

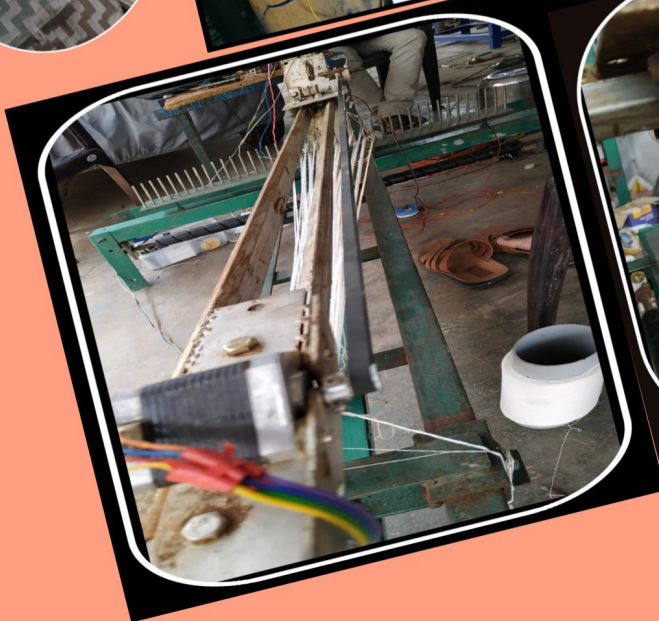
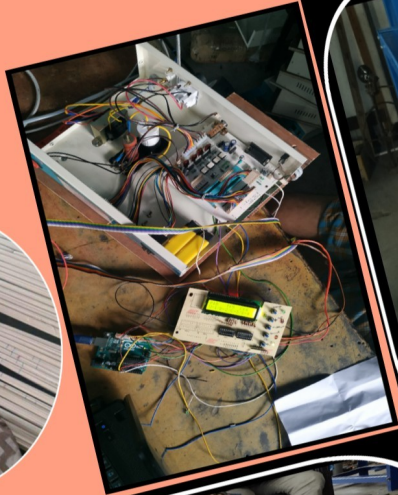


Internship at Palle Srujana



S.No	Objectives
1	Re-Engineering
2	Chinna Shoda Yatra
3	Story Translation
4	Innovator visit
5	Technical document
6	Impressions and Takeaways

Re-engineering in Handloom



Re-engineering

Introduction

An internship is a six-credit course in Engineering III year Second-semester summer course in Rajiv Gandhi University of Knowledge Technologies (RGUKT) IIIT Basar. The Training and Placement Cell (TPC) in the institute will guide the students into different Industries or companies in which students are interested. During this internship period, the students will learn how to apply the theory which they have learnt in the class and how to relate it to practical application in the real world. This is the best method to improve the technical knowledge and skills of the students. In this period they can learn how to behave with colleagues and other people in the society. They will get exposure to the real engineering world.

With the same intention, our TPC also conducted an awareness section on internship for us. But it was not that effective. So I thought of searching for internship. I consulted a few members of my faculty with reference to any one of the companies they had known. One of the faculties has given a reference to Railway loco shed, Moula-Ali. I went for a visit, I felt that every engineering student can do this, but I should do something different among them. So, I rejected it and came back to campus. At the same time, Chinthakindi Malleshham sir has come to our campus along with his movie Director and actors for movie promotion. In the event, Malleshham sir has told that he would like to work with engineering students for more innovations. That words have ignited my mind and thought of internship. I felt it will be the best opportunity to fulfill my thought of internship. So I approached my TPC for internship with Malleshham sir in handloom. TPC has supported me for my internship with Palle Srujana.

There are four reasons for my internship in Palle Srujana (Handloom). 1. I thought of doing something different from what my friends are doing, 2. From childhood, I was very much interested in Handloom, 3. Malleshham sir visit to our campus and his speech regarding working with Engineers, 4. Past bond with Palle Srujana in Techies For Karshak event in the year 2018 during the technical fest.

I have accompanied my friend Rajesh, who is very much interested in learning new things and will adjust to the atmosphere where ever and whatever we want. So we both have met the President of Palle Srujana and discussed regarding the internship in Palle Srujana. Sir has accepted our Internship and told to submit a No Objection Certificate(NOC) from our University. We have joined in the internship on 12th May and the Internship has happened as follows

DAY-01**10-May-2019**

On the first day of internship, I met the President of Palle Srujana Brigadier Ganesham sir. Sir has motivated us and inspired us by telling about Palle Srujana. Then we have prepared a schedule for 50 days of internship.

S.NO	Date(From-To)	Objective	Location
	12/05/2019 - 18/05/2019	Identification of Problems in Handloom	Mallesham sir Home (Aler)
02	19/05/2019 - 06/06/2019	Solution and Choosing Technology	Palle Srujana Office
03	07/06/2019 - 09/06/2019	Shoda Yatra	Kurnool
04	11/06/2019 - 13/06/2019	Visit of two Innovators	In their Village
05	14/06/2019 - 16/06/2019	Documentation of GRI	In their Village
06	17/06/2019 - 17/06/2019	Translation of Stories	Palle Srujana office
07	24/06/2019 - 24/06/2019	Applying for Awards	Palle Srujana Office
08	28/06/2019 - 28/06/2019	Visit Schools and conduct Ignite	In school
09	12/05/2019 - 01/07/2019	Conducting IDC for visitors	Palle Srujana Office

DAY-02**11-May-2019**

On the second day of the internship, we met the Professors of M.L.R College. They have discussed their placements and the newly introduced course from Palle Srujana. The President sir has explained all the innovations and I have explained about Air Cleaner and Nose filters.

I have worked on the Arduino UNO and tried code for the WIFI module. In the evening, Innovator Mahipal Chary has come to Palle Srujana office on some business work related to Engines. I have interacted with him and asked about his business.

President sir has given an introduction about Handloom and types in it. Sir has explained about SaiKumar Jacquard machine.

DAY-03**12-May-2019**

On the third day of internship, I have searched for the Awards for Innovators. The awards which I have searched were Nation and International. I have prepared a report front page and Presentation slide by using latex software. I have learned the latex Beamer presentation Program. I have chosen stories of innovators for translation from Telugu to English.

DAY-04**13-May-2019**

On the fourth day of the internship, we have gone to ChintaKindi Mallesham sir's home. Sir has taken us to Handloom weaver's home, there we have observed the mechanisms in Maggam. There I have observed tying of warp threads. Weaver has explained about Ikat and Double Ikat.



Mallesham sir has given us **a few problems**

- 1. Threads tying Machine**
- 2. Marking Machine**
- 3. Improvement in Laxmi Asu Machine**

As we did not do any project before, so we are very enthusiastic to complete it as soon as possible. We started at 4 pm and went on coding till 2 Am. Finally, at 2 Am we have completed the code and it was running good.

We worked with the Electronic devices shown in the figure. Sir has given threads tying instrument and told to automatize the instruments by using Servo motor.

DAY-05

14-May-2019

On the fifth day, we are eager to submit the project. So, we have woke up early and went to Mallesham's workshop. We have shown the code to sir, the code which we have written is fully automatized.

Features of Code:

- 1. Takes the varying input for different pins.**
- 2. Moves the lead Screw accordingly**

Logic: Multiplying the delay time of one turn of the motor.

Sir has seen it and smiled, he started saying the **problems** in it like

- 1. If there is a power cut during working it won't work,**
- 2. Uneducated weaver cannot operate this machine.**
- 3. If any small mistake takes place in functioning, the whole function gets disturbed, there is no choice of correction.**

Suggestions of sir in Program

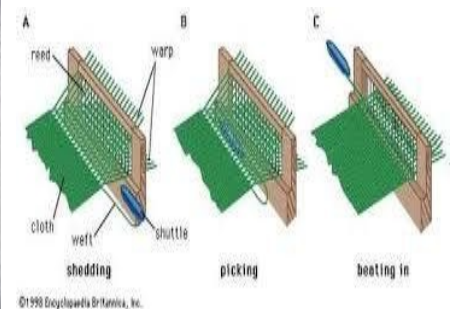
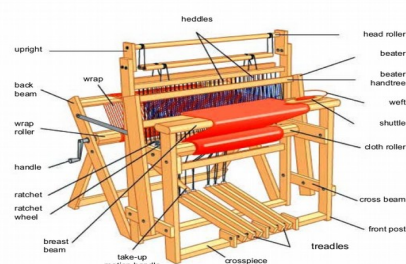
- 1. Sense Switch**
- 2. Up Switch**
- 3. Down Switch**
- 4. Count Switch**
- 5. Reset Switch**

We talked with a weaver, Anjaneyulu (Bachannapet). He has told me about his experience in the weaving field. He has completed his degree and working as a weaver. He came to Mallesham sir home to buy Asu Machine and its cost is 30,000 Rupees.

