcast episodes were documented in CD format. Scripts in Manipuri language were also compiled.

## 5.3 Training workshop cum nature camp on understanding dynamics of nature including climate change

MASTEC and Vigyan Prasar, New Delhi, with an aim to educate the children about the nature under a specific module comprising of songs, plays, games, field visits, lectures, interactions and field experiments had to organise 3 (three) district level Training workshop cum nature camp on understanding dynamics of nature including climate change for the children.

The 1<sup>st</sup> training workshop cum nature camp for the children of Imphal West district was organised during March 28 – 30, 2023 at Khuman Maheikol, Mayang Imphal in association with Khuman Maheikol, Mayang Imphal. It was inaugurated by Dr. L. Minaketan Singh, Director, MASTEC. Altogether, 33 school students from Class VII - X of various schools of Imphal west district participated in the 3 days programme. Three key resource persons namely Shri L. Somarjit Singh, Shri Kh. Manigopal Singh and Shri I. Sushilkanta Singh who were successful ex-trainees of the resource persons training programme on Nature camp held earlier conducted the training workshop.



*Inauguration of Nature camp*



*Demonstration of Green House*



*Demonstration of plant growth rate*

Two more resource persons viz. Dr. L. Sanjoy Meitei, Asst. Prof., Department of Environmental Science, D.M. University, Imphal and Dr. M. Ingobi Singh, Asst. Professor in Zoology, Mangolnganbi College, Ningthoukhong took part in the training workshop cum nature camp. Activities and topics covered during the 3 days camp included, i) Identification and classification of plants and animals, ii) Biodiversity with special reference to endangered species of Manipur, iii) Environmental pollution and climate change in Manipur, iv) Nature web game, game of communication, interactions, v) Rate of transpiration, plant growth rate, green house, Kitchen gardening, vi) Nature walk/field trip, sample collection, wet and dry preservation of specimen (animals and plants), herbarium making, vii) Studying the parts and process of plants and animals. Microscopic observation of flowers, seeds and microorganisms, slide preparation, viii) Looking at small animals, ix) Trace detection ( bio degradable and non-degradable), x) Making of Formicarium, Terrarium, mini aquarium and xi) Physical nature of soil and water.

The Nature study Camp concluded on March 30, 2023 with Dr. Kh. Rakesh, Senior Scientific Officer, MASTEC, Shri L. Somarjit Singh, former Head, Botany Department, Imphal College and Shri Dhamendra, Vice Principal, Khuman Maheikol as dignitaries on the dais of the closing function.

#### **5.4 Manipur Science Aquarium**

The Manipur Science Aquarium, the only biggest Aquarium in the state is maintained by this Council in the premises of D.M. College Campus, Imphal, with the support of Department of Science & Technology, Govt. of Manipur. The centre is open on all working days for the general public.

Apart from the normal visitors, students and faculty members from various institutions in the state visited the Centre for their academic purposes. Officials of the Centre demonstrated and explained about the scientific aspects - such as physio-chemical parameters, classification, food and feeding, breeding habits, diseases, behavior etc. of different fish species (exotic and indigenous) available in the centre to the visitors.



*Visitors to Manipur Science Aquarium*

#### **Visits to Aquarium by Institutions for academic purpose**

Sl. No.	Name of Institution	Participants	Date of Visit
1	Moirang College, Moirang	Faculty members & Students	31/08/2022

2	Kakching Hr. Sec., Wabagai Hr. Sec., Kakching Makha H/S, Kakching Turel Wangma Jr. H/S	Teachers & Students	28/11/2022
3	Imphal College	Faculty members & Students	22/12/2022
4	KamakhyaPemton College	Faculty members & Students	27/03/2023

### 5.5 Common Facility cum Demonstration Centre for Food Processing (Entrepreneurship training programme on “Preparation of pickles and allied products)

Under the DST, GoI sponsored project “Common Facility cum Demonstration Centre for Food Processing implemented by this Council, an infrastructure has been established as common facility centre for food processing so as to enable the entrepreneurs/SHG members of the state to produce different food products either in common brand or individual brand in the centre.

Using the infrastructure available at Common Facility Centre, and with an objective of giving training to the educated unemployed women of the state on preparation of pickle, allied products and their preservation to enable them to establish small scale enterprises for generation of income, an Entrepreneurship training programme on “Preparation of pickles and other allied products was organised during September 6 – 16, 2022. The training programme was inaugurated by Dr. L. Minaketan Singh, Director, MASTEC. The programme was organised under the scheme – S&T for women, SC, ST and disabled of the Department of Science and Technology, Government of Manipur.

71 women applicants submitted their applications. However, out of 71 candidates, 30 unemployed women in the age group of 18 – 45 years were selected by a screening committee for participation in the 10 days training programme.

The training programme covers both theory and practical classes on various aspects of food processing. Shri M. Tonjao Singh, Chief Instructor took 2 (two) theory classes on the topic “food safety and their impacts on health including food additives” and preparation of different types of food products”. Dr. S. Keshorjit Singh, Assistant Professor, MIMS, Manipur University gave a lecture on “role of women entrepreneurs on industrial development”. Shri Vikram, Officer-in-Charge, Small Industrial Development Bank of India (SIDBI) gave a talk on “the role of SIDBI on industrial development” which includes about the services of SIDBI, products and loans offered under SIDBI. Shri L. Surjit Singh, JRF, PIC, MASTEC highlighted about the procedures and formalities of Trade Mark registration and Patenting. Shri Th. Baite, Joint Director, MSME (DI), Takyelpat also highlighted about the various schemes of MSME which supports



