



**YOUNG SCIENTIST PROGRAM 2014-2015**  
**RESEARCH TOPIC PRESENTATION**  
AT  
**NVKS SCHOOL ATTOOR**  
ON  
15/03/2015

**Reports by,**  
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**Reported by,**  
**Gby Atee,**  
**Green Team Leader.**

After the selection process the first meet of the filtered students' was held at LMS Boys Hr. Sec. School, Marthandam on 26/10/14. Then was the scientific awareness camp at Thovalai. Here we all were made aware of the need for sustainability and how to create sustainable environment. The next meet at MACET on 22/11/14 was the Management Concept in Thirukkural, which made us aware of the role that Thirukkural plays in our life and how it is supportive in the management of our life. Then the fourth meet was held at Govt. Medical College, Asaripallam on 29/11/2014. It trained us to become young doctors and the next camp was a Study on Sustainable Environment on 6<sup>th</sup> and 7<sup>th</sup> of December. It was a two days camp which was held at various places like Thirukurumkudi Nambikovil then PSN College and then finally at Vivasaya Seva Sangam, Puliyanakudi. It was on this camp we contributed to the Swach Bharat Mission instigated by our Prime Minister Narendra Modi. Then was the Coastal Environmental Study Camp and it was one of the best. We became aware of the life of coastal people and we were exposed to new places. As planned our team meet was organized on 04/01/2015 at Hindu Vidhyalaya School, Marthandam through which we realized the true caliber of our team members. The next meet at Government Library, Pienkulam on the 17<sup>th</sup> of January was the Arivial Tamil Muzhakam, and this meet highlighted the importance of Mother tongue Tamil. After the Technical Presentation on Science & Technological Innovations held at Maria College of Engineering and Technology, Attoor on 14<sup>th</sup> of February was the National Science Day Celebration on Scientific Development in India, on 28<sup>th</sup> of February at SIGMA College of Architecture, Moododu. It was really a great opportunity for us to know about the scientific rank of India. Then was the most awaited program, the Biodiversity camp on 7<sup>th</sup>

and 8<sup>th</sup> of March. It was a unique and exclusive program which made us aware of the prosperous biodiversity of our nation and the need for protection of our affluent biodiversity. To extent our skills in presentation part a common team meet was organized at NVKS School, Attoor on 15<sup>th</sup> of March, which gave all the students a golden opportunity to present on their team Research topic, and for instance I belong to Green Team and the topic on which my team members presented was “ENERGY”.

**“All the great speakers were bad speakers at first” – Ralph Waldo Emerson.**

Our preparation on the topic ENERGY is seen in our presentation. To enhance our preparation skills, presentation skills, observation skills and listening skills, this meet provided us with a good opportunity. At around 11:00 am the room filled with students and all the teams had their presentation in separate rooms. Each team had a person to guide and add suggestion for the betterment of the presentation. Mr. Velaian the organizer stated that after the presentation of all student's suggestions must be given to enhance the presentation and finally one presentation which is set in a way to be presented at the university, must be chose. Topics must be separated and issued to all students and using the very presentation the students must present in university later on. He also added that this program equalizes the knowledge of all students as all the students get chance to present. And he also insisted us to take the suggestions in a good way that will aid us in our development. Mr. Sahajan also added the benefits of this presentation and we moved on to the presentation session.

The first presentation was by Ayana, followed by Jisfia, Soorya, Haritha, Shruthikrishna, Srinidi, Gby and Ageesha. All of us presented on the theme Energy and covered the topics like; Energy Use and Production, Issues Surrounding Energy Use and Production, Sustainable Energy - Fossil Fuels - Renewable Energies, Increasing Energy Efficiency, Conserving Energy, Energy Access, Technology and Regulations to Sustainability, Alternate Energies for Transportation Sector, Energy Sources for a More Sustainable Future, Resource Evaluation and Depletion Analysis and finally Sustainable Initiatives by India.

We got a good idea about how is energy produced using solar, hydro and wind energy and also how is it produced from the nuclear power plants. We were made aware of sectors in which we use energy. We came across the issues of producing energy which are directed to the Land, Air and Water. Sustainable energy is the energy that would sustain in the future and provide us with sufficient energy without compromising the future was something I learned. I also learned that fossil fuels are not sustainable because of the reason that they are polluting and are non- renewable i.e. they become exhausted once used. So there is an urgent need for us to conserve energy by increasing the efficiency of devices and efficiency in everything. This is an apt method to conserve energy. To overcome the impacts of energy and to make us use energy in a sustainable way many new technologies have arose and this makes the environment a sustainable one. We also found that renewable energy resources like solar, hydro, tidal, geothermal, biomass and wind energy can be exploited completely to meet the increasing demand. Hybrid vehicles, Battery Electric Vehicles and Hydrogen fuel Vehicles are likely to be the most common sustainable vehicles in the future. Finally we found that fossil fuel will not lost

long as it is being depleted very fast and so India is taking several initiatives that would make India a sustainable nation without the use of fossil fuels.