Sir has taken us to Raghunathpuram, which is 15 Km away from Aler. We talked with Shankar, a Power loom weaver. He has explained the functioning of the Machine. There will be 4600 threads in the warp and the pane (shown in the

figure) has 5000 slits in it through

A typical loom



which the threads pass. This village has more than 90% weavers and is all of the power loom (Sanche)

weavers. Only 10% of weavers work on Handloom(Maggam). Then we have gone to Manche Krishna's home, a power loom weaver and spent a lot of time in his home.

He told that the clothes produced in Raghunathpuram were exported to Uganda in South Africa where these clothes are mandatory in their countries. The cost of the new power loom machine is 1 Lakh Rupees. The cost of Handloom is 40,000 rupees. The length is called warp and the width is called weft. The weft threads were woven by shuttle(Joota, as shown in the figure)

DAY-06

15-May-2019

Sir has told to write code for the LCD (16X2). I have learned code for LCD using Arduino and tried the code on Arduino but the display did not function properly. I have tried it till 2 Am but it did not function, I have written code for many times in many ways but it did not work.

I have written code for Increment and decrement using Press Buttons. As the CNC shield has occupied the whole Arduino pins, there are no pins left to connect Stepper motors. There were no pins for LCD Screen as it has 16 pins. Sir has told me about the AC motor driver. He has started a new Machine. The display code did not work because there is an issue with the display pin, Sir has replaced the LCD with a new one.

DAY-07

16-May-2019

We have completed the basic logic code of the Machine. It was written in Java, we have explained it to sir. Sir understood and told to write it in Arduino. Sir has suggested a few improvements in Code

1. The total number of turns should be displayed after each return.

- 2.LED for identifying the forward and backward.

We requested sir that, we need few devices like Micro Step Driver, I2C register, Keypad Servo Motor, General PCB. Sir has given money for these devices and given the address of those shops in Koti. We went to Palle Srujana office to meet Ganesham sir and talked about our project.

Then I collected our material in the office and moved to Koti. There we bought the material and returned in the Morning.

DAY-08

17-May-2019

Mallesham Sir's new Machine was completed. The application of the machine is to make tie and dye process. Sir has requested to write code for his new machine. Sir is using Arduino and two Stepper motors in his machine but there is no auto input, every time we have to give input.

Requirements:

1.Y-axis has Continuous rotation

2.X-axis has a variable rotation

200 steps=279.5

1 mm=0.7155 Steps

We have tried writing code for it, but it did not work because parallel operations cannot happen in Arduino.

DAY-09**18-May-2019**

On the ninth day of internship, I have written code for LCD and KeyPad. The LCD and Stepper Motor. But both the codes are unable to work combined. The same problem was brought into the sight of sir, he has suggested eliminating the Keypad and it is better to use press buttons. We tried the code for a new machine. We told to sir that it won't work with Arduino. Sir has started the machine in the new method of mechanical process.

DAY-10**19-May-2019**

On the 10th day of our internship, I completed the code for press button increment and decrement. Sir has told to change the code to signal as the actual Asu machine is working on AC Stepper motor so, it requires relay signal. The code consists of Increment Switch, Decrement Switch, Enter Switch, Count Switch, Sense Switch, and Relay Output. We made all the connections on a breadboard, few errors have taken place in the code. Tested with stepper motor and LCD Screen with the new Arduino code. I tried rectifying a few errors in it.

DAY-11**20-May-2019**

Next, all the errors were rectified and code has worked good. We have shown the function of the code to sir. He told me that he will connect it to PCD instead of a breadboard. Till afternoon sir and I tried connections on Control Unit of Asu machine. At 2 pm, the connections were completed and run the Asu Machine with Arduino code. It has worked well and few corrections were required like delay time in display etc. We adjusted them and run the machine again.

Narender sir has come to tell about the marking machine and its functioning. Sir has told us a few specifications of a machine like Steps of Stepper Motor for 1 mm of distance of marking. We noted all the specifications and returned home.

DAY-12**21-May-2019**

On the 12th day, I was at home. I woke up early in the morning and started thinking about the logic of the marking machine. I started developing code for the logic but faced few problems like 1. Pin 1 is not taking input, 2. Not printing pin 2 markings, 3. The output is not printing according to pins. We tried to resolve these problems but did not solve till evening.

DAY-13**22-May-2019**

On the 13th day, I have written code for the LCD screen. The Problems faced in the previous day were resolved. The code was working good. And we searched for the notching machine.

DAY-14**23-May-2019**

On this day I have explored for the mechanism for knotting machine. I have tried with different instruments around me. I have tried with hair Comb, Sticks, metal wires, but the mechanism did not work. So, I left it.

DAY-15**24-May-2019**

Mallesham sir has called me and told to meet him. On 24th may again meet Mallesham sir and Narender sir. We showed the marking machine code. Sir has suggested inserting a few mathematical calculations in the code of the Stepper motor. X-axis Stepper pulley has 16 teeth. Therefore $12.5 \text{ Steps} = 1 \text{ mm}$. $4 \text{ mm} = 50 \text{ pulse}$. 4 mm is taken as default because there is no marking less than 4 mm in marking. Pulse for the Y-axis motor is 237. Sir has made a PCB board for display and switches. I have suggested a few changes in electrical connections.

DAY-16**25-May-2019**

On the 16th day of my internship, we have improved the suggested changes in the Marking machine code.

Changes were

1. Asking the markings at the end of input (Pins should not be initialized in the beginning)
2. Pause button (To stop in between marking)
3. The machine must come to the first pin.

I have taken an I.R sensor from Mallesham sir and tried code for it. Sir has explained his machines which are working with the I.R sensor.

Sir has suggested doing a few projects with Arduino.

DAY-17**26-May-2019**

We tried writing code for the marking machine. A few problems were faced while writing code. 1. No. of markings decreased to zero directly, 2. No. of marking distance not showing properly, 3. No. of markings in 2nd iteration is not decreasing, 3. Single-digit to double-digit "0" remains the same in ten's place.

DAY-18**27-May-2019**

On the 18 days of internship, I was at home I have tried writing the code till 11:30 am after that I have taken a break and started writing the code at 2 pm I have completed the code. I have resolved the problem faced by LCD because of "0" in ten's place. The code was completed for the marking machine.

DAY-19**28-May-2019**

On this day I have made few changes in the Asu machine code with the proper functioning of Up, Down, Forward, Backward and Count switch. Everything worked good.

DAY-20**29-May-2019**

I have watched online tutorials about Microcontroller and MicroProcessor. The microcontroller is a device that is a combination of Microprocessor, Serial ports, Counters (Timers). Micro Processors have control Unit, Register Unit, Memory unit.

DAY-21**30-May-2019**

On this day I have again come to Mallesham sir workshop and installed newly improved software. Sir has done all the hardware connections. Connected Arduino to his Asu machine it has taken a lot of time. finally connections were done and tested on a proto machine it has worked well. We

requested sir to run our code on actual Machine. The new machine was assembled and ran with our code. It has worked good. We have taken videos of it. Sir has suggested writing a manual in Telugu. Sir told me to prepare a PCB for it. On the same day evening, we have gone to Hyderabad to install the software in the Marking machine.

DAY-22 31-May-2019

On this day, we have met Narender sir. He has taken us to his workshop in Ramanthapur. There in his workshop, he is manufacturing different sizes of machines for spinning of thread to Bobbins. He has brought out the marking machine and assembled it. I have done all the hardware electric connections. Arduino code was not installed because we have forgotten to bring adapter .so we have tested the working of the Solenoid valve working.

DAY-23 01-June-2019

I have made all the connections for Stepper Motors. Stepper motor in X-axis has a bearing problem and it did not work properly, so sir has replaced it with another motor. The software was installed and working was tested. Everything worked good but few improvements were suggested 1. 180 degrees limit switch for X-axis 2. Stopper Switch for Y-axis, 3.Servo motor for marking ink, 4.Telugu script in LCD Screen 5. Storing devices(Memory). We have come back to Palle Srujana office on the next day evening we have an exhibition in T-Innovation Utsavam.

We have met President sir, and discussed our project. Sir told me that few students from HAITHAM college were coming to do an internship in Palle Srujana. Sir asked for the schedule for this month. Sir has asked for the report and presentation for these days. In the afternoon we met Akhila Senior Volunteer in Palle Srujana. Sir has asked to create a Gmail group. Akhila has spent more than 1 hour with us discussing her experience in Palle Srujana

DAY-24 02-June-2019

On the 2nd June for the T-Innovation Utsavam many innovators from different districts. Innovator Chinni Krishna garu who has developed a new variety of paddy. He has received a letter from one of the farmers who has harvested his paddy variety. Sir has told me to translate the letter to English. He has shown rice sprouting which is developed by him. Chinni Krishna has requested to give a design for his field for writing "Prakruthi Vyavasayam" which is 120 feet and 130 feet. I have helped in shifting innovations from Palle Sujana office to necklace road to people's plaza.