*Trainees at work during the training*



*Packaging food items in progress*



entrepreneurs and Dr. Nongalei Pebam, Food Safety Officer, State Health Services, Govt. of Manipur also delivered a lecture on the topic “Licensing and Registration under Food Safety and Standard Act 2006 Rules 11. Practical classes were conducted by Shri M. Tonjao Singh, Chief Instructor and H. Latashini Devi, Assistant Instructor from day 4 to day 10 and during the course, preparation of various food items had been demonstrated and the trainees prepared 26 food items during the course of the training. The items prepared included -

- A. Candy: i) Ginger candy, ii) Bamboo shoot candy, iii) Amla candy, iv) Garcinia (Heibung) candy
- B. Pickle: i) Bamboo shoot pickle, ii) Mushroom pickle, iii) King chilli and fermented fish pickle, iv) Fish pickle, v) Hog Plum (Heining) pickle, vi) Fermented soyabean with king chilli pickle, vii) King chilli pickle, viii) Mixed vegetable pickle, ix) Chicken pickle
- C) Squash: (i) Carambola (Heinajom) squash, ii) Passion fruit squash, iii) Pineapple squash
- D) Sauces and Chutney: i) King chilli sauce, ii) Green chilli sauce, iii) Tomato sauce, iv) Hog plum chutney
- E) Pineapple jam, F) Nimbu pani (RTS), G) Black rice cake and H) Soya Processing (Soya milk, Soya paneer and Soya milk curd).

Soya milk and soya paneer production is a new venture in the state even though it is popular in the other states of the country. Since, the nutritive value of soya bean is well recognised; various sections of people of the state are keen in production and consumption of the soya products and there is good scope for earning income. The soya extraction plant at the centre may be made available to the entrepreneurs for production of soya milk and paneer.

A training manual had also been developed and distributed to all the trainees to enable them to produce different items. The training programme was concluded on September 16, 2022 with a closing function. The closing function was attended by Shri Th. Biswajit Singh, Hon’ble Minister (S&T), Manipur as the Chief Guest, Smt. Homila Hongrei, Director, Science and Technology, Govt. of Manipur as Guest of honour and Dr. L. Minaketan Singh, Director, Manipur Science and Technology Council as the president of the closing function.

The Chief Guest in his address said that value addition, maintaining quality of the products and good advertisement through social media are needed for boosting sales of any local-made food products. With the advancement of information technology, entrepreneurs need no shops for establishment of their business as every sale can be done through e-commerce, he added. The biggest challenge facing today’s society is socio-economic deprivation because of lack of job opportunities. The more the entrepreneurs, the more the unemployment will be reduced, and therefore organization of EDP training programme is a door to entrepreneurship, he added. The Chief Guest on learning that only 30 people were accommodated in the training programme due to unavailability of training spaces, he asked the officials to organize similar training programme for the rejected applicants quoting the statement that everyone has the right to learn. He also asked the trainees to produce various items for generation of their income and if they cannot afford the basic machineries and equipment, the Minister assured of extending the facilities available at MASTEC to them.



*Minister (S&T) Manipur addressing the valedictory & Certificate distribution function*

## 5.4 Technology Demonstration Centre

Manipur Science & Technology Council (MASTEC), Imphal is attempting to set up a Technology Demonstration and Dissemination Centre at its office campus. With signing an MOU between MASTEC and Bhabha Atomic Research Centre (BARC), Mumbai, some DAE Technologies given below have been installed for display and demonstration to the local entrepreneurs, farmers and individuals.

- i) Tissue Culture Facility
- ii) Soil Organic carbon Detection Kit (SOCDK)
- iii) Foldable Solar Dryer (25 Kg. capacity)
- iv) Vibro Thermal Disinfector (VTD) (5 Kg/hr capacity)
- v) On-line Domestic Water Purifier based on ultrafiltration polysulfone membrane (DWP)
- vi) Fluoride Detection Kit for Ground water (FDK)

As part of collaboration and also to popularize NIF promoted technologies as well as to improve MASTEC's Technology Centre, we have received some technologies given below from by National Innovation Foundation (NIF), DST, GoI for display and dissemination to the local farmers in the state

The Innovative products which have been recognized by giving Dr. Ibeyaima Innovation Award have been kept in the centre.

## 5.5 Mapping of S&T Needs in the State

DST, GoI has taken up the initiative of implementing the project "Mapping of S&T Needs of the State/UTs" as it will provide as insight to design and execute appropriate programmes and modules for the development of Science, Technology and Innovation (STI) ecosystem at the state and national level. Subsequently, a meeting of State Science & Technology Programme (SSTP) held on 17<sup>th</sup> February 2020 in New Delhi to discuss the strategies for implementation of the project arrived at a conclusion that the Sustainable Development Goals (SDGs) will be considered the common framework for mapping the S&T Needs. DST, GoI further asked the State S&T Councils to consider the SDGs from the point of view of S&T interventions and not to deal with the data required for calculating SDG indicators.

The project entails the identification of areas for the involvement of science and technology in several sectors, including agriculture, fisheries, industry, education, health care, water & sanitation, etc. A spatial database incorporating socio-economic and demographic data may be created as a result, allowing for the storage, retrieval, and analysis of the data as needed for future development planning. This might then result in the sustainable development of society.

The purpose of the project is:

- i) To determine the crucial societal gaps where science and technology intervention is needed for the state's overall development.
- ii) To identify the gap areas in the sectors falling under SDG-2, SDG-3, SDG-4 and SDG-6 and to create strategies for bridging these gaps;
- iii) To create a database and making it available to stake holders, policy makers & interested organisations;

In order to provide a comprehensive and inclusive view of the S&T scenario in the state, a variety of occupational groups were covered for this study, including academicians from universities, departments, and institutes; representatives of industry; and members of key NGOs operating in the respective sectors.

A survey involving respondents from various fields—agriculture, horticulture, fishing, education, health care, water resources, veterinary and animal husbandry, and NGOs working on S&T interventions, etc.—was conducted across the state to evaluate and comprehend the priorities in connection with S&T-related activities.