After each presentation suggestions were given that was for our progress. All the members of green team presented in a unique way which individualized them. Each had a different presentation method and each and every one learnt from others presentation. We noticed positive and negative things from the presentation of others but each and every thing is a lesson. From the good of others we learn that we must improve and develop our self in that particular part and in bad we learn that we shouldn't do it.

Suggestions given by Mr. Sahajan were really useful as they are the key to success. We should maintain our posture and have a firm control on our body and the action of our body part. When we talk our hand movements must correlate with our talk and it shouldn't be the movement showing our fear. He also added that we all must have a good eye contact and we must present with a pleasant face without fear or anxiety of creating blunder. It may be good to make mistakes but it shouldn't be repeated again, instead we must learn from it. He also insisted us to depend on books for correct information. Internet is mostly accurate but most probably erroneous, because information on the internet can be added by anyone. We can't always be sure that it would be right. He advised us to make sure that all the statistics included in our presentation is right. When a slide is incomplete and the data in it is to be continued in the next slide it is necessary for us to include the words 'to be continued'.

Then he gave some information to us regarding our topic. Energy can neither be created nor be destroyed. We generate energy and it is because of the ability of energy to be transformed from one form to the other. Australia has the largest uranium reserves but there is not a nuclear power plant due to the sustainability issue. Electricity cannot be stored. It has to be converted to chemical energy to be stored. The triangle shaped roofs of houses can dissipate heat easily when compared with a flat roof house. Sun is the source of all forms of energy. Wind is high in places with high temperature. Radiation from nuclear power plants is hazardous but using the advancement in technology their effect can be minimized.

After the presentation of all students Mr. Sahajan chose my presentation for the university presentation. Then the topics were separated and distributed to all the students. To end with there was a common meet. Capt. Bennet Singh stated that all the students in his team presented well and some did astonishingly well. Encouraging the students to present at home in front of parents and friends is a way to improve our confidence level. Mr. Perumal asserted that talking in front of a mirror and recording what we speak and later on playing it back is a very good way to evaluate our self. Dr. Sugin Herbert, a naturopathy doctor gave us two pieces of advice. He advised us to understand what we present and said that there must be a continuation in each and every slide. Mr. Sahajan added that presenting in front of others and presenting in front of mirror is the best way to evaluate our self. Mr. Shibin Tad insisted us to have good eye contact with the listeners and also to use appropriate hand movements. Mr. John Rabi

Kumar added that some slides must be shown important to increase the attention of the spectators. Lekshmi stated that all the students presented more than what was expected. She also insisted us to improve our eye contact with the viewers and to improve our body language to capture the attention of all students. Then Mr. Sajeeve asserted that questions can be asked from different point of views, so we must be ready to answer any sort of questions.

A meet won't be successful without the final talk by the organizer, Mr. Mullanchery M. Velaian. He cited that this year we are given more works. As the technology is developing day by day we students are also developing, and to reach high standards we must be given works. Only University standard presentations would be selected but because all presented they have developed more skills within them. He also mentioned that we must be ready to answer any question that is shot up to us.

He then announced the meetings that are up to come. On 22<sup>nd</sup> of March is the parents meet at MACET at 2:00 pm. It is mandatory for all parents to attend it as there would be a discussion about the changes in us, university presentation and matters regarding publishing the book entitled 'Sustainable Environment'. The next program would be the Earth Hour on 28<sup>th</sup> of March and most probably the venue would be Rotary Club of Nagercoil. The meet will commence at 5:00 pm and all the family members are expected to attend this program. At around 8:00 pm the walk with a candle from Rotary Club to the Collectrate would begin and a quiz program is most likely to be organized. Time being, team meet for each team must be organized separately. Then the Mock presentation will be at Annammal College of Nursing, Kuzhithurai. Finally he concluded the program by thanking all parents.

