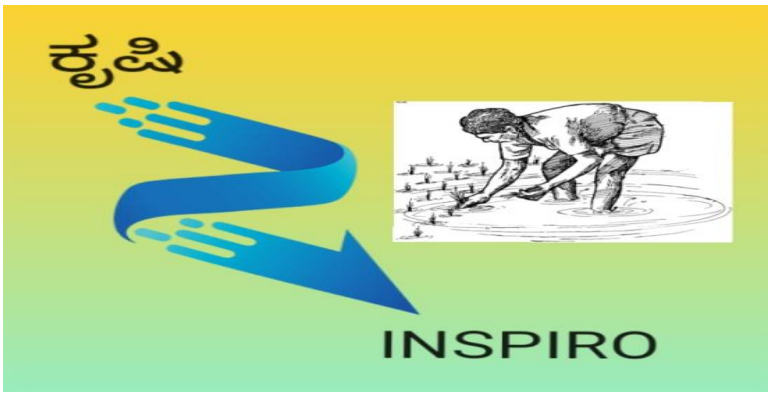
Team Name: Krishi Inspiro



	Name	Branch and Semester	Contact Number	Email- ID
Team Leader	**Ashish S**	Electronics and communication Fourth semsester	7019138913	Ashishsandy0175@gmail.com
Member 1				
Member 2				

Note:

1. One can participate either as a part of a team or an individual basis. Switching teams is not allowed.
2. The uploaded ideas will be screened to go to the second round.
3. Judging: competition entries shall be judged, or winners selected based on the following criteria
   - Is the problem worth solving
   - How innovative or novel is the idea
   - Scientific accuracy
   - Social impact
   - Scalability
4. Decisions of IIC JSSSTU in respect of all matters to do with the competition will be final and no correspondence will be entertained.
5. In second round, the selected teams will have to present their idea in front of the jury panel.
6. Idea should be submitted in **.pdf** format.

Abstract: **(not more than 150 words)**

When the word sustenance is mentioned, "water is the driving force of all nature!" Effluents every year the ecological balance has be drastically disrupted and billions of aquatic lives have been worst hit.

To fight this serious scenario, we from 'Krishi-Inspiro' have taken this in our own hands and have come up with an optimal and feasible solution! The idea is a model/prototype of an aerobic tank which consists of industrial effluents whose volume and temperature are monitored and regulated by a microprocessor. All that we need is a microprocessor and the easily available and accessible Spirulina cultures.

This blue green alga (cyano-bacteria) present in the aerobic tank does all the magic! Aka 'Protein Biosynthesis', which converts all the hazardous Nitrates, phosphates (NO3, PO4) into desirable proteins and thus purifies water. Besides this it also helps in the conversion of excess atmospheric Carbon-dioxide, the most abundant greenhouse gas into the most essential Oxygen.

Introduction **(not more than 200 words)**

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

It is all extremely vague but that can come to its advantage. Pressing issues regardless of the location or the problem can all be put under the umbrella of sustainable development. It allows the Global North to look at concerns like climate chance whilst allowing developing countries to focus their efforts on efforts of economic development.

Sustainable Development focuses on a wide range of issues that fall under the three pillars of sustainability; environment, society and the economy.

Water is coined as the “elixir of life” to all living organisms. When the word sustenance is mentioned “Water is the driving force of all life”. Unfortunately, even though we are called a blue planet, our future may not be blue.

The dreadful Ds’

- Death of Aquatic life
- Degradation of water bodies
- Disruption in the Biological food chain

Destruction of the entire ecosystem

Hence we are thriving for the solutions for water sustainability.

Motivation **(not more than 100 words)**

Based on a recent WHO survey 1.2 billion people are significantly compromised from obtaining fresh water. Since industries dump 300-400MT of Effluents every year the ecological balance has be drastically disrupted and billions of aquatic lives have been worst hit. Inspiration of farmers on how they use all their collective resources to form many useful products and bi products.

Methodology **(block diagram, related figures etc)**

An aerobic tank which consists of industrial effluents whose volume, pH and temperature are monitored and regulated by a microprocessor. A microprocessor and the easily available and accessible Spirulina cultures. This blue green alga (cyano-bacteria) present in the aerobic tank does all the magic! Aka 'Protein Biosynthesis', which converts all the hazardous nitrates, phosphates (NO3, PO4) into desirable proteins and thus purifies water.