The Government of Manipur, in the Vision Document “Manipur Vision 2030,” gives top priority to the following SDGs: (1) SDG 2 (Zero Hunger); (2) SDG 3 (Good Health & Well-being); (3) SDG 4 (Quality Education); (4) SDG 8 (Decent Work & Economic Growth); and (5) SDG 16 (Promotion of Peaceful and Inclusive Societies).

For intervention in S&T needs, the selected SDGs for consideration in the ongoing project included: i) SDG 2 (Zero Hunger), ii) SDG 3 (Good Health & Well-being), iii) SDG 4 (Quality Education), and iv) SDG 6 (Clean Water & Sanitation).

In the present exercise of gathering information about the gap for S&T intervention, different participants from different occupational groups were involved, like academicians from the education sector, prominent NGOs, entrepreneurs, departments, and organisations.

Questionnaire was distributed among identified stakeholders. In order to gather information for finding the areas of need for S&T intervention in various sectors, stakeholder consultation sessions were also organised. Govt. Organisations were visited for discussion and collection of published data/information including Economics & Statistics Department, Govt. of Manipur, Department of Census, Govt. of India. Around 150 stakeholders participated in the exercise of collecting scientific input data. Out of them, 102 responded to the questionnaire.

The project team worked on the identified/selected areas such as i) SDG-2(Zero Hunger), ii) SDG-3 (Good Health & Wellbeing), iii) SDG-4 (Quality education) and iv) SDG-6 (Clean water & Sanitation).

### ***Activities during First wave of COVID-19 pandemic***

During Covid 19 first wave, the main problem faced by the community was the non-availability of Sanitizer in the local pharmacy/market in the state. It was the issue identified as part of the Project & as advised by DST, GoI, the Council contributed some S&T inputs in the COVID-19 management to stop spread of the pandemic disease in the state. The Council, in association with the North East Institute of Science &Technology (NEIST), CSIR, Imphal Unit developed Alcohol based Herbal Hand Sanitizer and distributed to members of various communities in the state. In addition, the sanitizers were also distributed to all the employees working at the Council and interested individuals. The sanitizers were also kept at the entry point of the council office and the visitors/employees used it before entering the office.

Altogether, 40litres (40,000 ml.) of MASTEC-CSIR, NEIST prepared hand sanitizers, have been distributed to different sections of the community.

### ***Infrastructure Set up***

A minimum GIS infrastructure has been set up with purchase of one Arc GIS from ESRI (Environmental Systems Research Institute) India Technologies Pvt. Ltd. who are the authorised manufacturer/distributor of Arc GIS suite of Software in India. The system has already been installed and become operational for GIS applications.

### ***Data Collection***

As the COVID-19 first wave pandemic came in a better scenario in the state, the project team started visiting some govt, organizations for discussion and collection of published data/information including Economics & Statistics Department, Govt. of Manipur, Department of Census, Govt. of India.

Data collected as part of the project implementation required analysis, so as to get a picture of the current trends and requirements for science and technology intervention for the development

and progress of the state.

A total number of 102 participants have responded to the questionnaire. The respondents were categorised according to the sector they belong to for the ease of analysis. It has been seen that the highest number of responses received were from institutions, with the minimum being from NGOs. The overall response is approximately 77%. Further analysis of the data collected and report preparation highlighting the gaps where there are needs of S&T intervention is presently going on.

### 5.6 TECHNOVATION 2022

Manipur Science & Technology Council has signed a Memorandum of Understanding (MoU) with Atal Incubation Centre (AIC), SELCO Foundation, Guwahati for collaborative work for Grass root innovators in Manipur. After a meeting with stake holders from State organisations including State Planning, University, NIF etc. and as part of the collaboration, a 2-days state level workshop cum exhibition for grass root innovators of the State was organised under the theme “TECHNOVATION 2022” during September 22-23, 2022 at Manipur Science Centre, Imphal. Altogether 47 innovators/entrepreneurs participated in the Meet cum Exhibition. The Meet cum Exhibition was inaugurated by Shri Th. Basanta Kumar Singh, Hon’ble Minister (Education), Manipur. The exhibition aimed at providing a platform for innovators from the state to showcase and pitch their technology to the stakeholders and the larger audience. It focuses on encouraging and supporting start-ups, innovators, and the development of innovation-led business ideas to achieve the Sustainable Development Goals.



Inaugural speech by Hon’ble Minister (Edn.), Manipur



Chief Guest visiting the Exhibition Stalls



Pitching idea by an innovator



Pitching idea by an innovator

## 5.7 Data Base of human resources engaged in Vigyan Utsav as a part of Azadi ka Amrit Mahotsav hosted by MASTEC (September 2021- August 2022)

MASTEC took part in the Vigyan Utsav as part of Azadi Ka Amrit Mahotsav initiated by DST, Govt. of India to show the achievements in 75 years of India's Independence and 50 years of establishment of Science and Technology Councils in the country on one month-one theme basis. Altogether, 61 experts of different themes furnished below took part in delivering lectures and experience sharing during the online programme.