Through this program the confidence level in me increased considerably and the fear of sharing my views reduced. My listening skills, presentation skills, preparation skill and my observation skill has developed significantly when compared with the first meet. I also came to know the importance and need for team co-ordination in such kind of a team work. And more imperatively I learnt a vital concept of life, **"LIFE IS NOTHING BUT LESSONS"**. This team meet was indeed a fine and incredible one and it was better than what I expected it to be. I also learnt some different styles of presentation and the suggestion were really useful. I came to know the places where I have to improve and this was indeed a good opportunity to evaluate and correct our self. I express my deep sense of gratitude to all involved in making this program a successful one and especially Mr. Velaian, the lifeline of KAP, Mr. Sahajan, Capt. Bennet Singh, Mr. Perumal, Dr. Sugin Herbert, Mr. John Rabi Kumar, Miss. Lekshmi, Mr. Sajeeve, Mr. Gopalan and the NVKS School management for their support. Thanks again to all the kind hearts.



REPORTED BY,  
MERESHIYA  
YELLOW TEAM CO-LEADER

**“Knowledge is power. Information is power. The secreting or hoarding of knowledge or information may be an act of tyranny camouflaged as humility”**

**-Robin Morgan**

The research topic presentation of Kumari Arivial Peravai (KAP) was held on 15<sup>th</sup> March of 2015 on a topic “**Sustainable Environment**” at NVKS Higher Secondary School, Attoor. The meeting initiated at 11:30 in the morning. In this meet all the five teams of KAP were asked to present a Power Point Presentation on the topic of their team under the theme Sustainable Environment. Each team was sent to separate classrooms for presenting the slides. Judges were allotted for each team to evaluate and judge the presentations. Our Yellow team was also given a class room with the respective judges.

The presentation of Yellow team was started with the leader of the team Miss. B.Abhirami. She started her presentation about the topic ‘**WATER**’. Followed her Mr.J.S.Edin Jijo, Mr.P.K.Raghul, Miss.T.S.Argineshya and Miss.J.Immaculate Rishvi presented the same topic. Finally Miss. J.M.Mereshiya, co-leader of Yellow team presented the topic about “Water”. We all are presented the topic water. We covered the topics like water physics and chemistry, the water cycle and aquatic ecosystems, global water scenario, the global water crisis, moving toward sustainable water systems, water pollution and the watershed framework, water scarcity, health, and the developing world, water and climate change – droughts, floods, and melting glaciers, global water instability and conflict, assessing water use and waste – water footprints, green buildings and water conservation technology and water stewardship and innovation around the globe

First we explained about the science of water. The chemical name of water is Hydrogen dioxide ( $H_2O$ ). Water is a combination of three nuclei and eight electrons. These nuclei and electrons have special properties. These special properties of water make it distinctive among fifteen million chemical species in the world. The molecule of water contains 3 components, namely two molecules of hydrogen and one molecule of oxygen. In water, each hydrogen nucleus is bound to the central oxygen atom by a pair of electrons that are shared between them. This pair of electrons is called covalent chemical bond. Each oxygen molecule consists of six electrons in its outer shell. Of these only two outer shell electrons are used to create covalent chemical bond. The other four electron pairs surrounding the oxygen arrange themselves as far from each other as possible. The angle between the two hydrogen atoms changes to  $104.5^\circ$ .

Then we explained about hydrogen bonding, the anomalous properties of water, surface tension and wetting, liquid and solid water, pure water, drinking water and water in human body. Then we explained about water cycle and aquatic ecosystems. Here we covered topics like; aquatic ecosystems, marine ecosystem, fresh water ecosystem, functions of aquatic ecosystems, the role of aquatic plants and wildlife.

Then we explained “Global water scenarios”. 96.5% of the global water supply is found in oceans, which are saline. 0.9% is salty water is located in saline lakes. Remaining 2.5% of global water is fresh

water which is used for domestic, industrial and agricultural purpose. Nearly 69% of the total fresh water supply is in the form of glaciers and ice caps. Fresh water is also found beneath the Earth's surface as ground water. 1.2% of freshwater is found as surface water storages such as lakes, streams, swamps and marshes.

After that we explained “Global water crisis”. Every day an increasing amount of pollution seeps into rivers and lakes making them toxic to humans. Underground aquifers, our most significant source of water are being depleted at an alarming rate. By 2050 the number of people on the planet is projected to exceed 9 billion, and if current trends continue more and more useable water will be lost. Making an adequate supply of water available to everyone alive today is a monumental task, and ensuring that there is enough water for all future generations will require an unprecedented level of international assistance.

Water the essential ingredient for life on this planet is becoming an increasingly inadequate resource. 97 million Indians lack access to safe water today. As a result, 21% of communicable diseases in India are related to unsafe water. India’s water crisis is rooted in three causes. The first is insufficient water per person as a result of population growth. The total amount of usable water has been estimated to be between 700 to 1,200 billion cubic meters. The Tribulations due to water crisis included the following, Health, Hunger, Education and Poverty.