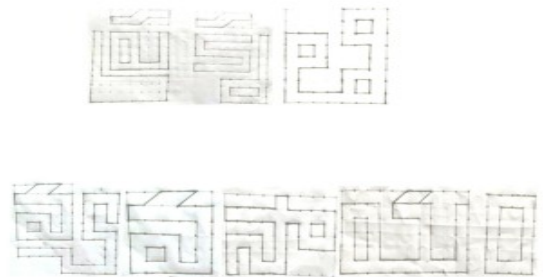
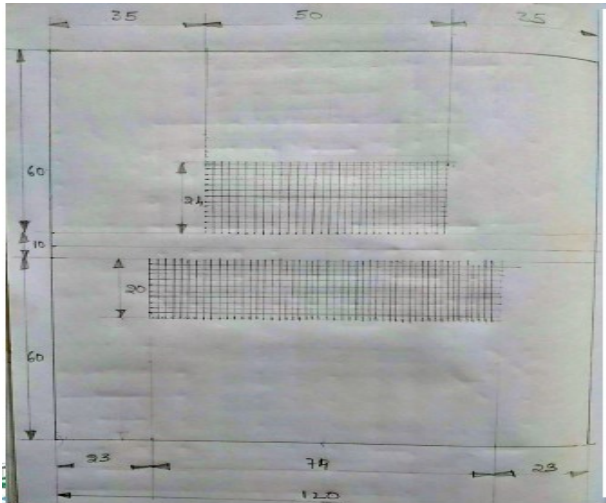
DAY-25 03-June-2019

On this day I have prepared Time table for the remaining days of Internship. I have started drafting the design for Chinni Krishna field.

S.NO	From -TO	Objective	venue
01	07/June/19 - 09/June/19	Innovator Mahipal Chary visit	Peddarajipeta, Parkala, Warangal
02	10/June/19 - 12/June/19	Innovator Pandu Ranga Rao	Narayankhed, Sangareddy
03	14/June/19 - 16/June/19	Chinna Shoda Yatra	Kurnool
04	17/June/19 - 20/June/19	Schools	school

DAY-26**04-June-2019**

On this day Narender sir has called me and asked me to accompany him to Koti for buying a few electronic components. In the morning from 7 am to 12 pm I have completed drafting the drawing for the field. Narender sir and I went to Koti and bought few materials like EEPROM, SD card reader, stepper motor drivers, Multimeter, Soldering Iron, Arduino UNO, etc. I came back home and tried coding for EEPROM.

**DAY-27****05-June-2019**

On this day I have tried coding for EEPROM and SD card. Searched about Dynamic memory allocation and tried coding for it. I have watched a few video tutorials on EEPROM.

DAY-28**06-June-2019**

On this day I have planned for the journey to visit Innovator Mahipal Chary sir. I have tried calling him but he did not reply to my call. I have come to know his address by innovator Mupparapu Raju.

DAY-29**07-June-2019**

On this day I have woken up early in the morning and called Mahipal Chary sir. He has told the address to his home and we have started at 7 am. I started from Hyderabad to Kazipet junction by train, from Kazipet to Parkal by bus and from Parkal to Peddarajipet by Auto.

At the starting of the village to the left of the road is a workshop with Varun Engineering works. Their sir has received us and we introduced each other. We have documented about him till 5 pm, sir has provided delicious food, sir has shown whole gratitude of Palle Srujana on us. We have started back journey to Hyderabad. At 9 pm we have reached Hyderabad.

DAY-30**08-June-2019**

On this day I have started writing a report on our visit to Innovator. I have tried coding for marking machine about EEPROM. A powerpoint presentation was prepared until evening.

DAY-31**09-June-2019**

On this day I have completed a report and presentation on innovator visit. And planned for the next innovator visit Pandu Ranga Roa. I have called sir but he did not give a reply to my call.

DAY-32 10-June-2019

On this day I have started to Narayankhed on a bike with 2 of my friends. On the way, President sir has texted to know about our status of Innovator visit. In the evening we have reached Narayankhed I have called sir for an appointment with him. Sir was busy and did not reply. So I went to my friend's home and stayed there for the night.

DAY-33 11-June-2019

On this day I have called again called sir. Sir has told me that he is away from Narayankhed. He has gone to Hyderabad for business work. I have informed the same to President sir he has told me to come back and plan for another visit. So we returned to the office in the evening.

DAY-34 12-June-2019

On this day early in the morning, we met sir, sir has asked about the report of the innovator visit. Sir has told to plan for the visit to another innovator. Sir has told to plan for the Chinna Shoda Yatra material and other things. Shubash Chandra sir has told us to prepare a list of material required for the yatra.

DAY-35 13-June-2019

On this day morning, Harish has come to the office. Ramesh, Haresh, Rajesh, Shiva and I have prepared a list of materials and arranged for Yatra on this day evening Vehicle has come to the office we have arranged all the material in the vehicle. We have started at 11 pm.

DAY-36 14-June-2019

On this day we have reached early at 4:30 am. During the journey, I have helped Parashuram(Driver) in Navigating to Velugodu. We have got fresh up in Sri Neelam Sanjeevaiah Degree College. The attender of the college has received us and provided us with all the facilities. Few Shoda Yatries have arrived at 7 am my friend Naresh also came at the same time by bus. I have talked with co-Shoda yatries and guided them in getting fresh up. At 8:00 am Raju and I went into Velugodu village to bring breakfast for Yatries. we lent a bike of attender and went. At 8:30 am President sir and a few other Shoda Yathries have come. We all had our breakfast and went for a meeting.



In the meeting, sir has told to tell there name, Place about Village and expectations from Chinna Shoda yatra. Everyone has introduced themselves and expressed their views about the village. In this meeting, I have come to know 26 new definitions for the village. Manish from TSIC has a keen observation on everyone he has



observed that we are involuntarily playing with twigs. My view about the village is good relationships with everyone in the village and they look after each other during their needs. My expectation from Shoda yatra was to compete with President sir in walking. Then after the meeting, we have moved to walk in the village. On the way, few Yatries have added. In front of the college, there was N.T.R Telugu Ganga Project Sri has explained about it and its importance. The hole construction of the dam was constructed by only stones and sand no Concrete was used in it. Sir has permitted us to climb the dam those who are interested. So, Haritha and I have started running towards the dam by holding the Banner. Though she was a girl she has climbed faster than me. Many of the young yatries have climbed the dam. Shivam one was the Yatri from Punjab(Software engineer in Hyderabad) was slipped while climbing, shiva bro has jumped and caught him. Shivam has taken rest for a few minutes. I have helped Ytries in climbing the dam. Sir has given 15 minutes, we have enjoyed the view of the dam it was a huge and beautiful location. Everyone has started going down but Shivam was not yet well we have spent a few more minutes for him. Few Yateies and I helped him get down from the dam. Everyone clapped for us.then we started our walk to the village.



On the way, we have found a canal pipe sir has told to try to walk through it again Harika and went into it. And I enjoyed the competition with her with me. Then on the way we have found green Kanugu(in Telugu) tree sir has explained its importance. sir has given an example of



Parijatha (in Telugu) tree in his home. Sir has told us to know why the leaves are green in hot summer why not other trees don't?

On the way, we have found an old well which is constructed with different types of stone called Palugu rayi (in Telugu). There we have found a cattle shed where newly born calves were tied. On the way, we have found workers working on stones that are being used for the construction of the compound walls. The workers Edeath hula Cell:9160674839, Ovli cell: 6000833031 they explained how to shape the stone. Sir has felicitated them



From there on the way we have found an ice cream vehicle which has a different steering mechanism, sir has explained about it. Then we have moved on to the company of Krishna garu who is producing Tulasi and Perfect herbal pesticides. There Krishna garu has explained about the success story of his natural herbal pesticide. Then Sudarshan sir has felicitated him and his him. Then after we have observed the different processes in the company. Krishana garu has explained about his company. Then in front of his company, there is one more company of plastic bags stitching. There the workers and their supervisor has explained about the machines and the processes done there. Then sir has felicitated him.



From there we have started our walk to the next village on the way we have waited for a few more yatries from Namasthe Kisan. Then again we have started our journey on the way we have met a few farmers and asked about the usage of the Tulsi product. On the way, we met an old woman she has explained about the usage of Tulsi. We have sung a song also in our present culture.