Date	Theme	Topic	Name of speakers & Designation	Organisation
22/09/2021	STI Institutions at the State Level	Activities of NEIST, Imphal Centre	Dr. H. Birkumar Sr. Principal Scientist	CSIR-North East Institute of Science & Technology, Lamphelpat, Imphal, Phone: 9862572209
		Activities of ICAR, Manipur Centre	I. Meghachandra Singh Jt. Director	ICAR, Manipur Centre, Imphal Phone: 9436027223
		Activities of IBSD, Imphal	P. K. Mukherjee Director	Institute of Bioresources & Sustainable Development, Imphal Phone: 8974622314
		Activities of FEEDS Group	Th. Dhanaraj Singh Scientist	FEEDS Group, Henbung, Kangpokpi Dist. Manipur Phone: 9612929936
29/10/2021	Human Capacity Development	Role of Science & Technology in Human Capacity Development in the context of Manipur	Prof. S. Dorendrajit Singh	Physics Dept., Manipur University, Canchipur, Imphal. Phone: 9862033664
		Human Capacity Development in Agricultural Sciences – opportunities, challenges and gaps	Prof. Ng. Joy Kumar	College of Food Technology, Central Agricultural University, Imphal. Phone: 9612168301
		Inspire programme – Human Capacity Development in Manipur	Prof. N. Mohilal Singh	Life Sciences Dept., Manipur University, Canchipur, Imphal. Phone: 8119951558
		Human Capacity Development in Engineering Sciences in Manipur	Dr. O. Bakimchandra Singh Dean (Faculty Welfare)	Civil Engineering Department, National Institute of Technology, Imphal. 9862107754 (M)
		Experience sharing	Dr. Raju Laishram Post-Doctoral Fellow	Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bangaluru.

		Experience sharing	Dr. Soling Zimik Post-Doctoral Fellow	Institute of Mathematical Sciences, Chennai.
		Experience sharing	Dr. Waikhom Bimolata Post-Doctoral Fellow	National Post-Doctoral Fellowship (NPDF), DST Govt. of India.
26/11/2021	R&D Infrastructure	R&D Infrastructure of RIMS, Imphal	Dr. R.K. Lenin Head, Psychiatry Dept.	Regional Institute of Medical Sciences (RIMS), Imphal
		R&D Infrastructure of Central Agricultural University, Imphal	Dr. S. Basanta Singh Director Research	Central Agricultural University (CAU), Imphal
		R&D Infrastructure of National Institute of Electronics & Information Technology, Imphal	Shri R. K. Bigensana Singh Scientist 'D'	National Institute for Electronics and Information Technology, Imphal 9856070561(M)
		R&D Infrastructure of Regional Sericulture Research Station, Imphal	Dr Y. Debaraj Singh Scientist 'D'	Regional Sericulture Research Station, Central Silk Board, Imphal. 9436034737 (M)
30/12/2021	Indigenous Technology	Indigenous Agricultural Technologies in Manipur	Prof. L. Nabachandra Singh	Central Agricultural University, Imphal. 9436026544 (M)
		Indigenous/Traditio nal Handlooms & Handicrafts Technologies of Manipur	Shri K. Lamlee Kamei Director	Directorate of Handlooms & Textiles, Govt. of Manipur. 8257904617 (M)
		Pottery in Manipur – A dying ancient technology and the journey towards revival	Ms. Padmini Konsam Founder	Parables Pottery, Manipur.
		Traditional healing practices in Manipur	Shri N. Tombiraj President	Manipur State Traditional Healers' Association, Imphal.
		Indigenous/Traditio nal Tribal Technologies in Manipur	Dr. Immanuel Zarzosang Varte Assistant professor	Indira Gandhi National Tribal University, Regional Campus, Manipur.
11/01/22	Innovation & Start Up	Innovation and Start-ups in Manipur	Dr. S. Keshorjit Singh Assistant Professor	Manipur Institute of Management Studies, Manipur University, Canchipur, Imphal. 9436035168 (M)
		Role of National Innovation Foundation for	Mr. Laishram Yelhounganba Khuman	National Innovation Foundation – India,

		Innovators in the context of Manipur	Project Associate – II	Guwahati Cell. 8974777860 (M)
		Role and activities of Innovation Hub, Manipur	Smt. H. Jina Sharma Jr. Mentor	Innovation Hub, Manipur Science Centre, DST, Govt. of Manipur, Imphal 8415921906 (M)
		Leveraging Innovation Driven Orchid Industry in North East India	Dr. R.K. Kishore Singh Director & Chief Scientist	Kwaklei & Khongumelei Orchids Pvt. Ltd., Sagolband Bijoy Govinda, Imphal 9856664628 (M)
18/02/2022	Science Popularisation & Communication	Science Communication and Popularisation Activities of Manipur Science & Technology Council	Dr. L. Minaketan Singh Sr. Scientific Officer	Manipur Science & Technology Council (MASTEC), Imphal 9612084782 (M)
		Science Communication and Popularisation Among Children in Manipur	N. Shyamkishore Singh Secretary (Publicity)	Science Teachers' Forum Manipur (STFM) 9612951043 (M)
		Science Communication and Popularisation in the Context of Manipur	Prof. H.N.K. Sarma Former Vice Chancellor	Manipur University, Canchipur, Imphal. 9436020842 (M)
		Science Communication and Popularisation through Electronic (Radio) Media	E. Achow Singh Former Assistant Director	All India Radio, Imphal 8794673296 (M)
		Science Communication and Popularisation through Print & Electronic Media in Manipur	Dr. H. Birkumar Singh Sr. Principal Scientist	CSIR-North East Institute of Science & Technology, Imphal, 9862572209 (M)
		Need of Science Communication and Popularisation	Dilip Mayengbam Former Station Director	All India Radio, Imphal 8787375961 (M)
24/03/22	Science for Women & Women in Science	Career opportunities and enabling ecosystem for the women scientists and technologists	Dr. Asha Gupta Former Professor	Life Sciences Dept., Manipur University, Canchipur, Imphal 9366351545 (M)
		Women in Science	Dr. Tilotama Kangjam Scientist	FEEDS, Henbung (Women Scientist Batch 2009-12) 8837346184 (M)
		Role of women in strengthening the STI ecosystem	Dr. Alka Jain Principal	Assam Rifles Public School, IGAR South, Mantripukhri, Imphal