Next we discussed about “Moving toward sustainable water systems “. A water supply system is a system of engineered hydrologic and hydraulic components which provide water supply. A water supply system typically includes:

- The geographic area that collects the water.
- A raw water collection point where the water is collected.
- Water purification facilities. Treated water is transferred using water pipes.
- Water storage facilities such as reservoirs.
- A pipe network for distribution of water to the consumers

Then we presented the issue “Water pollution and the watershed frame work”. Water pollution is the contamination of water bodies by human activities. This occurs when the pollutants are blend with water and create a change in the physical, chemical and biological nature of water. Pollutants get into water mainly by human causes. Polluted water covers 70% of the Earth and it has quite a lot of impact on the human and the environment.

After that we discussed about Water scarcity, health and the developing world. Water scarcity can be determined as both the availability of water and its consumption patterns. Water scarcity will vary widely from country to country and from region to region within a country. Then we explained about Scarcity and the types of Scarcity. We also discussed about the scarcity in India and Tamil Nadu and also the steps to overcome this.

Following that we presented the topic on “Water and climate change-droughts, floods, and melting glaciers”. If an area gets less amount of rain over months or years then the moisture in the soil dries up and creates cracks on the land mass. This condition is known as drought. Drought is caused

not only by the lack of rainfall and high temperatures but by overuse and overpopulation. As temperatures rise and rainfall decreases, water quality can be devastated. We also gave some tips to prevent drought. Flood is an overflow of water that submerges the lands or the areas that are normally dry. Flooding can cause a range of health impacts and risks, including death and injury, contaminated drinking water, hazardous disease carrying insects etc.

After that we presented the topic “**Global water instability and conflict**”. As demand for water exceeds a limit, conflicts arise between nations that share boundary of freshwater reserves. World has around 3% of fresh water resources. These fresh waters are not distributed evenly all around the earth. Because of the unstableness of water and unavailability of water, conflicts arise among people. There is a conflict between India and Pakistan and India and China in the Asian continent. In India it is Indian Rivers Inter-link, Cauvery River water dispute and Krishna Water Disputes Tribunal

Next we presented on the area “**Assessing water use and waste-water footprint**” Freshwater is a scarce resource; its annual availability is limited and demand is growing. The water footprint of humanity has exceeded sustainable levels. There are many spots in the world where serious water depletion or pollution takes place: rivers running dry, dropping lake and groundwater levels and endangered species because of contaminated water. The Water footprint components are, *Green water footprint*- volume of rainwater evaporated or incorporated into product, *Blue water footprint*- volume of surface or groundwater evaporated or incorporated into product and *Grey water footprint*- volume of polluted water.

China, India and the US are the countries with the largest total water footprints within their territory, with total water footprints of 1207, 1182 and 1053 Mm<sup>3</sup>/yr, respectively. About 38% of the water footprint of global production lies within these three countries. The next country in the ranking is Brazil, with total water footprint within its territory of 482 Mm<sup>3</sup>/yr. India is the country with the largest blue water footprint within its territory: 243 Mm<sup>3</sup>/yr, which is 24% of the global blue water footprint. China is the country with the largest grey water footprint within its borders: 360 Mm<sup>3</sup>/yr, which is 26% of the global grey water footprint. China and the US have the largest water footprints in their territory related to industrial production; 22% of the global water footprint related to industrial production lies in China and 18% in the US.

After that we discussed “**Green buildings and water conservation technology**” A green building is a structure that is environmentally responsible and resource-efficient throughout its life-cycle. These objectives expand and complement the classical building design concerns of economy, utility, durability, and comfort. Green buildings are designed to reduce the overall impact of the built environment on human health and the natural environment.

The US Green Building Council’s LEED Green Building Rating System <sup>TM</sup> offers environmentally sound building strategies for achieving LEED certification as a green building. LEED Certification ensures that state-of-the-art conservation and environmentally sustainable techniques have been incorporated into the building’s design and construction. LEED’s Green Building Rating System integrates sound building practices in five categories: building site selection, energy efficiency, indoor environmental quality, building material choices and water efficiency.

Then we discussed the topic is “**Water stewardship**”. Water stewardship is defined as the use of water that is socially equitable, environmentally sustainable and economically beneficial, achieved through a stakeholder. It is an inclusive process that involves site and catchment based actions. Out of 9.25 million trillion gallons of water on Earth, there is less than 1% of water available to meet the needs of nearly 7 billion people. Increase in population, urbanization, climate change and many more are pressurizing the water. Preserving the available water resources and effectively managing them is the most important duty of us.