We had a delicious lunch under the Neem tree on the roadside. I have served food for yatries. After lunch, sir has told the story of innovator Pandurangaroa. The story was very inspiring he has innovated a



punchless tube, Pad making machine, and plastic plant pots. Then with a lot of inspiration parties have started their journey I have stead back with shiva bro for returning the bowels.

Shiva bro Parashuram and I have gone in a car to the next village to conduct an exhibition. I have arranged all the posters a T.V and a mic set. To the left of the village, there is a river flowing there yatries have come there we have enjoyed playing there. Then we have played with children there. They were very active and played with us. Sir has explained about the innovations to villagers. We played for 30 minutes then we left the village while we are going the children have come with us till their village ending. Then we have walked for 6 Km. On the way, sir has discussed with me about my goal and my family background. I have explained it to sir has guided me to choose the right path.



Sir has asked a question about why the roads are curved in shape instead of a straight path. I said a reason like if the road cuts there part if field it is unable to cultivate it. But the actual reason which sir has told us that it is difficult



to divide the survey number. On the way, I have talked about his life during student, army and now. I have already read about sir's 2 lifes talk. I have few doubts about it so it got clarified them by sir. On the way, we have exhibited in one more village where people have supported us and helped in arranging TV, etc. Sir has explained the innovations to them I have demonstrated an electric pole climber. On the journey, USA sai again added into the walk.at midnight we have reached our destination of our first-day .we have sat in the circle for discussion. After a few minutes, Raju bro has bought food for us. We ate it and went to sleep on the floor in the school.

DAY-37

15-June-2019

We have woke up early and took a bath the village name is Narayanapuram. In the morning shiva bro

and I went into the village for conducting the exhibition. We have tied the banners and set all the arrangements. Then I went with Raju bro to bring breakfast. Then all the yatries went into the village. After a few minutes, all the people have gathered and sir has explained about innovations. I have explained about the electric pole climbers. I have helped Akhila sis in climbing the pole. After the exhibition, we have gone to school for having breakfast. After having breakfast sir has conducted ignite in school. For the first time, I am hearing the ignite presentation. Sir has explained well and I



was very much inspired by the presentation. After the presentation sir has asked the students to write their ideas. They have written wonderful ideas. One has written that he wants to become an innovator but he didn't have any idea. One has written about their environment. Their thoughts were amazing. After the Ignite program, we have started to the next village.

On the way, we have sat for one more story of innovator Narasimha. Sir has told the efforts he put to get money from the government and sanctioned the Canya Project. We have walked through the second village sir has explained about the innovations in the village then at the end of the village, there is a school in that school we had lunch I have served food for yatries after me Rena came to serve food. After having lunch we have started walking to the next village on the way I have served water to yatries by TVS scooter. Then after walking for 7 km, we came across a river there everyone took rest on the bank of it. I tried to swim in the canal and went into the canal without removing the dress then what I came to know is the canal was shallow it is 3 feet depth. After me, all yatries came into the water and walked through it .everyone enjoyed it.



After 20 minutes we again started our journey. On the way, one of our yatris Ravi has left the yatra as he has some competitive exams. There we have given send off and went on the journey. On the way at 6 pm, sir has told to sit for a few minutes. Their sir has told the Mahipal chary story. It was very inspiring. After that sir has told Malleshham sir story. Few yatries have asked questions to sir and sir has answered them. From there again we have started our walk. We have walked for 2 hrs on the way again we sat for



20 minutes. This time sir told to West Godavari Sai to tell about his business thought. He has explained it clearly.he had done a huge survey on it. Then we have walked for 1 hour. Then sir told to do silent walk everyone started a silent walk. We have walked for 20 minutes. There we have experienced a different nature which we always ignore our noises. Then we sat on the road to discuss our views about the silent walk. Everyone has explained their views. Then at 11:30 we reach our destination for the second day. I have served food for yatries. After that, we have sat for expressing our impressions. Everyone was very tired but explained their impressions. My friend

Naresh has expressed his experience with a basket weaver whose skills have been suppressed by her neighbors. Then my term has come I have told that I have lost in competing with sir and I had a good experience of swimming in the canal. Then we went to sleep at the panchayat office.



DAY-38 16-June-2019

On the third day of our yatra, I have woken up early in the morning and took a bath I went into the village with shiva bro and arranged everything for a meeting we have tied posters and set the innovations. After a few minutes sir and yatries has come through the village and sir has explained the innovations to the villagers. There I have explained about solar sprayer, solar fertilizer dispenser, and paddy weeder. After this exhibition, we went into the panchayat office for collecting bowls and bags. All the yatries went on walking. Shiv bro, subash bro, Raju bro and I went to get breakfast. Till that time yatries had sat and had a discussion. After 20 minutes we have come back with breakfast. All have eaten and started the journey.



After walking for 2 hrs we have reached a village where we found a tamarind tree sir has explained about it and Ramesh went to test its strength. He swangs on its branch but it didn't break. It is the uniqueness of the tamarind tree. Then we went into the village there er went into a house they have talked with us wholeheartedly. Then we went on our walk. After walking for 2 hr we sat under a tree which is in the field. Their sir has told about his punishment which is received from his senior. There was a debate about Indian goods and imported goods. After this, we have again started walking. At 2:30 pm we have reached



Thammedepally. There Krishna garu and his family came with sweets for us. We sat for lunch at a temple. I have served food then after Reena has served food. We had our lunch and sir went on discussion with Ayurveda guru. Sir has felicitated him. We sat for final impressions on Shoda yatra. Everyone has given their views I am the only person who has left, I thought of escaping from giving impressions but finally caught by sir. I have given my impressions.

Everyone has started going home I felt sad in my heart, missing my friends. After everyone has left we went to Mahanandi temple. I went into the temple I liked the sculptures in the temple. It was amazing designs were inside the temple. Raju bro and I swam in the water were very neat we can even see the pin under the water. After that, we went to the bus stop. At 9 pm all of my friends left Shiva bro, subash, Harish and I were left in the bus stand after 20 minutes of the car have come and we started our return journey.



DAY-43 21-June-2019

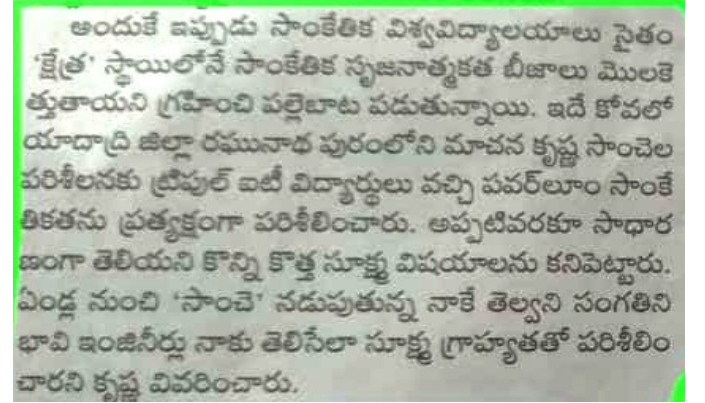
On this day I have gone to Guntur along with Subhash Bro for a presentation at Bapatla Agricultural College. There I have participated in the exhibition and explained innovations to visitors. In the evening valedictory ceremony, Subhash bro has explained about Palle Srujana and Grass Root Innovators. Three PG Agricultural Students have participated in the exhibition.



Innovator Tirupathi Rao has participated in the exhibition. West Godavari Sai has come to the event and talked about the milk business. In the evening we have started our return journey. In the journey, Parashurama has narrated his life history. At 4 am we have reached Palle Srujana office.

DAY-45 23-June-2019

On this day I have received a WhatsApp message to Krishna sir, who is one of the weavers whom I met in Ragunathpuram. I have seen a newspaper picture in which the importance of the Malleshham movie was described. there I a paragraph in which they have described my internship. they have stated that technical universities are looking towards handloom.



DAY-48 26-June-2019

on this day I have come to my college and conducted Ignite in RGUKT Basar school. the children have listened to my presentation and inspired by seeing the innovations done by the school children like them. After this school I have gone to Basar government school the there school was closed as there is a farewell function of sir. I have returned to Hyderabad

DAY-49 27-June-2019

on this day I have started the final presentation I have arranged all the slides and prepared a draft for presentation.

Narender sir has called and told to come to his workshop in Ramanthapur. Naresh Rajesh and I went to Ramanthapur and made all the connections to marking machine .sir have told to leave about the display and manual input from switches. We would like to improve it in the next generation of marking machines. It has taken 4 hrs to complete the work at 8 pm we have returned to the office.

DAY-50 28-June-2019

On this day few visitors have come to the office I have explained all the innovations to them they have bought few products like Sri Thilyam and nose filters. the visitors were old but they are still young in gaining knowledge.