				(Women Scientist Batch 2009-12) 9436290019 (M)
		Experience sharing	Dr. Oinam Geeta Devi Women Scientist	Dept. of Earth Sciences, Manipur University, Canchipur, Imphal 9862838904 (M)
		Statistical applications in Agriculture & Forestry	Dr. Sapam Sobita Women Scientist	Statistics Dept. Manipur University 8837333079 (M)
		Spirulina based nutraceutical bio product development for improvement of livelihoods of local community of Manipur	Dr. Thingujam Indrama Former Women Scientist	TERI Guwahati 9862922569 (M)
25/04/2022	Science & Society	Social Impacts of Science & Technology	Prof. C. Amuba Singh	Research Institute of Science & Technology, Imphal 9436026435 (M)
		Microbial applications in 21 <sup>st</sup> Century Medicine and Agriculture	Prof. N. Debananda	Dept. of Biochemistry, Manipur University, Canchipur, Imphal 9862027271 (M)
		Science in value addition and economic development	Dr. Ng. Iboyaima Singh Scientist 'G'	Central Food Technological Research Institute (CFTRI), Mysore 9845704011(M)
		Science & Technology for creation of employment opportunities	Dr. Th. Somchand Singh Associate Professor	Civil Engineering Dept. Manipur Institute of Technology, Imphal 9863408700/8787321564
		Exposure of children to scientific knowledge through science education	Prof. N. Rajmuhon Singh Vice Chancellor	Dhanamanjuri University, Imphal 9436080780/
20/05/2022	Future Technologies	Future technologies to make life easier and faster	Shri A. Buboo Singh Director	National Institute of Electronics & information Technology (NIELIT), Gangtok, Sikkim 9615348511
		Future technologies for sustainable development/practices	Dr. R.K. Imotomba Singh Director	Pandit Deen Dayal Upadhyay Institute of Agricultural Sciences, Utlou, Bishhnupur District, Manipur 9436020718 (M)



		Future technologies to create career opportunities	Kh. Ingobi Singh Sr. Faculty (Computer Science)	National Institute of Electronics & Information Technology (NIELIT), Akampat, Imphal 8729830132 (M)
		Future technologies to build Atmanirbhar Bharat	Dr. Rajeev Rajkumar Faculty (Computer Science & Engineering)	Manipur Institute of Technology (MIT), Imphal 8837209672 (M)
		Role of Fruit Crops in Economic Development with Special Reference to North East India	Dr. Romen Senjam Sr. Assistant Professor (Fruit Science)	College of Agriculture, Central Agricultural University (CAU), Imphal 7005116535 (M)
24/06/2022	Basic Science for Atmanirbharata	Basic Science (Physics) for Self-Reliance	Prof. A. Surjalal Sharma Principal Research Scientist	University of Maryland, USA. 6909205583/9711087936
		Basic Science (Mathematics) for Self-Reliance	Prof. L. Ladu Singh Vice Chancellor	Bodoland University, Kokrajhar, Assam 9969463348
		Basic Science (Biological/Life Sciences) for Self-Reliance	Prof. Ksh. Lal Bihari Singha	Department of Life Sciences, Manipur University, Imphal 9436228916 (M)
		Basic Science (Earth Science) for Self-Reliance	Prof. S. Ibotombi Singh	Department of Earth Sciences Manipur University, Imphal 9436028012 (M)
		Basic Science (Chemistry) for Self-Reliance	Dr. N. Shubhaschandra Singh Faculty	Department of Chemistry, D.M. College of Science, Dhanamanjuri University, Imphal 9862181905 (M)
20/07/2022	Atmanirbharata & Industry	Information Technology Industry for Self-Reliance	Dr. Krishnan Baskar Director	Indian Institute of Information Techn 9444125126 (M)
		Chemical industry for self-reliance	Prof. R.K. Bhubon Singh	Dept. of Chemistry, Manipur University, Canchipur, Imphal 9436025635 (M)
		Food industry for self-reliance	Shri Thangjam Joykumar Singh, Managing Director	Thangjam Agro Industries Pvt. Ltd., Chingmeirong, Imphal 8974009482 (M)
		Handlooms & Textiles industry for self-reliance	Shri K. Lamlee Kamei Director	Directorate of Handlooms & Textiles Lamhelpat, Imphal
		Financial institutions in	Smt. Nejolata Haobijam	Bank of Baroda, Khuyathong, Imphal

		industrial development (in the context of Manipur)	Sr. Branch Manager	9862854343 (M)
26/08/2022	Intellectual Property Rights	IPR Activities of Patent Information Centre, MASTEC	Dr. R.K. Pritamjit Singh Scientific Officer	Manipur Science & Technology Council (MASTEC), Imphal 9862566538 (M)
		Role of IPR in Research, Development and Business	Dr. Ch. Ibohal Meitei Professor	Manipur Institute of Management Studies, Manipur University, Imphal 9862493448 (M)
		IPR as a tool for socio-economic development in Manipur	N. Meena Assistant Professor,	Royal Academy of Law, Oinam 8837493760/9366358368
		Importance of IPR in MSME Sector	Th. Baite Joint Director	MSME Development Institute, Takyelpat Industrial Estate, Imphal. 7005711045 (M)
		IPR ecosystem in Manipur for self-reliance	M. Chitra Devi Registered Patent Agent (Reg. No. IN/PA-1501),	Keishamthong Elangbam Leikai Leirak Achouba, Imphal 8794393025 (M)

## 5.8 Patent Information Centre


The Patent Information Centre has been working to achieve the following objectives.

1. To provide patenting facilities to scientists, technologists, innovators in the country for Indian and foreign patents on a sustained basis.
2. To keep a watch on developments in the area of IPR and make important issues known to policy makers, scientists, industry etc.
3. To create awareness and understanding relating to patents and the challenging issues and opportunities by arranging workshops, seminars, conferences etc.