The Steps to better water stewardship were the journey of water stewardship involves learning, analyzing, implementing and improving. Then **Water awareness**, the first most important and simple way is to create awareness. Awareness also should explore how a company is perceived by others like its stakeholder i.e. the people interested in business, consumers and the press. It would create awareness about global water challenges and also creates an exposure to water related risks. Next **Knowledge of impact**, this refers to a wider understanding of the impacts of the business on the environment in all terms. After that **Collective action**, in this step the company realizes the need for working in groups to maintain a healthy water stewardship. Water stewardship program focuses on four strategic principles: Protecting our water sources for our operations and communities, Reducing the amount of water we use by becoming more water efficient, Recycling the water we use by ensuring it is treated and returned to the environment at standards supporting aquatic life & Replenishing the water that goes into our beverages in areas of water stress or where water quality may be an issue.

In conclusion we said the earth's water is limited, and many aquifers around the world are going dry and threatens human which wildlife survival. Fresh water is also necessary to agriculture, which feeds most of the people on the planet. Water is essential to all life, and we need to do everything we can to conserve and preserve it. By saying all such definitions, facts and issues about water we concluded our presentation.

After the presentation of all we gathered under a tree. We were instructed about the preparation for our presentation at a university and its respectful faculties. We were taught about the slide preparation, body language and speech tone while presenting the Power Point Presentation. Then **Mr.Mullanchery M. Velaian** gave a congratulatory talk on our presentations. He said all the students had made extra ordinary presentations on their topics. By saying this he motivated students to improve their knowledge and finally concluded by saying the time and venue of next meeting.

After attending this program, I realized the significance about the water and the importance of sustainability over the environment. The comments and suggestions of all the judges were very useful to us. I thank all for spending their valuable time to help us improve our presentations.

**“Expect nothing. Appreciate everything!!!! That is KAP”**

REPORTED BY,  
**JERESHEA**



There is no wealth like knowledge, and no poverty like ignorance.

-Buddha

The next team meet of **Kumari Arivial Peravai (KAP)** after the selection process of Young Scientists was scheduled on 15<sup>th</sup> March 2015 at NVKS Higher Secondary School, Attoor. The meeting started at 11:30 a.m. In this meet all the five teams of KAP were asked to present a Power Point Presentation on this year's thesis "Sustainable Environment". Each team was sent to separate classrooms for presenting the slides. Judges were allotted for each team to analyze and judge the presentations of students. Firstly Maroon team and Blue team were seated in a same room where Blue team started their presentation.

Initially **Miss.SREE MEERA SUBRAMANIAM, Miss.RUDRA SATHISH, Miss.S.S.AKSHAYA, Mr.V. SHYAM SAGAR, Mr. ALGIN BALA**, member of Blue team told about technologies, contribution of machines for the growth of mankind. They also said about sustainable development. We should use energy conservatively for long term continuous sustainable development, she added. They reminded the thoughts given by Shri. M. C. Shubin Tad that we should think, research, develop and feedback. She said sustainable development will never harm us instead it will be useful for our future. Also using sustainable technology is eco-friendly. Modern technology helps mankind in various ways. Technology developed in modern days were useful in various sectors such as transport, business, health care, education, research, food industries, factories and so on.

After that we were shifted to another hall and there we had our (maroon team) team presentation. The presentation started with J.M.Jereshea and subsequently Miss. R.J.Reshma, Miss K.R.Aruna, Mr.R.Kowsanth Kalidas, Miss Sanjana.S, Miss R.J.Jenisha and Mr.K.K.Prabin Kumar presented their presentation on their research topic-Sustainable Agriculture. We presented on the topics; What is Sustainable Agriculture?, Need for Sustainable agriculture, Ancient agricultural practices - Farming methods - Crop rotation and inter crops – fertilizers, Modern agricultural practices - Farming methods - Crop rotation - Fertilizers - Genetically modified crops, Latest innovation in agriculture, Difference between ancient and modern agriculture (Pro & cons), How the sustainability is affected due to modern agricultural practices, Remedies for bringing sustainability in agriculture, Sustainable agriculture practices, Sustainable initiatives by India and Green revolution an overview.

Firstly we presented the topic "What is Sustainable Agriculture?" Agriculture is the main occupation in India. Two-third of population is dependent on agriculture. It is the main source of food, fodder and fuel. It is the basic foundation of economic development. Agriculture provides highest contribution to national income. Jawaharlal Nehru said, "**Agriculture need top most priority because the Govt. and the nation would both fail to succeed if agriculture could not be successful**". If agriculture is not sustained it would not last for long and the future of agriculture will be in of doubts. Sustainability could be defined as an ability of something to sustain itself. Sustainability is important to make sure that we have and will continue to have the water, materials and resources to protect human health and our environment which will sustain agriculture. Moving towards sustainability in terms of

agriculture should be the first big step towards sustainable development. The needs for Sustainable Agriculture are; environmental need, human need and economic need.