DAY-51 29-June-2019

On this day subash bro has told that few pg diploma students were coming from Agra to make necessary arrangements for it. I have tied posters in the office and went to odder tea and food for lunch for them. Pandu sir has come to the office along with a plastic plant pot for demonstrating to the students. Pandu sir has given a presentation on plastic waste management. Then in the afternoon, Subhash bro has given a presentation on Palle Srujana innovations.

DAY-52 30-June-2019

On this day I have worked on preparation on a powerpoint presentation. I have completed it and prepared for a few minutes

DAY-53 01-June-2019

On this day sir has texted to call Anish to the office I have called him, he told me that he will come but after a few minutes, he has told me that was no coming. Then at 10;30 am President sir and Prasad sir has sat for listening to our presentation. Sir has noticed many mistakes in our presentation and suggested to correct them. At 12:00 pm few people came from TSIC sir has told us to present in the evening and talked with TSIC members. After a few minutes Mohan sai a student from Guntur came to the office. I have explained innovations for him. And he has explained about his purpose of visit to Palle Srujana office. He has created some new technology for securing hardware security.

After a few hours, Narender sir has called me told that there is an issue with the circuit of marking machine. I told that I will come to him after the presentation. In the evening I have presented my ppt sir has given us feedback he was not satisfied with our work. We have not completed our tasks properly. We have requested sir to give a few days. In the evening I went to Narender sir workshop. I have seen that sir have changed the circuit connection. I thought there was a problem with the circuit. so I checked it and I found the mistake after 30 minutes. I have changed the connection and made it work. I have started back to college.

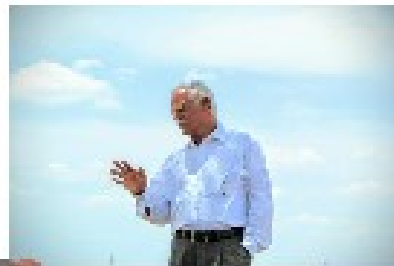


Marking Machine by Ch Narender



Asu machine By Ch Mallesham

Chinna Shoda Yatra Impressions



Chinna Shoda Yatra Impressions

DAY-1 14-June-2019

In the morning 4:30 Am Shiva, Shubash, Harish ,Rajesh and I have reached Velugodu. During the journey, I have helped Parashuram(Driver) in navigating to Velugodu. We have got fresh up in Sri Neelam Sanjeevaiah Degree College. The attender of the college has received us and provided us with all the facilities. Few Shoda Yatries have arrived at 7 am , my friend Naresh also came at the same time by bus. I have talked with co-Shoda Yatries and guided them in getting fresh up. At 8:00 am Raju (Coordinator of Shoda Yatra) and I



went into Velugodu village to bring breakfast for Yatries. We lent a bike of attender and went to get breakfast. At 8:30 am president sir and a few other Shoda Yathries have come. We all had our breakfast and went for a meeting. In the meeting, sir has told to introduce themselves and tell about Village and expectations from Chinna Shoda yatra. Every one has introduced themselves and expressed their views about the village. In this meeting, I have come to know 26 new definitions for the village. Manish from TSIC has a keen observation on everyone, he has observed that we are playing with twigs. My view about the village is good relationships with everyone in the village and they look after each other during their needs. My expectation from Shoda yatra was to compete with President sir in walking. Then after the meeting, we have moved to walk in the village.

On the way, few Yatries have added. In front of the college, there was N.T.R Teluguganga Project Sir has explained about it and its importance of it. The hole construction of the dam was constructed by only stones and sand no Concrete was used in it. Sir has permitted us to climb the dam those who are interested. So, Haritha and I have started running towards the dam by holding the Banner. Though she was a girl she has climbed faster than me. Many of the young Yatries have climbed the dam. Shivam one was the Yatri from Punjab(Software engineer in Hyderabad) was slipped while climbing, shiva bro has jumped and caught him. Shivam has taken rest for a few minutes. I have helped Yatries in climbing the dam. Sir has given



15 minutes of time, we have enjoyed the view of the dam it was a huge and beautiful location. Everyone has started going down but Shivam was not yet well we have spent a few more minutes for him. Few Yateies and I helped him get down from the dam. Everyone clapped for us.then we started our walk to the village. On the way, we have found a canal pipe sir has told to try to walk through it again Harika and I went into it. And I enjoyed competing with her. Then on the way we have found a green Kanugu(in Telugu) tree sir has explained its importance. sir has given an example of Parijatha (in Telugu) tree in his home. Sir has told to know why the leaves are green in hot summer why not other trees don't? On the way, we have found an old well which is constructed with different types of stone called Palugu Rayi (in Telugu). There we have found a cattle shed where newly born calves were tied. On the way, we have found workers working on stones where are being used for the construction of the compound walls. The workers Edeath hula Cell:9160674839, Ovlia cell:

6000833031 they explained how to shape the stone. Sir has felicitated them. From there on the way we have found an ice cream vehicle which has a different steering mechanism, sir has explained about it. Then we have moved on to the company of Krishna Garu who is producing Tulasi and Perfect herbal pesticides. There Krishna Garu has explained about the success story of his natural herbal pesticide. Then Sudarshan sir has felicitated him and his him. Then after we have observed the different processes in the company. Krishana Garu has explained about his company. Then in front of his company, there is one more company of plastic bags stitching. There the workers and their supervisor has explained about the machines and the processes done there. Then sir has felicitated him. From there we have started our walk to the next village on the way we have waited for a few more Yatries from Namasthe Kisan. Then again we have started our journey on the way we have met a few farmers and asked about the usage of the Tulsi product.



Felicitating to Venkata Krishnudu garu couple by re-yatri



Ganesham garu explaining the importance of exploring village knowledge

On the way, we have met an old woman she has explained about there past days. She has sung a song also on our present culture. We had a delicious lunch under the Neem tree on the roadside. I have served food for Yatries. After lunch, sir has told the story of innovator Pandurangaroa. The story was very inspiring he has innovated a punchless tube, Pad making machine, and plastic plant pots. Then with a lot of inspiration Yatries have started there journey I have stead back with shiva bro for returning the bowels. Shiva bro Parashuram and I have gone in a car to the next village to conduct an exhibition. I have arranged all the posters a T.V and a mic set. To the left of the village, there is a river flowing there Yatries have come there



Sadhu Yatri conducting games to village children in ayyavaripalli village



villagers are keenly listening about village innovations

we have enjoyed playing there. Then we have played with children there. They were very active and played with us. Sir has explained about the innovations to villagers. We played for 30 minutes then we left the village while we are going the children have come with us till their village ending. Then we have walked for 6 Km. On the way, sir has discussed with me about my goal and my family background. I have explained it to sir has guided me to choose the right path. Sir has asked a question about why the roads are curved in shape instead of a straight path. I said a reason like if the road cuts there part if field it is unable to cultivate it. But the actual reason which sir has told is it is difficult to divide the survey number. On the way, I have talked about his life during student, army and now. I have already read about sir's two lives talk. I have few doubts about it so it got clarified them by sir. On the way, we have exhibited in one more village where people have supported us and helped in arranging TV, etc. Sir has explained the innovations to them I have demonstrated an electric pole climber. On the journey, USA sai again added into the walk. at midnight we have reached our destination of our first-day .we have sat in the circle for discussion. After a few minutes, Raju brother has bought food for us. We ate it and went to sleep on the floor in the school.

DAY-2 15-June-2019

We have woke up early and took a bath the village name is Narayanapuram. In the morning shiva bro and I went into the village for conducting the exhibition. We have tied the banners and set all the arrangements. Then I went with Raju bro to bring breakfast. Then all the Yatries went into the village. After a few minutes, all the people have gathered and sir has explained about innovations. I have explained about the electric pole climbers. I have helped Akhila sis in climbing the pole. After the exhibition, we have gone to school for having breakfast. After having breakfast sir has conducted ignite in school. For the first time, I am hearing the ignite presentation. Sir has explained well and I was very much inspired by the presentation. After the presentation sir has asked the students to write their ideas. They have written wonderful ideas. One has written that he definitely want to become an innovator but he didn't have any idea. One has written about their environment. Their thoughts were amazing. After the Ignite program, we have started to the next village.



On the way, we have at for one more story of innovator Narasimha. Sir has told the efforts he put to get money from the government and sanctioned the Canya Project. We have walked through the second village sir has explained about the innovations in the village then at the end of the village, there is a school in that school we had lunch I have served food for Yatries after me Rena came to serve food. After having lunch we have started walking to the next village on the way I have served water to Yatries by TVS scooter. Then after walking for 7 km, we came across a river there everyone took rest on the bank of it. I tried to swim in the canal and went into the canal without removing dress then what I came to know is the canal was shallow it is 3 feet depth. After me, all Yatries came into the water and walked through it. Everyone enjoyed it. After 20 minutes we again started our journey. On the way, one of our Yatri Ravi has left the yatra as he has some competitive exams. There we have given send off and went on the journey.