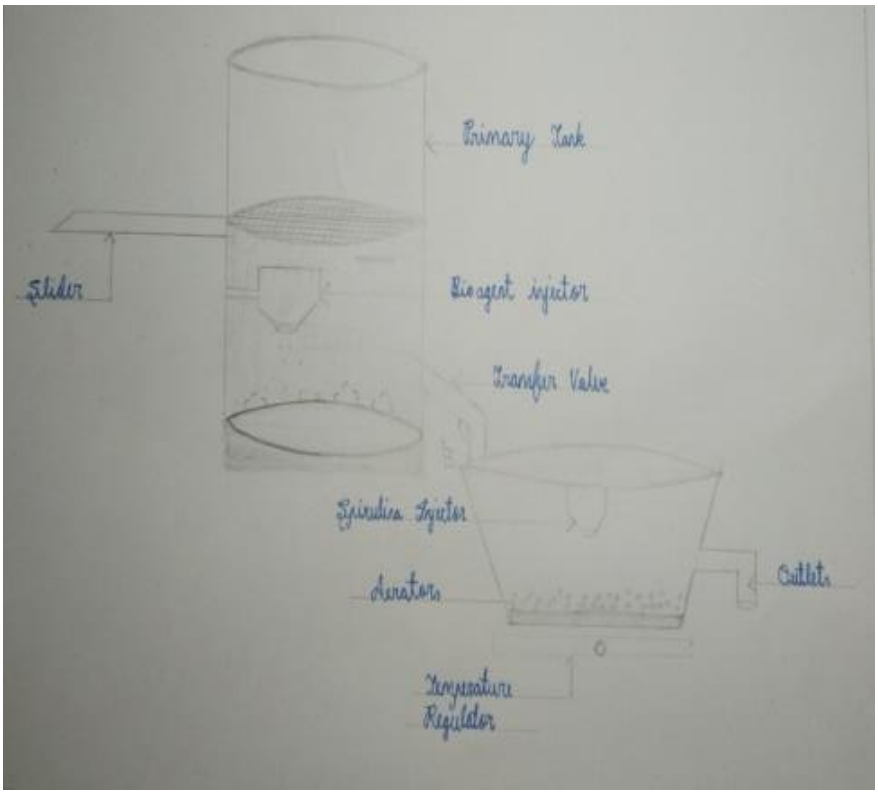
- **Chlorella – Chlorella is used for the removal of lead (II) ions from wastewater. It is also used to remove nutrients (N and P) from domestic wastewater. It is used in the treatment of diluted piggery waste and in the detoxification of cyanide from wastewater.**

Pithophora sp – It is used for the removal of the malachite green dye from wastewater.

- **Spirulina sp – It can also be used for the biosorption of heavy metals like antimony and chromium present in wastewater.**

Botryococcus braunii – It is used for the removal of nitrogen, phosphorus and other simple inorganic compounds from industrial wastewater, most commonly in piggery wastewater

- **Microactinium sp – Removal of zinc and cadmium from wastewater.The process occurs through biosorption by Microactinium pusillum.**



Social Impact

By recycling the effluents we not only optimum ph water to release to the water bodies but also get protein rich algae as a bi product. This helps in reducing water pollution and maintain good aquatic ecosystem Economic growth must not undermine pristine environment. Culture is flourishing but so is our nature. Only through clean, green and sustainable energy that we offset can replenish the vital ecosystem

Market Survey

Wastewater treatment plants market of India can be segmented based on type, plant category, process, operating mode, end user industry and region. In terms

of process, market can be segmented into Moving Bed Biological Reactor (MBBR) and Sequencing Batch Reactor (SBR)

the primary objective of the study was to evaluate and forecast India wastewater treatment plants market.

To categorize the market on the basis of type, plant category, process, operating mode, end user industry, and region.

SWOT

- **Strengths: Portability, multi-functional, low cost, protein by product**
- **Weakness: Unable to incorporate for long durability,time consuming**
- **Opportunity: Wide range of target audience, industrial sectors, as well as domestic use**
- **Threat: VA Tech Wabag,Thermax India**