Then we presented the “Ancient agricultural practices”. With the emergence of farming, however, people were able to produce a reliable food supply and to settle permanently in one place, giving rise to the world’s earliest civilizations in Mesopotamia, Egypt, India and China. The term traditional is usually associated with primitive agricultural systems or practices that have been passed down for many generations. Farmers all over the world developed crops and animals that suited their environments. In the process, they developed many ways to maintain soils, ward off frost and freeze cycles and protect their crops from animals. The Crop rotation the practice of growing a series of dissimilar types of crops in the same area in sequential seasons. Crop rotation gives various nutrients to the soil. A traditional element of crop rotation is the replenishment of nitrogen through the use of green manure in sequence with cereals and other crops. The practice of crop rotation helps getting a good soil structure and high organic matter, resulting in higher yield. The Fertilizer provides plants with all sorts of nutrients that they need to grow strong and healthy, including, most importantly, nitrogen, phosphorus, and potassium. That's why farmers all over the world put manure on their crops.

The modern agriculture techniques and tools rely on the most innovative science to maintain a careful balance of farm inputs that optimize crop production while lessening potential impacts on the environment. Organic farming is the form of agriculture that relies on crop rotation, green manure, compost, and mechanical cultivation to maintain soil productivity and control pests, limiting the use of fertilizers and pesticides, plant growth regulators, livestock feed additives, and genetically modified organisms. Vertical farming is the practice of cultivating plant life within on vertically inclined surfaces. Multi-crop Farming is a practice followed by farmers by cultivating more than one crops. It helps the farmers to gain more money from different types of crops.

Next we discussed the “Latest innovation in agriculture”. *Diary Hubs* - Dairy hubs link smallholder farmers to dairy processors, cutting costs and putting money back into local communities. Through this model, farmers gain higher income, education and healthier animals, while the production of safe and affordable milk in developing countries increases. *Fertilizer Deep Placement*- Fertilizer deep placement is a new way of distributing fertilizer that increases small holder yields by an average of 18% and reduces fertilizer use by a third. FDP works by using a specialized fertilizer called 'briquette' which releases nitrogen gradually. The fertilizer is placed 7-10 centimeters below the soil, which allows less nitrogen to be lost through runoff. *High roofed greenhouses*- Greenhouses are a great way to increase production. Now greenhouses are created with roofs of 12 feet or higher, which has been shown to double farmers' yields. *New Feeding System*- A new way of feeding farm animals, which involves weighing and blending all foodstuff into a complete ration, makes sure all an animals' nutrient requirements are met. *Farm Management Software and Training*- New farm management software is available that calculates food rations and milking systems to make farm management as simple as possible.

After that we explained about the difference between ancient and modern agriculture . Some of the traditional irrigation method include; Check Basin Method, Furrow Irrigation Method, Strip

Irrigation Method and Basin Irrigation Method. Some of the Modern irrigation methods are, Sprinkler Irrigation Method, Drip Irrigation Method and Pot Irrigation Method.

Following that, we presented on how the sustainability is affected due to modern agricultural practices. Modern farming methods can increase production and can feed the world. Modern agriculture means traditional farming with the facilities of modern agricultural equipments and technology. The nature of modern agricultural structure and contemporary policies has decidedly influenced the context of agricultural technology and production, which in turn has led to environmental problems. **Sustainability creates and maintains the conditions under which humans and nature can exist in productive harmony.** So sustainability is a must in all activities we do. It is necessary to make agriculture sustainable because it is not only meant for the present generation but also for the future generation. Then we discussed about; Land degradation, Lack of bio-diversity, Contamination of groundwater and water bodies, Lack of water management and energy depletion and Environmental Damage and Climate change. Some remedies for bringing sustainability in agriculture are; Importance of biodiversity, Biodiversity and agriculture, Steps to bring sustainability in agriculture and Farming and natural resources.

Then we explained about Sustainable agriculture practices. Agriculture has changed dramatically, especially since the end of World War II. Food and fiber productivity soared due to new technologies, mechanization, increased chemical use, specialization and government policies that favored maximizing production. These changes have had many positive effects and reduced many risks in farming. Prominent among these are topsoil depletion, groundwater contamination, the decline of family farms, continued neglect of the living and working conditions for farm laborers, increasing costs of production, and the disintegration of economic and social conditions in rural communities. The ideas, practices and policies constitute our concept of sustainable agriculture.

