

WAVES 2025

FM Nirmala Sitharaman-opened Her Pitara of Bonanza for Middle Class

WAVES 2025, a highly anticipated cultural and technical event, is set to take place at one of the most esteemed academic institutions, bringing together students, professionals, and innovators from various fields. Known for its diverse range of competitions, workshops, and exhibitions, WAVES has grown over the years into one of the largest platforms to showcase talent, creativity, and technical prowess. The theme for WAVES 2025, "Innovation, Sustainability, and Collaboration," emphasizes the importance of combining cutting-edge advancements with social responsibility and environmental consciousness.

WAVES 2025 will feature numerous technical competitions designed to challenge participants' problem-solving abilities, encourage innovation, and spark interest in technology. These events will range from coding and robotics competitions to mechanical and civil engineering challenges. The workshops will offer a chance for hands-on experience, allowing attendees to learn from experts in fields such as artificial intelligence, machine learning, cybersecurity, and renewable energy technologies. With the focus on sustainability, many workshops will explore how technology can help mitigate climate change, increase resource efficiency, and develop environmentally friendly solutions.

WAVES 2025 will also highlight the importance of cultural exchange and creativity through a variety of performing arts events, including music, dance, drama, and fashion shows. These events will serve as a platform for students to express themselves, showcase their talents, and foster a spirit of camaraderie. Cultural performances will be paired with interactive sessions and collaborations with renowned artists and performers, promoting the exchange of ideas and traditions. The cultural program is designed not only to entertain but also to inspire a sense of unity and appreciation for diverse cultures.

This year, WAVES 2025 is set to provide an exceptional emphasis on innovation and sustainability. Workshops, keynote addresses, and panel discussions will focus on how innovation can help achieve sustainability goals, with speakers from various sectors discussing topics like renewable energy, sustainable agriculture, green technology, and waste management. Additionally, participants will be encouraged to present ideas and projects that aim to address real-world challenges, with a special emphasis on how these innovations can lead to positive social impact.

■ OMKAR DATTATRAY

Finally the long wait of the middle class and the salaried class has come to end on 1st of February 2025 ,when finance minister unveiled her new budget and gave a bonanza for the salaried class as well as middle class when she announced that the government has decided to exempt middle class from the tax on the yearly income of Rs 12,00000.In fact in the new tax regime an employee earning up to Rs 12.75 lakh have to pay no income tax because Rs 75000 is the standard deduction. It is in fact for the time in the history of Independent India that such a big relief has been announced for the middle class including salaried people .It is a great milestone and is historic that a gift of such a huge nature has been announced in 2025 union budget for the salaried people. The net effect of this big relief for the middle income group is that 95% population of the country is freed from pay income tax for this maiden time and this is no ordinary thing or a mean development. Thus it will benefit a great majority of the people of India.FM Nirmala Sitharaman on Saturday unveiled a budget bonanza for taxpayers ,particularly the middle class ,which has been reeling under the double impact of a slowing economy and rising prices.PM Modi had strongly hinted at it on Friday and so did the president Droupadi Murmu. There will be a rebate on annual income up to Rs 12 lakh , compared with Rs 700000 currently, and higher limits across slabs under the new regime. For the salaried ,who also get standard deduction of Rs 75,000 under the new regime ,the rebate will mean zero tax liability for those with income up to Rs 12.75 lakh. As a result of the sweeping changes in the tax structure and the