On the way at 6 pm, sir has told to sit for a few minutes. Their sir has told the Mahipal chary story. It was very inspiring. After that sir has told Mallesham sir story. Few Yatries have asked questions to sir and sir has answered them. From there again we have started our walk. We have walked for 2 hrs on the way again we sat for 20 minutes. This time sir told to West Godavari Sai to tell about his business thought. He has explained it clearly. he had done a huge survey on it. Then we have walked for 1 hour. Then sir told to do silent walk everyone started a silent walk. We have walked for 20 minutes. There we have experienced a different nature which we always ignore our noises. Then we sat on the road to discuss our views about the silent walk. Everyone has explained their views. Then at 11:30 we reach our destination for the second day. I have served food for Yatries. After that, we have sat for expressing our impressions. Everyone was very tired but explained their impressions. My friend Naresh has expressed his experience with a basket weaver whose skills have been

suppressed by her neighbours. Then my term has come I have told that I have lost in competing with sir and I had a good experience of swimming in the canal. Then we went to sleep in the panchayat office.



DAY-3 16-June-2019

On the third day of our yatra, I have woke up early in the morning and took a bath I went into the village with shiva bro and arranged everything for a meeting we have tied posters and set the innovations. After a few minutes sir and Yatrics has come through the village and sir has explained the innovations to the villagers. There I have explained about solar sprayer, solar fertilizer dispenser and paddy weeder. After this exhibition, we went into the panchayat office for collecting bowls and bags. All the Yatrics went on walking. Shiv bro, Subash bro, Raju bro and I went for getting breakfast. Till that time Yatrics had sat and had a discussion. After 20 minutes we have come back with breakfast. All have eaten and started the journey.



After walking for 2 hrs we have reached a village where we found a tamarind tree sir has explained about it and Ramesh went to test its strength. He swangs on its branch but it didn't break. It is the uniqueness of the tamarind tree. Then we went into the village there went into a house they have talked with us wholeheartedly. Then we went on our walk. After walking for 2 hr we sat under a tree which is in the field. Their sir has told about his punishment which is received from his senior. There was a debate about Indian goods and imported goods. After this, we have again started walking. At 2:30 pm we have reached Thammedepally. There Krishna Garu and his family came there with sweets for us. We sat for lunch at a temple. I have served food then after Reena has served food. We had our lunch and sir went on discussion with

Ayurveda guru. Sir has felicitated him. We sat for final impressions on Shoda yatra. Everyone has given their views I am the only person who has left, I thought of escaping from giving impressions but finally caught by sir.i have given my impressions.



Everyone has started going home I felt sad in my heart, missing my friends. After everyone has left we went to Mahanadi temple. I went into the temple I liked the sculptures in the temple. It was amazing designs were inside the temple. Raju bro and I swum in the water which is very neat we can even see the pin under the water. After that, we went to the bus stop. At 9 pm all of my friends left Shiva brother, Subhash, Harish and I were left from the bus stand after 20 minutes car has come and we started our return journey.



Story

Translation

Cellphone operated Motor by Amarnath

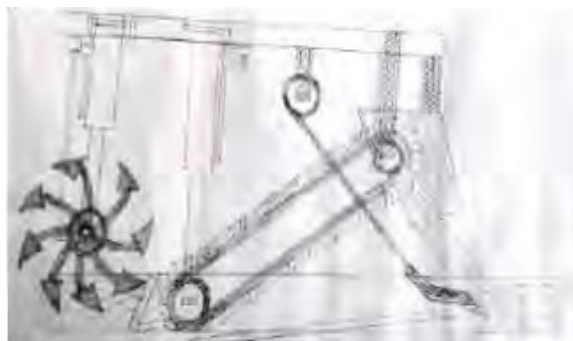
Amarnath is an innovator who belongs to **Ananthapur District, Aanakapally Mandal, Maddula Cheruvu Village**. His father's name is **Muthalappa**. Amarnath has studied till **6th** standard and written **10th** standard in private. Without any technical knowledge, he has solved many problems which cannot be thought of by an experienced Engineers. He has proved that we require knowledge to solve a problem but not much Education.

He has cultivated groundnut in his four acres of land. His land is located in a hilly area where people were afraid of wild animals while going to the field to **switch on the motor** during night time.

He decided to solve this problem by which not only himself many other farmers will be happy. So, he innovated a **device to start the motor** by using a mobile phone by sitting at home.

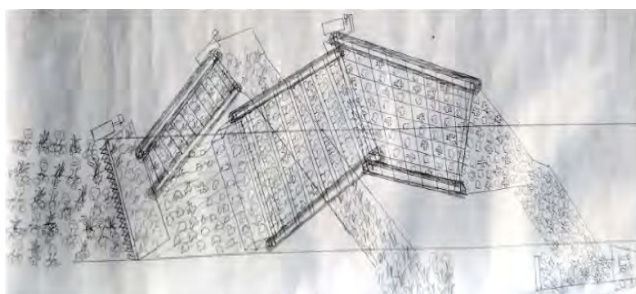
In the starter, he has installed a mobile phone and connected a few wires to starter such that when he sends a text message from his mobile, the motor gets on and off. He was told that it requires **2,500/-** for the installation of this device. By seeing this innovation his fellow farmers have appreciated him. He has understood the problem of the farmer and innovated the device with less cost. To observe the flow of water in the field, he is going to install **CCTV** in his field.

The underground **pipeline** is one of the important methods of supplying water in fields and it is also costly. To install pipeline we have to dig the land up to 3 feet depth in field .the labor cost for this work is not affordable by the farmers. Nowadays **the procliner (JCD) machine** is available at less cost. But **Amarnath** is saying that he can make a machine by using the **TATA Ace machine** which can dig the soil, place the pipe and close the hole.



Pipeline digging machine design

There are 140 mango trees and 100 sapota trees in his field. Sapota trees are in the path of the stream and the soil in the field is **savudu**(soil which looks like sandy and water won't sink for many days). Because of this many plants die. To solve this problem he has made a design. In developed countries, some machines can uproot the tree and move it to another place. It is very costly. As a farmer we cannot afford that much cost so, **Amarnath** has designed a model that is **similar to JCB**. If he brings this machine into the market many farmers can transplant the trees from the fields without cutting them. And also the plants which are on roadsides causes the electrical wires to get short circuit, in that case, we have to cut the trees. By using this technology instead of cutting trees we can transplant the trees from its place.



Onion Harvesting Machine Design

Amarnath has designed a **machine to harvest onion** and all other tuber families like Potato, Turmeric, Ginger, etc. This machine design can separate the stem and leaves from the tuber.

With a minimum cost of **5,000/-** he is providing **artificial hands** for the lamed. He has made an artificial hand that can be operated by a **T.V remote** and made a model which helps the lamed in eating food drinking water by themselves. This remote is attache to toes and can be operated according to their needs. The power source battery is present on the back of the person so that he can take the hand where ever he goes.

Amarnath says that if anyone provides his financial support to him he can do many more innovations.



Artificial Hand made by Amarnath

Amaranath: 8008207620

E-Mail: amarn2080@gmail.com

Natural Public Mobile Phone Charger

In the 20th century, the mobile phone has become as one of the important objects in Human life. We are using the mobile phone right from wakeup from the bed till going to bed. Nowadays everything is available on the mobile phone from a small safety pin to costly Diamond. But the mobile phone also has restrictions like battery storage. Once the battery was discharged we cannot use mobile till it gets charged. When we are at home it is easy to charge but when we are away from home it is hard to charge our mobiles

This is experienced by a 28 years age **Raju Mupparapu**, who belongs to a small village **Ghirini Bhavi** in Warangal District. He has made a mobile charger that doesn't require any maintenance charges and was appreciated by many people. He has explained the importance of this mobile charger to **Warangal Rural Collector M.Haritha**, she has suggested to install it in Collerate Office. She has come to inaugurated it and observed the working of it and shared her view on twitter. By seeing the post of collector about the natural public mobile phone charger **Warangal forest DFO** has realized that it is useful for the visitors who came to visit the **PAKALA CHERUVU** So, he suggested installing one at forest Guest House. These two charges are working good. By seeing this the **District RDO** has suggested installing one at **Girni Bhavi** road junction. After installing these three, the people who are using this have thanked the Government



Raju installing the mobile charger



Raju with J.D Laxminaryana

This natural mobile charger does not require any maintenance expenses on current, battery and other. It consists of a solar panel that is attached to a pole, a wire which passes into the circuit board. From there we can charge five to six mobile phones at a time.

Nowadays people are carrying Power Bank along with mobile phone, if we install these natural public mobile chargers we can avoid carrying the power bank. These are not affordable by the village people, if the mobile gets discharged they are unable to make important calls. This is the problem faced by the villagers.