A sustainable initiative in agriculture is defined as a launch of Policies, Missions, and Schemes by government that helps the farmers to meet their needs and to improve the quality of agricultural products. Increase of the production of high-yielding varieties of seeds, fertilizers and pesticides within the economy. Those policies aim to enhance domestic production by imports whenever necessary, expansion of Irrigational facilities and popularization of chemical fertilizers and improved seeds. Some of them are; **Food Security System and Targeted Public Distribution System (TPDS), Rural Employment and poverty alleviation Programs and Schemes and Missions launched by India.**

Green Revolution is the recent trend in crop production of using fertilizers, pesticides, and machines to produce high crop yields. The Green Revolution was a period when the productivity of global agriculture increased drastically as a result of new advances. During this period, new chemical fertilizers and synthetic herbicides and pesticides were created. The chemical fertilizers made it possible to supply crops with extra nutrients and, therefore, increase yield. The newly developed synthetic herbicides and pesticides controlled weeds, deterred or kill insects, and prevented diseases, which also resulted in higher productivity. One person who is famous for his involvement in the Green Revolution is the scientist Norman Borlaug. In the 1940s, Norman Borlaug developed a strain of wheat

that could resist diseases, was short, which reduced damage by wind, and could produce large seed heads and high yields. Within twenty years the production of wheat had tripled.

Then we gave a detailed explanation about Negative aspects of the green revolution. As a result of the Green Revolution, the soil has become fertilizer-dependent. Since the nutrient requirements of high yielding varieties are very high, the nutrient content of the soil has to be replenished after cultivation of each crop. The excessive use of fertilizers makes the soil alkaline or acidic depending upon the nature of the fertilizer used. As a result of the Green Revolution, the pesticides and weedicides are being used extensively. This is due to the reason that high yielding varieties of crops are more prone to disease. Excessive use of these chemicals has adverse effect on the soil fertility and also on the health of human beings and animals. The high yielding varieties of crops, which have resulted in the Green Revolution, need more water. In order to meet the water requirements of such crops the existing natural sources of water are artificially altered. This also results in ecological imbalances. One of the factors leading to the Green Revolution is that more and more land is brought under cultivation. This has been done by clearing the forests. This has led to accelerated soil erosion. This is also affected ground-water sources.

After giving explanation on sustainable agriculture and on the steps to be carried out for the mankind we concluded our speech. And finally a presentation was selected and then we started our preparation for our next presentation. Lastly, after the completion of all the teams' each and every student gathered under a tree where we were taught about the preparation of the final PPT. We were also taught about how to face the audience while presenting the slides. Those particulars will be really helpful for the final presentation.

Then all teams judges including Dr. Sugin Herbert, Shri. M. Johnrabikumar, Shri. C. Sajeev, Capt. Bennet Singh, Shri. T. M. Sahajan and Shri. M. C. Shubin Tad gave a feedback which was useful. Finally Mr. Velaian had informed us about the next meet venue and the regarding particulars. The meeting ended around 3'O clock in the evening.

Through this meeting I was able to present my own presentation before the judges and my co students. KAP has led us to be fear free for spot topic talking, speech, presenting presentations. I consider this as my best time and place to showcase my talents. I thank KAP and its encouraging motivation for students like me. I convey my gratefulness towards all the judges, scientists, teachers, guides and other dignitaries who took their time to correct us and guide us during the presentation.

**“Appreciation can make a day – even change a life. Your willingness to put it into words is all that is necessary!!!! Thank you KAP!!!!**

**REPORTED BY,  
DANI ROVAS,  
MAROON TEAM CO-LEADER.**

Researching is the activity that is needed to be developed by each and every one as it is one of the basic for learning something new in a systematic way. We should develop the skill of researching in the very young age. Only then, the students will be able to explore about various topics using one of the most common technology, the internet. This skill is having a major impact especially on students since they are expected to have a vast idea on the topic they learn. For this they need to select the suitable information for the topic from the expanse of information available.

Keeping this in mind, Kumari Arivial Peravai motivated all the young scientists to research on various sub-headings which are related to the theme of the year, Sustainable Environment. Then all the information gathered was compiled by the students appointed and they did their work with full involvement and finished it successfully. Although the research topics were compiled in a successful manner, they were corrected by the resources of KAP for its perfection. Not only preparing, but presenting the ones prepared too matters a lot. So, to enable the Young Scientists present the research topic that they prepared, on 15<sup>th</sup> of March, Research Topic Presentation was held at NVKS Higher Secondary School.

