

OUR TEAM MEMBERS :

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OUR AIKYAM MENTORS :

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**SOIL POLLUTION DUE
TO EXCESSIVE USE OF
FERTILIZERS AND
PESTICIDES**

WHAT CHALLENGE DOES YOUR PROJECT ADDRESS?

- The farmers in Kodihalli Village are using excessive pesticides and fertilizers without knowing the negative effect of them on the soil and environment. The negative effects are The soil loses its fertility and become toxic. Biomagnification occurs through food chain. Use of pesticides might kill lot of living creatures (including good microbes).
- We feel it is our responsibility to save the soil and environment for the future.
- We aim to collaborate with farmers in our local community to lessen the use of fertilizers and pesticides. Our team's aim is to create awareness in the field workers about how to address this problem.

INVESTIGATION MADE BY OUR TEAM.

We visited the nursery plantation near Kodihalli and interviewed the field workers



Children learned from the field workers about their fertilizer and pesticide usage.

WHY DID THE TEAM SELECT THIS TOPIC?

- Soil is the most important and abiotic component in the environment most of the organisms directly depend on the plants for their food source. On the other hand, because of increased level of toxin in the soil may magnify through food chain and final leads to lots of health disease. We consume that food which is not healthy for us hence our team selected this problem to overcome with a solution.

HOW IS THIS A REAL WORLD PROBLEM OR CONCERN?

- In our country most of the people are depending on agriculture. According to surveys India is a global agricultural power house. According to the survey in 2023 nearly two million hectares of agricultural land is in India. Fertilizers that are applied in excess can cause great harm to soil, can lead to imbalance in soil fertility, soil pollution increase in number of emissions, and disorders in organisms. When we went to the farms in our community we could see this happen with our very own eyes, hence, we consider this problem as impactful.



(spraying pesticides on the mulberry plants)

LEARNINGS FROM INTERVIEWS.

- We met the field workers in the crop land near to our school and discussed about how they are currently using fertilizers and pesticides.
- We asked what scientific methods they are following for growing particular crops.
- We also asked them how their production would be affected by not using fertilizers or pesticides.
- We discussed about what side effects they are facing in the crop by using fertilizers or pesticides.
- We finally come to the conclusion that they are not at all aware of the pesticides and fertilizers side effects. They only focus on getting good crop production.
- Finally, when we taught them about the bad effects of this usage they were really surprised and influenced by our team to use less fertilizers and pesticides.



Students are making the field workers more aware.

WHICH RESEARCH DATA OBTAINED HELPED TO DETERMINED WHAT CAN BE DONE?

The research data from OP Choudhary and Dhanwinder Singh department of soil science PAU, Ludhiana.

The referenced data describes soil pollution that occurs due to the usage of the same pesticides that the local farmers use.

This helped our team understand how to make the farmers more aware of the problem.

The reference link is as follows

[Research data about soil pollution by excessive use of fertilizers and pesticides](#)

HOW DID THE INFORMATION YOU LEARNED HELP YOU TO ACT IN AN IMPACTFUL WAY?

This researched data helped us to think about how we can be a part of protecting nature and also come to know that how important is the health of soil. Human are making a crucial impact on the environment and ecosystem just to develop themselves economically. We think that changes should starts from our locality and we should create awareness in our local people which in turn changes the whole world. We feel that each individual should learn the impact of fertilizer and pesticides on food because that food is the root of nutrition to our body. Hence our team members collaborate together to find an effective solution for this problem which encourages farmers to use manure and natural pesticides instead.

- ❖ Students interviewing with local farmers
- ❖ Students interviewing with nursery workers

TEAM MEMBERS INVOLVED IN THE INVESTIGATION PHASE.



Students are investigating with field workers.



Students discussing about pesticides with a local farmer.



Students visited a maize crop field to discuss about fertilizers and pesticides.



HOW ARE YOU PLANNING FOR PERMANENT CHANGE?

- In our school we have a small garden before we identify this problem. Gardener were using chemical fertilizers and pesticides but now they stopped and using only manure. We created a pit near to our school ground and suggest them to dump all the waste of plants and animals to that pit. After a month its decomposing and converting into manure currently gardeners are using manure instead of fertilizers. On the other hand we gave an idea to use neem water as a pesticides it preventing the pest and insects to affect the plants.

HOW DID YOUR TEAM INFLUENCE OTHERS?

- **This was the main task for our team we went to crop field and requested the farmers to use manure instead of fertilizer. We demonstrated to them how to prepare the manure, and we also gave the idea to them about natural pesticides. We asked them to try this method. These methods are eco-friendly and economically less expensive.**
- **At the beginning the farmer refused to implement these ideas, but after we explained the negative impacts from fertilizers and pesticides a few of them agreed to try it. Now they have inspired other farmer to implement this idea.**



Workers preparing the manure and students visiting farms after they have started using manure as fertilizers.

CREATIVE USE OF TECHNOLOGY

- **To communicate with our selves and share our idea also with mentors coaches we used what'sapp messenger.**
- **To prepare slides we used canva and Microsoft power point.**
- **For more information in the process of investigation also for implementation we used chat GPT.**
- **For information in the process of investigation also for implementation we used meta AI.**
- **To record the influence of community people we used voice record app.**
- **To influence a lot of people we used instagram.**
- **For uploading the video in the PDF we used Microsoft power point.**

STUDENTS INVOLVED IN IMPLEMENTATION PHASE.



STUDENTS ARE DUMPING BIO WASTE TO MAKE MANURE



PICTURE OF TEAM WEARING PROJECT T- SHIRTS

- **We designed a t-shirt in the process of influence and implementation. The design of t-shirt is given below:**



FRONT VIEW



BACK VIEW

THANK YOU

SOIL IS THE SOUL OF THE
EARTH, PRESERVE IT.