If we install this charger in the crowd area we can charge our mobiles without using any charger and there is no maintenance charge also.

Those who want to install this type of charger in your locality, please contact **Mupparapu Raju**.

Mupparapu Raju: 9502855858



Success story of Kadivendi Mahipal Chary(GRI)

Introduction

Failed in every subject except English in 10th class. Learnt Bike mechanic and started a mechanical shed in Karimnagar as there were no profits through the shed, closed the shed and came to own village and started tractor driving and used to plough the fields of farmers for the fare. He used to charge 100 less than the others because he uses kerosene as a fuel.



As it is an old tractor it used to give trouble frequently. He himself repairs his vehicle with the skill that he got from the mechanical shed. He found this is also not profitable and left this work. He went to his uncle and learned welding works and worked for a few months and left the job.





He wanted to earn money through some other work. He found drinking water has been distributing at a high cost so he thought of providing the same at half cost. He started a water plant and it went well for a short period of time. After this, his borewell dried up. So he took neighbour's borewell for the lease of cost 20000. As there were fewer users he did not get expected profits. So, he bought 2 autos(goods carriers - one driven by him and the other by his driver) to distribute water to the surrounding villages. It worked till his driver stuck in an accident. He spent more than 50000 for the hospital charges. So again loss.



He started looking into farming. He has no cattle to plough the land. So he thought of innovating a ploughing machine. He separated the engine(2011) from the auto which has met with the accident. He spent 3000 and worked on the development of the engine. He used to carry the engine from his village to Parkal and Parkal to the village every day. He faced discouragement from the villagers.

Finally, the ploughing machine has completed.

First stage defects

- Plants break apart due to the size of the engine.
- Wheels slip occurs due to less width.
- Uneven ploughing due to 3 ploughing teeth.



He decided to rectify all these defects at his home. So he set up a workshop at his home with 30,000 rupees. He also discouraged by the family members in terms of money wastage. News reporters saw him while working and written an article. This became a promotion for his machine so he got few orders from farmers. But he doesn't have enough money for the production. So he went to the collectorate office for financial support. They have advised him to consult NABARD.



Journey to NABARD

- He went to NABARD and met an innovator Dhanunjay. He introduced Palle Srujana(2012) to Mahipal which supports low-cost solutions in the livelihood sector. He got the contact of the president of Palle Srujana. President sent a volunteer to his place upon a call from him.
- Volunteer documented his innovation. President reviewed this documentation and called him for an interview. After few days president visited his workshop and provided financial support.



- He started manufacturing and successfully manufactured 12 machines in the first year. Because of the advertisement given by Palle Srujana, he got 40 more orders in the second year. He sold 800 machines until now. He has a national wide market (Telangana, Maharastra, AP, Karnataka and Orissa).

Making rim for wheel

- 25 Rupees per piece by the blacksmith.
- But not accurately circular in shape.
- Four persons have to do work to make 400 rims per day.
- So he used a die to make these rims accurate and reduced manpower.



Lathe Machine

He uses lathe machine for boring pulleys, boring gears, boring sprockets, planing of blocks and step turning of shafts. He spent more than 1 Lakh on lathe machine works on outsiders. He bought an old lathe machine and learned the basic operations within two days.



Technical details of the machine

- First machine cost is 12000.
- Developed machine cost is 33000.
- He purchases material from Warangal and Hyderabad.
- Engine name “COMMANDER” - Single-cylinder four-stroke diesel engine.
- Engine horsepower is 5hp.
- With 1- litre fuel one can plough for 3 hours.



Facts

- He knew house wiring.
- He built his own shed(16x173 feet).
- He takes care of basic fitting and tightening operations.
- He prepared his own die for making cultivator and base frame. 10 pieces can be manufactured without using die whereas 50 pieces can be manufactured with using die per day.



- He is providing employment for 8 workers with appreciable wages.

Recognition

- In the year of 2015, he got President of India award with the help of Palle Srujana.



- In the year of 2018, he got an entrepreneurship award.

Targets

- Planning to sell 400 machines in 2019.
- Designing a new machine consisting seat to ride and replacing iron wheels with tyres.



- Importing engines directly from China instead of buying from the mediator.
- Planning to sell 1000 machines in 2020.

Technical

Document



National Innovation Foundation

PRIOR INFORMED CONSENT FORM

Technological Innovations and Ideas



Honey Bee Network

Dear Innovator(s),

The National Innovation Foundation (NIF) was established by the Department of Science and Technology, Government of India, in March 2000, as an autonomous society to recognize and promote grassroots innovations and traditional knowledge of individuals/communities. This initiative shall help in reducing the erosion of knowledge, increase the social esteem of the grassroots innovators and knowledge providers and help India become an innovative society. NIF strives to obtain the written consent and authorization from all the innovators/knowledge providers to disclose and/or add value to the innovation/traditional knowledge submitted for inclusion in the National Register of Green Grassroots Technological Innovations and Traditional Knowledge. An explanatory note, describing the implications of various options given in the form, is enclosed along with this form to assist you to fill up the form. NIF assures full compliance with the conditions specified by you and any modification in these conditions will be taken up only after obtaining your written consent.

Reference No.: _____

(Signature)
Stamp of NIF

Title of Innovation/Idea : Multipurpose Vehicle

We will appreciate if you could tick 'YES' or 'NO' in the appropriate boxes (for items A to F).

A. Can NIF share your address with those interested in your innovation/idea?

Yes	No
<input checked="" type="checkbox"/>	<input type="checkbox"/>

B. Can NIF display/publish your innovation/idea on the Internet/in *Honey Bee* magazine or any other media?

<input checked="" type="checkbox"/>	<input type="checkbox"/>
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C. To what extent do you wish NIF to disclose the information furnished by you ?

(a) Partial disclosure/summary OR

<input type="checkbox"/>	<input checked="" type="checkbox"/>
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(b) Full disclosure

<input checked="" type="checkbox"/>	<input type="checkbox"/>
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If Yes, under which of the following conditions:

(i) Only on commercial terms (if the interested party is willing to pay for it)

<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------

(ii) Free of Cost

<input type="checkbox"/>	<input type="checkbox"/>
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(iii) Any other option? Please specify: Free of cost if it

is for social benefit

D. Would you like NIF to add value to your innovation/idea (Analysis by experts, prototype development, testing etc.)

<input checked="" type="checkbox"/>	<input type="checkbox"/>
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E. Would you like NIF to mediate on your behalf for commercialisation (if applicable) (Developing business plan, market research, technology transfer etc.)

<input checked="" type="checkbox"/>	<input type="checkbox"/>
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F. Would you like NIF to protect Intellectual Property Rights (wherever applicable)

<input type="checkbox"/>	<input type="checkbox"/>
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G

In case, your innovation/idea is not eligible for any monetary benefit/awards, would you prefer any non-monetary benefits, if YES then please tick the suitable option/s;

- Honour in a public function at local, state or national level. ✓
- Recognition in media. ✓
- Recognition in text books in case of really unique distinction. ✓
- Travel support for contacting other innovators/traditional knowledge holders. ✓
- Linkage with R and D institutions for valorization of knowledge. ✓
- Opportunity to share one's knowledge with others in *shodh yatra* (journey through the villages on foot) and *shodh sankals* (workshop of local experimenters). ✓
- Support to the community to share the knowledge with other communities. ✓
- Guidance from formal or informal sources to conserve the natural resources used in traditional knowledge. ✓
- Supply of scientific information in local language about the herbal or other traditional knowledge submitted by you.

Any other, pl specify _____

Declaration : I/We have read this Prior Informed Consent Form and have understood the implications of various choices described in the explanatory note. I/We have voluntarily decided to select the option/options which I/we have ticked above for questions from A to G. I/We further assure NIF that all the information given above is true to the best of my/our knowledge and belief.