This was the meeting that I was avidly waiting for since I was going to shape my presentation skill from this meeting as well as I was going to know the right way to prepare powerpoint from the meeting. I arrived at NVKS School and we were seated according to our teams. After our seating arrangements, Mr.Mullanchery M.Velaian gave the introductory address. He said that the main purpose of this Research Topic was to improve our presentation skill and knowledge. This presentation on research topic will also enable us to know the real capacity of us in presenting with confidence.

Then we began with the presentation session by the Young Scientists in the presence of the moderators. They were Shri.M.C.Shibin Tad, Assistant professor NI University Kumaracoil, and Dr.Sugin Herbert, Medical Officer Government Hospital Thuckalay. Firstly Sree Meera Subramanian presented. She did her presentation with full confidence and we also came to know that she was improving the flow of speaking nowadays. The moderators suggested that she presented well but should reduce the number of slides in the powerpoint.

Next Rudra Satish gave a clear idea on Technology through her presentation. She explained her ppt in a good way but it would be better if she had reduced the number of times she saw the slides. The moderators said that her explanation was good but the presentation would have been perfect if the content in the slides were less. Akshaya then highlighted Technology through her presentation. She did her presentation completely and presented with increased confidence level. The presentation was done in a better way. She conveyed all the point she wanted in short and all was understood. The moderators said that she should have a proper eye contact and congratulated her for a better presentation.

Shyam Sagar was the next to present. He had more contents in the powerpoint and read out the contents. The power point can be made better by reducing the content and explaining the presentation. The moderators too suggested the same. Aglin Bala presented her presentation next. She conveyed all the points very clearly. Her presentation was nice but there was more content in the slide as well as she did not have a proper eye contact. The moderators too said that she should have a proper eye contact.

Seanna got the chance to present next. She covered the entire topic. From her presentation I came to know that, she is making her more courageous now by presenting the presentation confidently. The moderators suggested that she should have explained the presentation rather than just reading it out from the power point. Ashmi presented next. She too made the concept of Technology a bit more clear. She presented well but I felt that she should have spoken with a smile in her face without being so serious about the presentation. The moderators said that she too should have a proper eye-contact when speaking as well as the presentation should have only the key points in it.

Shamini prepared the presentation in Tamil but she only read from what she prepared. If she might have explained then it would have been better. Then she was asked to read a few slides about Technology. Naveenjith presented on the topic. His presentation looked formal but it had a lot of points in it. He also did not explain the presentation. The moderators too felt the same and advised him to prepare the slides with limited points. They also suggested, not to read from the slides.

Shalomi presented on Technology next. She explained what she prepared but the background she gave was in a way that the points in the slides were not visible. The moderators said the same. Still they appreciated her since she presented well. Then Jefin presented on the topic. He presented with full confidence but he had more contents in his presentation. He explained everything well and correctly too. The moderators said him to avoid putting lot of contents in the slide.

Last but not the least I presented on the research topic. I felt a bit nervous at first but then gained courage and presented well. I hope that I presented well. My power point had limited contents in it. Then the power point which was going to be presented in the University was selected by the moderators in the presence of Mr.Mullanchery M.Velaian. Then the team meet came to an end with the general assembly. In that the moderators of all teams gave their general opinions on the presentation.

Capt. Bennet Singh said that all the young scientists presented well with good practice. A famous quote states that leaders do not do different things but they do things in a different way. Similarly, all the young scientists presented the same research topic in a different way. He finally advised us that this is not enough and so we should practice even more for doing the presentation in the most accurate way. Mr. Perumal said that the presentation was very good and at the same time we should not be satisfied with this and we should practice more and present it in an even better way. Dr. Sugin Herbert said two main points. Know what you are going to speak and have continuity between all the slides.

Shri Sahajan said that the presentation was good. We should improve the slides with limited number of points; improve the presentation skill and the word flow. Shri M. C. Shubin Tad suggested that we should have a proper eye-contact and it would be better if we showed actions during the presentation. Shri John Rabi Kumar said in general that all the presentations were nice and all did well. Miss. Lekshmi said that all of us presented the presentation in a good manner. We should also keep in mind that the background of the slides matters a lot in the presentation. We should improve the fluency in speaking and our posture should also be correct. Finally Shri Sajeev gave a valid tip that we should be able to answer the entire question asked from the presentation related to the research topic.

Mr.Mullanchery M.Velaian said that we should work even harder to achieve great things so that all the fruits of it can be enjoyed. He also mentioned about the presentation method. We should somehow answer all the questions asked related to the topic. He then informed us about the forthcoming meetings and with this the meeting came to an end and all dispersed. The meeting was really beneficial to me as it made me realize the importance of presentation skill and it also fed me with some ways to improve it. The tips were all very beneficial to me. I thank KAP for giving me this valuable opportunity.