

Team KRUSHI



“No other farm machine of this century has had such a profound effect on country’s agricultural as the farm tractor”. As farming is a profession of a hope, which lies at the roots of tractors. Team Krushi is here to strengthen the roots of farmer by making his works trouble-free, simple and safe.

In human world, each one of us attain enlightenment at some time. For, farmers this is a time where they can receive their enlightenment where Team Krushi is contributing for it.



Figure 1: Team Picture at the MoU signing with ETDC

Team vision:

To develop passion in engineering students to unfold innovative challenges in agricultural sector.

Team mission:

- Educate students about various technologies and concepts.
- Train students to meet industry standards.
- Motivate students to take up demanding encounters in agricultural sector.
- Acquire and accept challenging projects in order to maintain sustainable growth on farm.
- Equip farmers with innovative equipment’s to lessen the burden upon them.

What team Krushi can contribute?

- (1) Areca nut trees attain a height of about 60-70 feet. It is mandatory to climb the trees a minimum of 5 times a year for a successful harvest, twice for the preventive spray against fungal disease and thrice to harvest the Areca bunches.



Figure 2: What team Krushi can contribute?

This process is less productive and highly unsafe.

Team Krushi developed **Aerial working platform** which overcomes the above mentioned problems.

- (2) Farmers need comparatively more efficient tractors than the conventional IC engine type which are inherently of lower efficiency. Also, IC engine tractor consumes more fuel and contribute to more pollution. Team Krushi is coming up with an independent **Hybrid System** to eradicate the above mentioned problems.

Our Proud moments:

- (1) Our Team member **Saurab Devadiga**

represented our team in a seminar held by FLUID POWER SOCIETY OF INDIA on 19th to 20th June 2017 in IISc campus, Bangalore. Our paper was selected as one among the 10 best papers across India.



Figure 3: Saurab Devadiga receiving FPSI certificate

- (2) Our teammates **Sandeep Krishna, Ram Mohan Reddy** was awarded with THE BEST OUT GOING PROJECT Mech Dept., RVCE, “Aerial lift platform” and project is under patent process. Patent application Number – 2017 410/32708



Figure 4: Aerial Lift Platform

- (3) We signed a MoU with **Escorts Limited** as benchmark to facilitate industrial level agricultural projects.



Figure 5: MoU signing with Escorts Limited

Team strategy:

G A T H E R
E X P L O R E
T R A N S F O R M
Q U A N T I F Y
E X E C U T E
E V A L U A T E

TORQUE = TEAM KRUSHI

Team KRUSHI accomplishes every project successfully by following a strict and systematic strategy. TORQUE is an effective plan of action compiled and executed by our team members. It explains the various steps that our team members follow in successfully implementing every project. Gathering statistics about the various problems faced by our farming community becomes the first and foremost step. Exploration of the existing methods and the pros and cons of each method. This step also includes accumulating literature about a particular problem. Transformation of the data collected into creative and feasible ideas becomes the next step. Quantification of each idea in depth in order to undergo the fabrication process. Execute the accepted innovative concept in a prototype that could be implemented safely. Evaluation is the step of verification and validation of the idea implemented. Thus, following such a well-defined and structured flow-chart, team KRUSHI is able to implement each and every project productively.

Technical Training

All the members of team Krushi are trained by E.T.D.C (Escorts Training and Development Centre).The faculty present there has more than 10 years of tractor industry experience. The students trained there are confident enough to assemble engine, transmission, electrical wiring etc.



Figure 6: Glimpses of training at ETDC

Ongoing Projects:

Team Krushi currently is focused in design and fabrication of Hybrid Tractor, a unique concept where many of our tractor giants are in their research stage. The purpose is to cut down the heavy diesel cost burdened down on farmer. The team is also focused on design event of International Quarter Scale tractor competition held in Illinois, USA. R.V college of Engineering will be first of team from Asian Subcontinent.

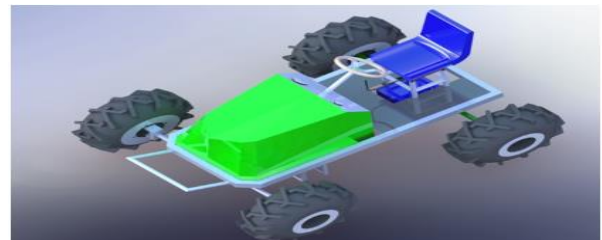


Figure 7: Rendered picture of Hybrid Tractor

Upcoming projects:

- (1) **Joy stick operated Aerial working platform:**
For the operation to control the movement of the Aerial working platform, wireless joystick will be incorporated commanding the tractors hydraulics.
- (2) **Safety locking for aerial working platform:**
A separate locking mechanism that will lock the implement in case of failure will be attached to ensure safety.
- (3) **Design and development of sugarcane harvesters:**
Currently available harvesters are costly. To make them affordable, different design will be developed.
- (4) **Design and development of electrical brakes:** It is mandatory for all tractor trolley to have brakes to increase overall safety. The existing ones are quit costly and hence are not implemented completely. Considering the above mentioned problems, electrical brakes will be designed.