### IP searches done:








The IP search for the items namely Microbial species as culture for fermentation of dry fish, N U J A , LEIMANAYIN, MALEM, DEVICE, NUJA BEVERAGE, BLOOMING, MUKTA SHOES and FRAGRANCE AND FLAVORS EXTRACTOR has been made.

### Design Registration done: 01

SL. No	Name of Design	Application No.	Date	Representation	Status
1	Fragrance and flavors extractor	373068-001	26/10/2022		Filed

### Trade Mark Registration:

The applications received for filing for Trade Mark registration, publication in journal and the status for registration process are furnished below.

Sl. No.	Name of TM	Application/Registration No.	Class	Logo	Status	Dated of Registration /Filed
1	MACHII	5077213	30		Registered	19/04/2022
2	KUMSUNG	5241077	03		Registered	07/07/2022
3	NUJA	5281794	30		Registered	20/08/2022
4	LEIMANAYIN	5397599	22		Filed Published Registered	08/11/2022
5	MALEM	5498553	30		Filed Published Registered	09-03-2023
6	DEVICE	5517885	3		Filed Published	05/07/2022
7	NUJA	5558436	32		Filed Published	04/08/2022
8	MUKTASHOES	5767458	25		Filed	17/01/2023

### Opening of IPR Cells:

Five Intellectual Property Rights (IPR) Cells were opened at five different institutions in the state with an objective to enhance the activities related to the Intellectual Property of the Institute, evaluation and filing of patents, designs, trademarks, copyrights etc. The name of the institutions where the IPR Cells were opened is furnished below.

SL. No	Name of Institute /College	Date of Opening
1	Manipur Institute of Technology (MIT), Canchipur	26/04/2022
2	Manipur Technical University (MTU), Takyelpat	26/05/2022
3	Mangolnganbi College, Ningthoukhong	15/11/2022
4	Thoubal College, Thoubal	05/12/2022
5	Waikhom Mani Girls' College, Thoubal	14/12/2022

## Seminar cum observation on World Intellectual Property Day 2022

World Intellectual Property Day 2022 was observed on April 26, 2022 under the theme “IP and Youth: Innovating for a better future” at the Manipur Institute of Technology (MIT), Imphal. The main objective of the workshop was to create awareness about the different forms of IP among the intellectuals, entrepreneurs, students and individuals etc. Shri Devesh Deval, IAS, Commissioner S&T, Government of Manipur. Prof. R.K. Hemakumar, Dean, School of Engineering, Manipur University, Dr. L. Minaketan Singh, Director, MASTEC and Shri Ayush Mishra, Examiner of Patents & Design, The Patent Office, Kolkata attended the programme. Dr. L. Minaketan Singh spoke on the activities of PIC and also highlighted the programmes to be taken up in the area of IPR in the near future. Shri. Ayush Mishra, delivered a lecture on IPR for engineering/technical graduates and interacted with the students. About 150 B.Tech. students including faculties from the Institute and interested individuals attended the programme.



*Observance and Seminar on World Intellectual Property Day*



*Opening of IPR Cell at Manipur Technical University by Minister(S&T), Manipur*



*Opening of IPR Cell at Manipur Institute of Technology by Commissioner(S&T), Govt. of Manipur*

## Workshop on IPR at MTU, Takyelpat, Imphal

One day Workshop on IPR was organized at MTU, Imphal. The workshop was inaugurated by Shri Th. Biswajit Singh, Hon'ble Minister of Science and Technology, Manipur in the presence of Shri Th. Basanta Kumar Singh, Hon'ble Minister Education, Manipur, Dr. Bhabeswar Tongbram, Vice-Chancellor of MTU, Shri Devesh Deval, IAS Member Secretary, MASTEC & Commissioner (S&T), Govt. of Manipur, Shri M. Harekrishna, IAS, Commissioner (Education), Govt. of Manipur, Dr Yashawant Dev Panwar, Scientist F, Head of Patent Facilitation Centre, Technology Information Forecasting and Assessment Council (TIFAC), Department of Science & Technology, Government of India, Dr B.P. Singh, Former Chairman In-Charge and Technical Member-Patents (IPAB), Dr L. Minaketan Singh, Director, MASTEC. During the technical session, Dr. Yashawant spoke on the Topic “Harnessing Intellectual Property in Technical Institutions” and Dr B P Singh, delivered a lecture on the topic “Patenting System in India and Abroad” and later interacted with the participants.

## Awareness programme on IPR at Thoubal College Thoubal

One day workshop on IPR was organised at Thoubal College, Thoubal District on 5<sup>th</sup> December, 2022. Dr. L. Minaketan Singh, Director, MASTEC, Prof. M. Bina Devi, Principal, Thoubal College and Dr. Kh. Jugindro Singh, coordinator IQAC, Thoubal College attended as dignitaries at the function. The main objective of the workshop was to create awareness about IPRs among the students and teachers' fraternity. Shri L. Surjit Singh of PIC-Manipur delivered lecture on Intellectual Property Rights. About 70 students and teachers of the college attended the programme.



*Awareness lecture on IPR at Thoubal College*

## One day awareness programme on IPR at Waikhom Mani Girls' College, Thoubal

One day workshop on IPR was organised on 14<sup>th</sup> December 2022 by Patent Information Centre (PIC), Manipur Science & Technology Council, Imphal in association with Waikhom Mani Girls' College, Thoubal. Shri. M. Yaiskul Meitei, IAS, Commissioner (Science & Technology), Govt. of Manipur, Dr. L. Minaketan Singh, Director, MASTEC, Dr. R. K. Shyamananda Singh, former Executive Director, MASTEC, Dr. S. Shyamkiran Singh, Vice Principal, Waikhom Mani Girls' College and Prof. H. Manoranjan were attended as dignitaries at the function. The main objective of the workshop was to create awareness about IPRs among the college students as well as teachers' fraternity. Shri L. Surjit Sing of PIC-Manipur delivered a lecture on Intellectual Property Rights and later interacted with the participants. About 100 participants including teachers, students from the institute were attended.