exemptions ,almost 1 crore of the 3 crore Indians who actually pay taxes will now legally escape the tax net-though they will still have to file IT returns to avail of the rebate .Those who will pay taxes will save amounts ranging from Rs 30000 to Rs 1.1 lakh a year ,depending on their income level. While vast of the middle class will gain ,the big beneficiaries are those with taxable income of Rs 15,0000-Rs 24,0000,who were earlier in the highest slab of 20% and will now face levies of 15% to 25%.No taxes up to Rs 12 lakh annual income set to boost consumption spending stays the path on fiscal consolidation with fiscal deficit target of 4.4Pc in FY 26 farm economy in FM's focus too with a slew of measures. Finance minister N.Sitharaman on Feb 1 placed the bets firmly on India's vast consuming salaried and middle class to power the economy ,announcing wide-ranging changes in income tax rates and slabs in the 2025-26 union budget in a plucky drive to push growth amid fast gathering global headwinds. Amid signs of moderation in the broader economy ,Sitharaman unveiled measures to catalyze a swift recovery by putting more money in people's pockets , and amplifying their purchasing power. This predicted on the assumption that higher disposable income will stimulate demand for goods and services. This in turn could set off a cycle of investment as companies eventually start adding capacities to meet the extra demand. Under the proposed new slabs and rates, anyone with an annual taxable income up to Rs 12 lakh - excluding capital gains income will not have to pay any taxes. This ,effectively means that those with annual income up to Rs 12.75 lakh will not have to pay any tax ,including a standard deduction benefit of Rs 75,000.FM

said," Slabs and rates are being changed across the board to benefit all tax -payers. The new tax structure will substantially reduce the taxes of the middle class and leave more money in their hands ,boosting household consumption ,saving and investment." The finance minister also rejigged slabs and rates. Under the proposed slabs ,people earning more than Rs 12 lakh per annum ,there will be nil tax for income up to Rs 4 lakh,5% for income between Rs 4 and 8 lakh,10 % for RS 8 to Rs 12 lakh ,15 % for Rs 12 lakh to Rs 16 lakh. A 20 percent income tax will be levied on income between Rs 16 lakh to Rs 20 lakh,25 percent on Rs 20 to Rs 24 lakh and 30 % above Rs 24 lakh per annum.FM said," Democracy, Demography and Demand are the key pillars in our journey towards Viksit Bharat. The middle class provides strength for India's growth. The government under the leadership of Prime Minister Modi has always believed in the admirable energy and ability of the middle class in nation building.' FM's Budget speech is being seen as a "big relief" for middle class and salaried population. The announcement that there will be no tax on the annual income up to Rs 12 lakh and coupled with it the standard deduction of Rs 75 lakh, it is clear that salaried class will be exempt from income tax up to Rs 12.75 lakh annually. This announcement prompted a wave of joy among the middle -class salaried population, and as expected many took to social media to share happiness about the "big relief". In fact the Budget 2025 is a game changer for the middle class ."Slabs and rates are being changed across the board to benefit all tax payers. The new structure will substantially reduce the taxes of the middle class and leave more money in their hands." So

under the new tax regime, the tax rate structure has revised. Budget exercise is a politico-economic tool and political economy has much importance for the government and governance as well as the economic, social and political development of the country. The big bonanza of tax relief to the middle salaried class has won the hearts ,minds and sympathy of the central government. The elections are happening in Delhi and in few months there will be assembly elections in Bihar and the governments big relief in income tax to middle class will boost the political fortunes of the BJP in Delhi Assembly elections and it along with the huge allocations for the state of Bihar will finally result in votes in the Bihar assembly elections in favor of NDA and its allies which are going to be held in few months .So FM's middle path will in fact lure Delhi and Bihar voters as it is most and accurate possibility. Delhi votes on 5th February that is Wednesday and Bihar in October or November this year. The Budget has gone the extra mile to woo them. For Delhi - Country's richest city by per capita income and with large middle class straddling government employees ,private sector ,and businesses -the big tax giveaway is a clear and loud message/signal. The fact is that AAP's core base is low income group and the lower middle class is wavering ,the Modi government appears to be hoping to tip them over to their side. So for as Bihar are concerned, BJP and its ally Nitish's JDU political fortunes will be positively affected. To conclude one can say that FM's tax bonanza to middle class /salaried population is the gift of Modi Sarkar to the middle class.

