Methane and nitrous oxide, as well as some other greenhouse gases like water vapor or urban aerosols, contribute to climate change. However, the major concern is the share of methane and nitrous oxide emissions, because of their long-term effects and the presence of water vapor in the atmosphere. Methane and nitrous oxide are both greenhouse gases, which mean they trap heat in the atmosphere and contribute to climate change. Methane is a more potent greenhouse gas than carbon dioxide, but nitrous oxide has a longer lifetime in the atmosphere. The major sources of these gases are livestock, agriculture, and waste management. Methane is also produced by the digestive process of animals, such as cows, sheep, and goats. The production of methane by livestock is a major concern, as it is responsible for about 12% of global greenhouse gas emissions. Nitrous oxide is primarily emitted from the soil, where it is produced by the action of soil bacteria. In agriculture, nitrous oxide is produced during the process of nitrogen fertilization, which is used to increase crop yields. The production of nitrous oxide is also a concern because it is a more powerful greenhouse gas than methane. The government has set targets to reduce the production of methane and nitrous oxide, but progress has been slow. To achieve these targets, the government must take measures to reduce the production of these gases. One measure is to encourage farmers to adopt better farming practices, such as rotational grazing, which can help reduce the production of methane. Another measure is to invest in research and development to develop new technologies that can help reduce the production of methane and nitrous oxide. In conclusion, the production of methane and nitrous oxide is a major concern because of their contribution to climate change. The government must take measures to reduce the production of these gases to protect the environment and ensure a sustainable future.
PASTIC Supplied Digital Science Technology Documents To Workers

According to PTA, all major universities have been working on research-related topics such as educational research, research proposal/paper writing, research methodology, case study writing, evaluation, research paper presentation, and research-related topics such as financial audit of research projects.

PTA has a strict policy of not allowing anyone to use PTA's systems for any illegal purposes. As a result, all workers are required to sign an agreement stating that they will not use the network for any illegal purposes.

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PTA has also been working on improving the quality of its services. It has invested heavily in new technology and is constantly looking for ways to improve its services.

PTA has a policy of providing free internet to all students and workers. It is also working on providing internet to rural areas and to those who cannot afford it.

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Why and how can mathematics play an important role in solving many of the problems related to the environment and sustainability? This question is not new. Mathematicians have been using mathematical models to describe physical phenomena and to predict the consequences of human activities for many years. In recent years, there has been a growing recognition of the importance of mathematics in the fight against climate change and in the development of sustainable solutions.

One of the most important contributions that mathematics can make to Pakistan’s economic development is in the field of agriculture. Precision agriculture, which uses advanced technologies such as Geographic Information Systems (GIS), the Internet of Things (IoT), and drones, can be used to improve the efficiency of agriculture and to reduce the environmental impact of farming. The use of mathematical models and optimization techniques can help farmers to optimize their crop yields, water usage, and fertilizer application, leading to increased productivity and reduced environmental impact.

Another area where mathematics can play a crucial role is in the management of water resources. Mathematical models can be used to simulate the flow of water in rivers and lakes, to predict the impact of climate change on water resources, and to optimize the operation of water treatment plants and distribution systems. The use of mathematical models can also help to identify areas where water conservation measures are most needed.

In conclusion, mathematics is a powerful tool that can be used to solve many of the problems facing our planet. By applying the tools of mathematics, we can improve our understanding of the natural world and develop new solutions to the challenges we face. Mathematics is a discipline that is both beautiful and practical, and it is an essential resource for the development of a sustainable and prosperous future.
Mustard tolerates heat and drought, so in drier soil areas it is well suited to grow properly. With cereal crops for its young leaves or manure and green manure, it is oftenly grown in crop rotation. The use of mustard in crop rotations is desirable due to its effect on residue conditions in the field, disease, weed, insect problems. Ideally, it is grown after a cereal crop. In general, mustard crops are grown in drier and dry areas and on stubble or summer fallow respectively.

Mustard enters into ripening and dries so in soil areas it is well suited to grow properly. With cereal crops for its young leaves or green manure and also as weed. Leaves or green manure and seeds of mustard, the three principal species are used. B. juncea (buckwheat), B. nigra (black), and B. campestris (creeping) are gainly used in a native of Eastern Mediterranean region. It originated from the Himalayas and Bangladesh. B. juncea is present in B. nigra comes from the Middle East. B. juncea is commonly known as mustard in India. It is called as Radish, Broad-leafed, and Indian mustard in the second most valuable oil source of after cotton crop in Pakistan. In crop production it is the second most valuable of oil source in an area of over 307,000. In glowing condition, it is the best seed in the mustard family. It is a symbol of heat. During the 20th century, the use of mustard as a spice or condiment has grown in the extent. It is the largest spice by volume in world trade. In the U.S. principally, it is unusual among nations grown in temperate regions of the world. Mustard is grown in Canada, Great Plains, in Asia, and Europe. A little amount in other countries present. Main producing countries of mustard crop is totally mechanized.

