

Utilizing Sustainable Agriculture to Resolve Global Food Insecurity

Step 1: Identify your mission statement and overall goal

821 million people are undernourished in the world as of 2017 due to the limited or uncertain availability of nutritionally adequate and safe foods. In order to combat this issue of food insecurity, the goal of this action plan is to develop a real life experimental model of a sustainable and organic farm in our school to raise awareness of the global food insecurity and test the waters locally with this initiative.

Step 2: Set SMART objectives

By the end of the school year, I will have accomplished most of these objectives:

- Develop and design a feasible model of an sustainable and organic farm that takes in account of...
 - different types of soil depending on the different types of geographic regions around the globe
 - different types of seasonal crops
 - different types of crop protection and rotation
 - different types of environmental factors/climate change (such as treating some crops in humid air and other crops in dry air)
 - different types of irrigation systems that will further assist on sustainability
 - cost efficiency
 - These smaller scale organic farms will help simulate the plausibility of having a sustainable agriculture in countries with food insecurities
- Propose said model to school's board of education and administration and promote the educational as well as environmental benefits of starting this initiative; get approval and research funding
- Propose said model to the township's municipality to raise awareness about starting a local and communal environmental service to tackle the global food insecurity issue
- Meet with the school's Science Department to further elaborate and develop the sustainable model
- Scout out an arable zone near the school to conduct this sustainable agriculture initiative
- Acquire the tangibles and use these to calculate the dimensions of the organic farms:
 - Soil
 - Farming equipment
 - Water source
 - Crop seeds

- Artificial terrain protection
- Create a club in school, advertise it throughout school to recruit fellow students who can help out with this project and carry this agenda forward
- Publish the data and results gathered from the organic farm at the end of year to share the progress with the township's municipality, hopefully be published in a scientific journal like Food and Agriculture Organization of the United Nations (FAO) Publications to show one school chapter's idea of sustainable agriculture initiative
- Speak with expert environmentalists to review the model and discuss improvements and branching out

Step 3: Identify the individual tasks and order them by priority

1. Address the global food insecurity issue with the school's Science Department. Introduce the idea of using functional and cost efficient sustainable and organic farms to combat the latter issue this Summer.
2. Meet with the Science Department regularly to receive consult and to develop a foundation for such concept. At the same time propose the idea with the school board to get their feedback.
3. Develop and design a feasible model of organic farms at the school with the Science Department. Need further independent research, but project should start soon around Fall of the upcoming new school year.
4. Schedule an appointment with the township's municipality to describe what is going to happen at the school in the upcoming new school year in hopes to receive full support from the community.
5. Attend public town meetings and speak during public forum sessions about the ways to combat the pressing matter and the benefits the proposed model will bring to the education system, the STEM Academy, the environment, the community, and the economy. (Regularly)
6. Create a club in school to further raise awareness about global food insecurity, educate fellow environmentalist students about sustainable agriculture, and recruit/train students to start building the tangible farms by Winter.
7. Once approved by the school and receives adequate funding, the club, supervised by Science Department faculties, will start the development process immediately, which will continue throughout Winter and Spring.
8. Meet with Science Department and club monthly to update the model and the research behind it. (Maybe biweekly)
9. Continue to gather data overtime and write up a scientific paper on the project. Create a powerpoint to show the school administration the progress of the model, submit this to a scientific journal to get it published by beginning of the next Summer.
10. Get in contact with local linkage institutions like House of Representatives, Senators, Governor, interest groups, and other environmentalist constituents to showcase what the school has done with the experimental model by the end of next Summer.

11. Get in contact with the FAO Publications and propose the model for standardized use across global sanctions by the end of next Summer.
12. Harvest the crops' productions at the end of the summer and donate to the community such as homeless shelters, Habitat for Humanity, soup kitchens, religious organizations, food pantries, etc. by the beginning of next Fall.
13. Restart the planting cycle and keep track of the scientific data/ benefits to contribute to a long term scientific study on utilizing sustainable agriculture to resolve global food insecurity

Step 4: Identify any challenges, barriers, and self-defeating tendencies

ACT Challenges

- Learning about the issues with global food insecurity and the possible solution of utilizing sustainable agriculture
- Researching on how to develop and design a scientific model that will simulate the benefits of having sustainable agriculture in less developed countries but in a smaller scale
- Researching on how to properly conduct a scientific experiment and the data collection/analysis behind it
- Learning how to converse with adults and authorities using persuasive rhetoric
- Planning meetings, scheduling appointments, writing letters to the adult audience
- Promoting said proposal throughout school
- Educating fellow students on the initiative and the goal of this action plan

REFRAME Challenges

- Getting school administration and the board of education to meet with me in a timely fashion, but this can be overcome with persistence on follow ups and many attempts in getting contact with authorities
- Persuading students to help with such an ambitious project, but this can be overcome by using convincing evidence, statistics, and even facts about the town's own food insecurities that will evoke concernment amongst students
- Getting the school's Science Department to understand my ideas and concept for a real life experimental model, but this can be overcome by using convincing evidence, statistics, and even facts about the town's own food insecurities that will evoke concernment amongst faculty members
- Getting the school administration as well the township's municipality to approve of said action plan and receiving adequate funding to conduct such an experiment, but this can be overcome by telling the long term benefits of increase in educational performance, stimulation of the economy due to the organic farm's cost efficiency, and the environmental benefits this action plan presents

- Getting local government officials and politicians to see my initiative, which can be overcome by publishing a scientific paper and persistently getting in contact with them to show the development of a modern solution to a modern problem

CHOOSE Challenges

- The ability to name this project which is really not important to me
- The ability to let the Science Department oversee the project which is really not important to me since they are of assistance and mostly will support the goal

IGNORE Challenges

- The weather

Step 5: Determine who can help you/what resources you will need

- **School Administration** - they can make the decision to keep supporting and funding the initiative or not, they can promote it on the district website as well as be in close linkage institutions with the township's municipality
- **School's Science Department** - provide scientific knowledge, expertise, feedback, and allow project space, equipments, and time allotments
- **Township's Municipality** - they can also support and fund the initiative, they will provide information to their community and their constituents which add valuable support to the initiative since its a student-run and community-based project, this also means they can provide access to local food pantries and non-profit organizations where the harvested crops can be donated to
- **State Politicians** - they provide a connection with the national government and international agencies such as the FAO, they can propose such model to their respective iron triangles which can relay information about such solution to other states and other environmental agencies/departments

Step 6: Decide on a realistic timescale to achieve your overall goal

One full school year to push this agenda forward.

1. Specifically start in the Fall when the new school year starts: design and develop the model, prepare the proposal of the action plan (September - November)
2. Make sure to have full permission and funding from the authorities to go through with the model by Winter (December - February)
3. Start advertising the model throughout the New Year, build a community and recruit students/faculty to help bring the model to life by Spring (March - April)
4. Starting from Spring, make the organic farm functional and tendable (April - July)

5. By Summer, collect data and the results of the model to be put to written publication of this initiative's development to be shared with the community; bigger goal is to have this publication go through linkage institutions so that it may appear in state and national government of that year (August - September)
6. By the next new school year (Fall), the farm will be fully matured and harvested, waiting for replanting to start a new cycle of the experiment