(The author is a columnist, social, KP activist & Freelancer)

‘Gharat’ of Kishtwar: Indigenous Wisdom to Conserve Resources

■ DR. PARVEEN KUMAR

Diversity is the hallmark of Indian culture. Communities belonging to different races, colour, caste and ethnicity inhabit different geographical regions in the country. These communities are a storehouse of indigenous wisdom. It is a knowledge that is unique to a given culture or society. This wisdom is unique and traditional based on local knowledge, existing within and which has developed around the specific conditions of a particular geographic area resulting in development of certain practices and technologies which are sustainable and eco-friendly. These technologies developed with the traditional wisdom of local peoples are still playing a crucial role in conservation of natural resources, livelihood of peoples and sustenance of the local economy. We also call all such knowledge as Indigenous Technical Knowledge (ITK). Agriculture is a sector which plays a major role in progress of the country. This is because about fifty per cent of the population directly or indirectly is still engaged in this sector for securing its livelihood. As such, the use of traditional wisdom by the farming communities especially in the Himalayan region for different purposes can be found almost everywhere in every nook and corner of this planet. Himalayan region is a rich tapestry of natural resources and their

utilization approaches and conservation practices. Studies have reported the existence of about 200,000 Gharats in this Himalayan region in the states of J&K, Himachal Pradesh, and Uttarakhand. Due to inaccessibility and heterogeneity of mountain systems along with a difficult terrain and lack of technological interventions, the peoples here have developed numerous indigenous technologies. Charkha (spinning wheel), Takali (Spindle), Khaddi (wooden weaving machine) is some of the technologies based on indigenous wisdom of the masses. Another example of the use of indigenous knowledge lies in 'Gharat' which are known as 'Rantak' in Ladakh.

'Gharat' at village Mulchiter in Kishtwar

Gharat basically refers to a conventional mechanical device used for grinding grains of Wheat, Maize, Barley, Buck wheat and Peas. This technology is generally found in the regions where there is enough availability of water because of snowfall. The device is driven by water and does not require any electricity or fuel thus making it environmental friendly. It is a carbon free energy source. The villagers in the mountainous regions use fast flowing water coming from snow fed mountain streams and rivers to power the Gharat which is also a sort of flour mill. In Ladakh region also such mills are found and are known as

'Rantak'. It does not require any investment as it is made by locally available materials like stone and wood.

'Gharat' works on the simple principle of conversion of kinetic energy into mechanical energy. The Kinetic energy of the moving water is turned into mechanical energy by the water driven mill. The water from the rivers, streams and other water bodies is diverted and is made to rotate the mill. This energy of the fast moving water forces the underground turbine to rotate. On the surface are two circular stones of which one is fixed and the other is rotating. The lower one is fixed and the upper one is rotating. The threshed, cleaned and dried grains are fed in the basket like structure locally called as 'Kothar' that is fitted on the top of the stones. The grinding stones are made into circular shape by local artisans. Each stone can weigh up to 1 quintal. The upper stone rotates with the flow of water and grinds the grains. An underground wooden fan like structure with wings like the fan is fitted below on which the water falls. When the water from a height falls on the wings of the fan like structure, it rotates and causes the stone wheel to rotate which is connected to it through a shaft. The rotational force caused by the water falling from a height gets transferred to the upper rotating stone and makes it to grind against the lower

fixed stone.

Fitted with the 'Kothar' is a wooden flat rectangular structure usually 10 to 15 cm in length which when touches the upper rotating stone shakes the hopper thus discharging the grain from it. About 2 to 3 quintals of flour can be made from the mill in a single day. Another small wooden piece to adjust the flow of grains from 'Kothar' to the hole in upper stone is also present.