*Awareness programme on IPR at Waikhom Mani Girls' College*

## Workshop on IPR at Mangolnganbi College, Ningthoukhong

One day workshop on IPR was organised on 15<sup>th</sup> November 2022 at Mangolnganbi College, Ningthoukhong, Bishnupur district. Shri. M. Yaiskul Meitei (IAS), Commissioner (Science & Technology), Govt. of Manipur, inaugurated the workshop in the presence of Dr. L. Minaketan Singh, Director, MASTEC and Dr. R. K. Birjit Singh, Principal, Mangolnganbi College, Ningthoukhong, Bishnupur District. During technical sessions, Shri L. Surjit Singh of PIC-Manipur delivered a lecture on Intellectual Property Rights and interacted with the participants. Dr. R.K. Pritamjit Singh, Scientific Officer and PIC in-charge had an interaction session with the students and faculties on IPR. About 100 students including teachers of the college attended the workshop.



*Commissioner (S&T), Govt. of Manipur addressing on the need of IPR in the society*

### Awareness Lectures/Interaction programmes on IPR

Twenty-one lectures were organized at the following institutes in the state to disseminate the concept of IPR and its importance to the public.

Sl.No	Programme	Date	Venue
1	One day IPR awareness programme	26-04-2022	MIT, Imphal
2	One day IPR awareness programme	07-05-2022	Khangabok Hr. Secondary School, Thoubal
3	One day IPR awareness programme	26-05-2022	MTU, Imphal
4	One day IPR awareness programme	29-06-2022	Innovation Hub, Manipur Science Centre
5	Lectures on IPR special reference with GI	07-08-2022	Lamphelpat
6	One day IPR awareness programme	10-08-2022	Anandapura Hr. Secondary School
7	Lectures on IPR special reference with Patenting and Trademark Registration	07-09-2022	Lamphelpat
8	Expert session on IPR at Two Days Innovators Meet	22-09-2022	Manipur Science Centre, Takyelpat.
9	One day IPR awareness programme	17-10-2022	Diligent Public School, Moirang
10	One day IPR awareness programme	17-10-2022	Loktak Cristian Model High School, Moirang
11	One day IPR awareness programme	15/11/2022	Mangolnganbi College, Ningthoukhong
12	One day IPR awareness programme	05/12/2022	Thoubal College
13	One day IPR awareness programme	09/12/2022	CC Higher Secondary School, Imphal
14	One day IPR awareness programme	14/12/2022	Waikhom Mani Girls' College, Thoubal
15	One day IPR awareness programme	12/01/2023	LilongHr Secondary School
16	North East Entrepreneur's Intellectual Property Seminar	14/02/2023	Hotel, Imphal
17	One day IPR awareness programme	27/03/2023	Waikhom Mani Girls' College,
18	One day IPR awareness programme	27/03/2023	Thoubal College, Thoubal
19	One day IPR awareness programme	28/03/2023	MIT, Imphal
20	One day IPR awareness programme	31/03/2023	MIT, Imphal
21	One day IPR awareness programme	31/03/2023	Mangolnganbi College, Ningthoukhong

### 6.0 Meetings/Conference arranged

- i) Coordination meeting with the officers of AIC, SELCO, Guwahati on the agenda modalities for joint programmes to promote the Innovators from Manipur held on 19<sup>th</sup> May 2022 and signing of MOU for collaboration on 29<sup>th</sup> July 2022 in the office chamber of Director, MASTEC.
- ii) Meeting of the Dr. Ibeyaima Innovation Award Trust Members chaired by the Commissioner(S&T), Govt. of Manipur to discuss the agenda i) mode of publicity, ii) selection process/criteria.

- iii) Stake holders meeting held on 23<sup>rd</sup> August 2022 at the training hall of MASTEC, with state & Central Govt. officials for identification of the eligibility criteria for local innovators to take part in the state level innovators exhibition.
- iv) Coordination meeting with leading Science NGOs of the state for organization of week-long multi activity National Science Day 2023 on December 30, 2022.
- v) Meeting with stake holders (district level officers) of Churachandpur district on identification of S&T needs in the district held on 23<sup>rd</sup> February 2023 at the Conference Hall of Deputy Commissioner's office.
- vi) Meeting with the officials of Pravabati Peace Foundation, Changagei Uchekon, Imphal on identification of parameters for consideration for Dr Pravabati Science Popularisation Award 2022 and signing of MOU on November 16, 2022.
- vii) Meeting with stake holders (district level officers) of Kangpokpi district on identification of S&T needs in the district held on 29<sup>th</sup> March 2023 at the Meeting Hall of Deputy Commissioner's office.