Nutritional Use:
Young seeds leaves, which are rich in vitamins, C, E, and D, are edible as fresh and cooked, and exclusive salad leaves and have a medicinal value to partly cleanse. White mustard seed has significant agronomic value due to its high protein and oil contents and low starch content. Enhanced amino acid profile makes the seed an attractive source of food-grade proteins.

Water Management Has Been Considered As One Of The Methods That Can Be Used To Decrease Methane Emissions From Flooded Rice Conditions. Due to periodic fluctuations in temperature and water accumulation in rice paddy fields, methane emissions occur under conducive conditions. Soil amendments such as sulphur containing ammionic fertilizers can be an effective way to reduce methane emissions from the rice field. This approach, however, cannot be reduced up to 100% but it is often recommended in such conditions the mechanism behind this is due to the presence of sulphur in rice field conditions methane can be observed. Another soil additive that could be used is nitration inhibitors including acetonilide and nitrofurans known to have the potential of inhibiting methanogens and methanotrophs. Controlling methane emission by controlling soils in addition to rice flooded condition is also an approach. As decomposition of these straw produces methane. By making sure that straw does not decay in the flooded condition the growth of methane production could be discouraged. The addition of organic amendments will also increase the methane reduction and it is also advised to add with continuous removal of soils from rice flooded conditions as soils are investigated to be the source of methane production.

Endophytic Bacteria: Endophytic microorganisms such as methanotrophs have been known to mitigate methane production in crops other than rice. The bacteria is non-pathogenic to metabolize methane by biological oxidation. Soil amendments such as sulphur containing ammionic fertilizers can be an effective way to reduce methane emissions from the rice field. This approach, however, cannot be reduced up to 100% but it is often recommended in such conditions the mechanism behind this is due to the presence of sulphur in rice field conditions methane can be observed. Another soil additive that could be used is nitration inhibitors including acetonilide and nitrofurans known to have the potential of inhibiting methanogens and methanotrophs. Controlling methane emission by controlling soils in addition to rice flooded condition is also an approach. As decomposition of these straw produces methane. By making sure that straw does not decay in the flooded condition the growth of methane production could be discouraged. The addition of organic amendments will also increase the methane reduction and it is also advised to add with continuous removal of soils from rice flooded conditions as soils are investigated to be the source of methane production.
U.S. Secretary of State Antony Blinken signed the text of the agreement between the United States and Japan on national security in Washington, D.C., on Friday, January 13, 2023. The agreement, which is the first major update to the alliance since 2015, is expected to strengthen cooperation between the two countries in the face of increasing challenges to their shared security interests, including in the Indo-Pacific region.

The agreement, titled “Framework Agreement Between the Government of Japan and the Government of the United States for Cooperation in the Exploration and Use of Outer Space for Peaceful Purposes,” was signed by Blinken and Japanese Foreign Minister Yoko Hatta on behalf of their respective governments. The agreement builds on existing arrangements and sets out a new framework for cooperation between the two countries in the areas of space security, non-proliferation, and the peaceful development of space activities.

The U.S.-Japan space cooperation has entered a new era with the formation of a joint space security task force, which will focus on a broad range of issues, including the prevention of space-based threats, the protection of space assets, and the promotion of international norms and standards.

In his statement, Blinken said: “We are stronger together, and the United States and Japan share a common vision for a safer, more secure, and more prosperous world. This agreement is a significant step in that direction, and it demonstrates our shared commitment to working together to ensure the safety and security of our citizens and the stability of our region.”

The agreement will enhance cooperation between the United States and Japan in the areas of space security, non-proliferation, and the peaceful development of space activities. It will also provide a framework for future cooperation in the areas of space-based surveillance, monitoring, and early warning.

The agreement is a significant step forward in the U.S.-Japan security relationship and underscores the importance of cooperation between the two countries in the face of increasing challenges to their shared security interests. It is expected to strengthen the U.S.-Japan alliance and enhance the ability of both countries to respond to emerging security threats.

The agreement was signed in the context of a broader review of the U.S.-Japan alliance, which is expected to be completed later this year. The review will focus on strengthening the alliance’s capabilities and ensuring its relevance in the face of changing security conditions.

The agreement will also provide a framework for future cooperation in the areas of space-based surveillance, monitoring, and early warning, and it is expected to enhance the ability of both countries to respond to emerging security threats.

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5th Death Anniversary

Dr Ishfaq Ahmed

“Ishfaq Ahmad Khan SI, HI, NI, FPAS, was a Pakistani nuclear physicist, emeritus professor of high-energy physics at the National Centre for Physics, and former science advisor to the Government of Pakistan.”

21st January

1930-2018