Ajay

Name and Address of the Innovator(s)

Signature

G. Ajay, S/o :- Naxsimha, V/o :- mukThaPUX
m/o :- Pochampally, d/o :- Yadadxi, Bhongixi.

Name and Address of the witness/Collaborator/Scout/NIF Representative:

G. Naxsimha, S/o :- Anjayia, V/o :- mukThaPUX
m/o :- Pochampally, dist :- Yadadxi, Bhongixi.

[Signature]
Signature of witness

Date:

23/06/2019

National Innovation Foundation

Bungalow No. 1, Satellite Complex, Jodhpur Tekra, Premchandnagar Road, Ahmedabad - 380 015, Gujarat, India
email: campaign@nifindia.org, www.nifindia.org, Fax: +91-79-2673 1903

Guidelines for Documentation of Grassroots Innovations (Mechanical)

A) Bibliography of innovator

Name of innovator	Goolasu Ajay
Address of Innovator	
Village/bazaar/ town/any other Locality	Mukthapur
Post office	pochampally
District	yadadri Bhuvanagiri
PIN	508284
State	Telangana
Phone no. (if any)	6302860941
Nearest town or important place	Pochampally
Landmark/Name of the road to the innovator's place	opposite SMR Gardens, Mukthapur
Date of Birth of the Innovator	22-06-2002
Gender (Male/Female)	male
Education	10 th + ITI (Fitter)
Occupation Primary Secondary	student
Experience	—

• Brief note about the scout:

Name of the Scout	Bashabama Srikanth
Address and Contact No. of the Scout	palle sravan, 77-Venupur Hyderabad 9666186705

• Detail of innovation

Title of the innovation	Multipurpose Vehicle
Genesis of the innovation/ Why innovated?	
Construction (explain using Layout/drawing/electric circuit/clear photo)	
List of components and their cost (mention their specifications (ratings, material, size, etc) and Working/operation methodology	20,000/- + 20,000 for development
Performance (cost, efficiency, energy requirement etc)	

Advantages and disadvantages of using innovative machine	
Whether it is modified from existing one or newly developed	newly developed
Novelty/newness/uniqueness as per innovator (please mention supporting data, eg. low cost than at least cost of the innovative machine)	
Alternatives of the present innovation for doing the task (mention in detail working, cost, performance, etc)	
Technological maturity and Completeness of product or innovation/at which stage it is (crude prototype/fine prototype/product)	crude prototype
Commercialization-how many has been made/sold/used and are planned as per local needs for the innovation	No. commercialization.
Diffusion/spread of the innovation-Extent / spread in terms of its practice	
Have he filed for IPR (patent/design registration/trademark)	No
Whether it was tested by some formal laboratory? If yes what is the outcome.	No.
Whether it was seen by any formal expert? If yes what was their feedback.	No.
Any other information relevant to innovator/innovation?	

Signature of Scout
 Name B. Srikanth
 Date 23-06-2019
 Mob no 9666186705

Signature of Scout
 Name Cr. Ajay
 Date 23/06/2019
 Mob No 6302860941

Technical Document



AJAY

s/o: Narasimha

V/o: Mukthapur

Mdl: Pochampally

Dist: Yadadhri

Introduction

Godasu Ajay is a child born with a mechanical mind. He is studying 8th class in ZPHS in Mukthapur village. His father's name is Narasimha who is one of the Grass-Root Innovator who has to innovate Hicant cutting machine. As Ajay's father has constructed a new workshop in their agricultural field on the roadside, they have to shift all the heavy machinery from their home to the new workshop. So, they required a heavy goods carrier. They cannot pay the heavy fare for the lorry or trolley auto or any other Goods carriers.

Ajay's father Narasimha has 4 acres of land. Their field is far away from the village so, labors used to reject coming there field by walk. So, they have to provide a vehicle to drop the labours in the field. So, they have to pay extra charges for labors traveling. So he has thought of a plan for it.

During construction work, they required a procliner to dig holes. For ploughing land, a Heavy Horsepower vehicle like the tractor is required. So, Ajay has seen these situations and thought of designing a vehicle with all these features in one vehicle. He thought to design this vehicle at a low cost.

Design of Multipurpose Vehicle

Ajay has designed a model in his mind and went on searching for equipment. One day he has found an old scooter in his neighbor's home. He bought the old engine for 2000/- Rupees. With the metals and materials available in his father's workshop he has designed a chassis. Installed the scooter engine in the chassis and connected to the crankshaft of the scooter engine to chassis rear left axle by chain drive. Bought 4 auto tires and fixed them to the axles. Used an old car steering system to the front wheels. He has used the old plywood for the base of the seats.

Arranged his type of braking, acceleration and Clutch levers by using Auto clutch wires and by using a special type of levers

Problems faced

1. As it is scooter engine there is a no reverse gear
2. As torque is transmitted to one rear wheel (right) while taking turn slipping took place
3. breaking system
4. steering system
- 5.

Modifications

Reverse gear

To make a reverse turn he uses to get down from the vehicle and push it back he felt it is very difficult so he thought of plan



he fix a gearbox to it ,so he bought a jeep gearbox and installed in chassis in such way that torque from the scooter engine transmitted to gearbox input shaft and output shaft to the rare wheel by using chain drive. By this, the vehicle can move in a reverse direction. This vehicle has total 17 gears, 4 gears from the Scooter engine, 5 gears from jeep gearbox including the reverse gear.

By using 2 gear systems the vehicle has gotten high torque during ploughing and high speed when both gearboxes are at high 1st gear. So by this vehicle, he can drive both in hard conditions like ploughing field and smooth conditions like on road.

Slipping during turning

While the while is taking left turn the vehicle used to slip in the right side this is because the torque is transmitted to the right rare wheel, instead of differential. To rectify this problem he has changed the front wheels axile pivoted to the chases. This has avoided the slipping condition. This was a great thought by the young 16 years old boys.

Braking system

In the present vehicle, he is using reverse gear to stop the vehicle while moving in forwarding direction vise Versa. He has also tried two different types of the braking system, it requires few more corrections to be done to make an effective breaking.

Steering system

In the vehicle, he is using a normal steering system which he has taken from an old car. He has made few corrections in the base steering rod. When he has designed for the first time the position of the steering is not user-friendly, so he has changed the position by extending the steering rod. The vehicle has a smooth steering function.



Advantages

1. It can transport heavy loads.
2. it can transport passengers.
3. It can plough the land.
4. It can dig holes.
5. It can move at high speed.

Working

The engine starts by kicking the kick rod as in the scooter. The accelerator pedal is present in the front(near to the seat). It has a smooth gearing system. The vehicle is working good. It is working in various conditions like in mud, on the road and through the highways. The gearing system is working good. Few changes have to be made in the brake and clutch pedals..



Impressions & Takeaways

Impressions and Takeaways

From Innovators

- Throughout life, we should be students to learn everything
- Slow and steady with consistency win the race, learnt from Mallesham sir.
- Being gratitude towards Palle Srujana (showed by innovators during the visit)
- Every friend is useful in one or the other time.
- At the beginning of a new work people insults and discourages you, don't get discouraged, while we are in success people praise us, but don't be proud.
- Knowledge won't depend on the age it depends on the mind. So learn from every knowledgeable person - learnt from Mallesham sir.
- Dedication and determination give fruitful results.
- Education gives us theoretical knowledge but experience gives us real knowledge – learnt from Mahipal Chary sir.
- Spend your time and knowledge on your thought, one day it will hold you in a high position.
- Choose the job which can inspire and provide job to the people - learnt from Narasimha sir.
- Dependency never gives expected results, so do everything by yourself - learnt from Narasimha sir. He has learnt all the works needed for him.
- Accept the challenges and give an effective solution - learnt from Narasimha sir.
- A like-minded soulmate is the best gift given by the god told by Narasimha sir, Mahipal Chary sir, and Mallesham Sir.
- Think different and do different - learnt from Pandu sir.

Shubash

- Friendly nature.
- I learnt to motivate others.
- Share happiness and problems with others.
- Where ever you and whatever you do never forget your parents.
- Easily mingle with people.

Shiva

- Be reserved and do desired.
- Being consistent in work gives effective results.
- Share your thoughts and feelings with a deserved person.
- Innovation first and relationships next.
- Serve the need then you feed.
- I have learnt to be simple from him even though he has worked in Australia with luxury life but now leading a simple life.

Ramesh

- Gratitude towards elders.
- Being friendly with strangers.
- Share the known knowledge with friends.
- Helping nature.

Chinna Shoda yatra

- Leave the knowledge you have and start with zero knowledge.
- Everything around us is our Guru.
- I have come across fear of unknown.
- Adjusted in a hard environment and tested my strength and stamina.
- The silent walk revealed the beauty of nature in the night.
- Known the culture and tradition of Kurnool

- Unknown we met well known we departure.

From Brigadier sir

- Be Punctual to work, though you have many other works.
- Dedication towards duty.
- Inspirational personality.
- Being patience
- Always be a student and learn things.
- Risk-taking quality I liked the most. Because during Chinna Shoda Yatra sir has left us free to do anything like climbing the dam and playing in the water. If I was in his position I would not have taken that much risk. As an NSS leader, I have led 25 volunteers and I never let them that much free as sir left us.
- There are no words to describe the things I have learnt from sir.

There are many things which I have learnt during the Internship. I have come across many people in Palle Srujana office. President sir is the most inspiring personality during my internship. All Innovator's stories are very motivational. I thank each and everyone in Palle Srujana and who has helped me during internship. I especially thank Brigadier sir for providing us such a good opportunity to do internship in Palle Srujana.

By

-Bashaboina Srikanth

Thank You