## **7.0 Science & Technology conclave/Official visits/workshops/Meetings attended**

1. Dr. R.K. Pritamjit Singh, SO attended the DPIIT-State Councils Meeting organised by Cell for IPR Promotion and Management (CIPAM) on **04.04.2022** (Online mode)
2. Dr. L. Minaketan Singh, Director and Dr. Kh. Rakesh, SSO visited NCSTC, Department of Science and Technology, Indian National Science Academy, Vigyan Prasar, TIFAC and Ministry of Earth Sciences, Govt. of India, New Delhi during **May 3 – 7, 2022** and discussed about funding schemes of these Departments/Ministries
3. Dr. Kh. Rakesh, SSO attended the Brain Storming cum Consultation Meeting on promotion of Bio entrepreneurship in NE Region on July **18, 2022 (Online)**
4. Dr. L. Minaketan Singh, Director & Dr. Ch. Shivaji, Scientific Officer participated in the All-India State S&T Councils meeting organised by DST, Govt. of India during August **29-31, 2022** at Bhopal, M.P.
5. Dr. Kh. Rakesh, SSO joined the expert Group meeting of DST, Govt. of India for the on spot assessment of projects funded by DST, GOI during **September 1 – 2, 2022** at FEEDS, Henbung, Kangpokpi district.
6. Dr. L. Minaketan Singh, Director and Dr. R.K. Pritamjit Singh, Scientific Officer participated in the National Conclave on Science & Technology Empowerment of Tribal Community organised by the Department of Science & Technology, Govt. of India in collaboration with the Ministry of Tribal Affairs, Govt. of India during **November 11-12, 2022** at IIT, Guwahati, Assam.
7. Er. Ch. Sarat Singh & Dr. R.K. Pritamjit Singh participated in the Pride of India Mega Expo at the 108<sup>th</sup> Indian Science Congress organised by Indian Science Congress Association (ISCA), Kolkata during January 3-7, 2023 at R T Maharaj Nagpur University (RTMNU), Nagpur, Maharashtra.
8. Dr. L. Minaketan Singh & Dr. R.K. Pritamjit Singh participated in the Mega Exhibition on GI products at the 8<sup>th</sup> India International Science Festival (IISF) organised by

Ministry of Science and Technology and Ministry of Earth Sciences, Government of India during **January 21 – 24, 2023** at Maulana Azad National Institute of Technology (MANIT), Bhopal, Madhya Pradesh on the theme “Marching towards Amrit Kaal with Science, Technology and Innovation. The Director, MASTEC made a presentation on the topic “STI Ecosystem in Manipur” during S&T Conclave of the IISF.

9. Dr. L. Minaketan Singh, Director and Dr. Kh. Rakesh, SSO attended the Indo-German outreach interaction meeting at IIT, Guwahati on **January 30, 2023**.
10. Dr. Kh. Rakesh attended TEC meeting of DBT for presentation of new project proposal titled “Sustainable utilisation of bio resources towards bio-entrepreneurship and socio-economic development of Manipur” on **February 6, 2023**.
11. Dr. Rakesh, SSO attended virtual meeting with NEC, Govt. of India, Shillong on **February 23, 2023** for discussion on development of science, technology and environment sector in NE region.
12. Dr. Rakesh, SSO attended International Bioresource Conclave & Ethnopharmacology Congress on **February 25, 2023** at Imphal as an Evaluator for assessment of scientific papers.
13. Shri L. Surjit Singh, JRF attended the IP Awareness Programme (online mode) organised by NIPAM & Manipur Technical University on **20.05.2022**. Shri Surjit also attended an online meeting on “IP Manthan: How youth can contribute towards the field of IPR” organised by National IP Awareness Mission (NIPAM) on **12.01.2023**.
14. Shri L. Surjit Singh, JRF participated in the programme “BINER 2.0 Essential of Building Sustainable incubator Ecosystem in North East Region” organised by Manipur Technology Innovation Hub & BRTC, KIIT-TBI, Imphal Centre on **Feb. 03-04, 2023** at Imphal.

## 8.0 Visiting Scientist to MASTEC

Sl. No.	Name of the Officer/ Scientist	Organisation	Programme	Period
1	Ms Anuradha Pughat	SEED Division, DST, GoI	On Spot Project Evaluation Meeting in Manipur	Sept. 1-2, 2022
1	Dr. Ditismita Cowboy	AIC-SELCO, Guwahati	TECHNOVATION 2022 (State Level Grassroot Innovators Meet)	Sept 22-23, 2022
2	Dr. Karabee Das	AIC-SELCO, Guwahati	TECHNOVATION 2022 (State Level Grassroot Innovators Meet)	Sept 22-23, 2022
3	Ms. Nayana Hazarika	AIC-SELCO, Guwahati	TECHNOVATION 2022 (State Level Grassroot Innovators Meet)	Sept 22-23, 2022
4	Ms Kripa Bora	AIC-SELCO, Guwahati	TECHNOVATION 2022 (State Level Grassroot Innovators Meet)	Sept 22-23, 2022



5	Mr. Gaurav Barthakur	AIC-SELCO, Guwahati	TECHNOVATION 2022 (State Level Grassroot Innovators Meet)	Sept 22-23, 2022
6	Mr. Dip Jyoti Das	AIC-SELCO, Guwahati	TECHNOVATION 2022 (State Level Grassroot Innovators Meet)	Sept 22-23, 2022
7	Mr. Rahul Ali	AIC-SELCO, Guwahati	TECHNOVATION 2022 (State Level Grassroot Innovators Meet)	Sept 22-23, 2022
8	Ms. Chongnei Moi	AIC-SELCO, Guwahati	TECHNOVATION 2022 (State Level Grassroot Innovators Meet)	Sept 22-23, 2022
9	Ayush Mishra	The Patent Office, Kolkata	Workshop on IPR & Opening of IPR Cell at MIT	April 26, 2022
10.	Dr. Yashwant Dev Panwar	PFC-TIFAC, DST, Govt. of India	One Day Workshop on IPR & Opening of IPR Cell at MTU	May 26, 2022
11	Dr. B.P. Singh	Former Chairman-in-charge and Technical Member – Patents (IPAB)	One Day Workshop on IPR & Opening of IPR Cell at MTU	May 26, 2022
12	Prof. Arindam Rana	City College, Kolkata	Workshop on Hands-on-Science (Chemistry) for Science Teachers of Hill Districts of Manipur	March 17-19, 2023

## 9.0 Library

MASTEC has made a modest attempt to build up its own library. There is a collection of about five hundred volumes of various disciplines. In addition, a number of periodical journals, newsletters, bulletins, local papers, science publications etc. are received regularly. MASTEC aims at strengthening the library of the Council.