Similar to the 'Gharats' are the 'Rantaks' of the Jammu region. These are best examples of how excess water can be made to do very useful work without any investment and labour. The limitation of these structures is that these become non functional during the winters when water get frozen. However, studies have reported that a lot of beneficial effects too and these have been proved scientifically. As the grinding by stones is a slow process as compared to electric ones, the wheat germ is not exposed to excessive temperatures. Heat causes the fat from the germ portion to oxidize and become rancid. The flour hence does not get spoiled for years on storage. Baking quality of the flour is better as compared to the flour of modern mill. Yield of the flour thus obtained by grinding is also more as there is less of wastage as compared to present day flourmills.

(The author writes on agriculture and social issues)

Know benefits of earthworms in agricultural production

■ PROF. (DR) R.D. GUPTA

Although the earthworms appear to be humble yet they are very active organisms. They perform a numerous beneficial activities in nature. As a matter of fact, the earthworms perhaps cover a number of important aspects towards agriculture ,especially organic farming. In the first place ,the borrowing activity of the earthworms brings about soil tillage. Although in most conventional forms of tillage implements, it is possible to plough the soil upto about 30 cm depth ,while the earthworms can do this up to 3 m or even more without adversely affecting plants in any manner. Besides, the earthworms feed on soil organic matter thus breakdown its various particles and finally turn them into humus.

Humus in turn helps in Improving the physical and chemical properties. Usually the soil horizons having earthworms show a granular to subangular blocky structure. There is significant improvement of water stable aggregates. Improve water holding capacity, cation

exchange capacity and the plant nutrients content of the soils. The improvement is generally more in topsoil (0 to 15 cm depth).

Generally ,with increase in number of earthworms, the bulk density is reduced while the total pore space and water holding capacity is increased significantly both in surface and sub-surface soils. Humic substances like humic acid, fulvic acid, humin etc. have various uses. Firstly ,they serve storehouse of plant nutrients both macro and micro. Moreover, they regulate the ionic exchange phenomenon like clay minerals, which is of much economic importance in agriculture and other sectors after photosynthesis. Humic substances also serve as chelating agents which are responsible to render the availability of micronutrients slowly and uniformly.

In conventional composting of animal dung, its full conversion is done in approximately 6 months. However, through earthworms i.e. 10 Kg worms(1000 in number) would convert, 1tonneanimal dung per month with

five square meters, composting pits.

In totality, earthworms casts production bring about highly beneficial form of soil tillage with several amendments like addition of plant nutrients. It has been found that soils with earthworms cast have more nutrients i.e.5 times more nitrogen , 7 times phosphorus and 11 times potassium, 2 times magnesium and calcium.

Of various roles of earthworms , benefits accrue even after their death under natural conditions. Nitrogen content in the soil is increased with decay of dead earthworms. It has been estimated that in earthworm dead species, individually can yield up to 10- 12 ng of nitrate. A population of 3.75 million ha-1even after death earthworms would yield approximately 220-230 kg of NO3-N ha-1. Earthworms have another important role in maintenance of C: N and C:P ratios essential for the release of nutrients to plants and the microorganisms.

(The writer is Ex-Associate Dean Cum Chief Scientist KVK Jammu, SKUAST-J)

Allergy: Origin, Causes, Precautions and Treatment

■ DR. RAJKUMAR SINGH

The term "allergy" originates from the Greek words allos (meaning "other" or "different") and ergon (meaning "work" or "reaction"). It was coined in 1906 by Austrian pediatrician Clemens von Pirquet, who used it to describe altered immune responses. The concept of allergy emerged as medical science began understanding the immune system and its role in diseases like asthma, hay fever, and anaphylaxis. In fact, an allergy is an overreaction of the immune system to a substance that is typically harmless to most people and include pollen, dust mites, mold, pet dander, certain foods, insect stings, and medications. When the immune system identifies an allergen as a threat, it produces antibodies and releases chemicals like histamine, causing allergic reactions. Common Symptoms of Allergies: Symptoms of allergies vary depending on the type of allergen and the individual's sensitivity but can include the following: a. Respiratory Symptoms: Sneezing, runny or stuffy nose (allergic rhinitis), itchy nose, throat, or eyes, coughing or wheezing and shortness of breath or asthma symptoms. b. Skin Reactions: Hives (raised, itchy, red welts), eczema (dry, scaly, itchy skin) and swelling (angioedema). c. Digestive Symptoms (for food aller-

gies): Nausea, vomiting, abdominal pain and diarrhea. d. Severe Reactions: anaphylaxis: A life-threatening reaction that includes difficulty breathing, a drop in blood pressure, and loss of consciousness. Immediate medical attention is required.

Diet and Precautions

Managing allergies often involves avoiding triggers and adopting a diet and lifestyle that reduces the risk of allergic reactions. Diet Recommendations: For Food Allergies: a. Avoid Allergen Triggers: Identify and avoid foods that trigger your allergy (e.g., peanuts, shellfish, dairy, eggs). Read food labels carefully for hidden allergens. Substitute Safe Alternatives: Use plant-based milk (e.g., almond, soy, or oat milk) if allergic to cow's milk. Opt for gluten-free products if you have a wheat allergy or celiac disease. Consume Hypoallergenic Foods: Rice, quinoa, sweet potatoes, and most vegetables are generally safe. Incorporate Anti-inflammatory Foods: Include foods rich in omega-3 fatty acids (e.g., salmon, flaxseeds) and antioxidants (e.g., berries, spinach) to reduce inflammation. b. For Respiratory Allergies (E.g., Pollen, Dust): Boost Immune Health: Eat foods rich in vitamin C (e.g., citrus fruits, bell peppers) to support the immune system. Include

probiotics (e.g., yogurt, kefir) to improve gut health, which can impact immune responses. Stay Hydrated: Drinking plenty of water helps flush out allergens and reduces mucus build-up. c. Precautions to Avoid Allergens: Environmental Allergies: Keep Indoor Air Clean: Use air purifiers with HEPA filters. Keep windows closed during high pollen seasons. Regularly clean and vacuum your home to remove dust mites and pet dander. Wash Bedding Frequently: Use allergen-proof covers for pillows and mattresses. Avoid Outdoor Exposure: Limit outdoor activities during peak pollen times (early morning and windy days). Shower and change clothes after coming indoors. d. Skin Allergies: Avoid Irritants: Use hypoallergenic skin care and laundry products. Protect Skin: Wear gloves when using cleaning products or gardening. Moisturize Regularly: Use fragrance-free moisturizers to prevent skin dryness. e. Insect Allergies: Avoid wearing strong perfumes or bright clothing that attract insects. Keep food covered when outdoors. f. Medication and Emergency Precautions: Always carry antihistamines or prescribed medications for mild reactions. For severe allergies (e.g., anaphylaxis), carry an epinephrine auto-injector

(EpiPen) and know how to use it. g. General Precautions: Educate Yourself: Be aware of your triggers and communicate them to friends, family, and co-workers. Monitor Symptoms: Keep a diary to identify new triggers or patterns.

Advancements and future treatments

The field of allergy treatment has seen significant progress, with ongoing research aimed at improving patient outcomes and reducing the burden of allergic conditions. The recent advancements and promising future treatments include: a. Biological Therapies (Biologics): Monoclonal Antibodies: Drugs like omalizumab (anti-IgE) and dupilumab (anti-IL-4/IL-13) have revolutionized the management of severe asthma, atopic dermatitis, and chronic urticaria. These therapies target specific molecules in the immune response, reducing inflammation and symptoms. Targeting IL-5: Medications like mepolizumab and benralizumab are used for eosinophilic asthma, a subtype linked to high levels of eosinophils (a type of white blood cell). b. Oral Immunotherapy (OIT): Used for food allergies, particularly peanut, milk, and egg allergies. Involves gradually introducing small, controlled amounts of allergens to desensitize the immune system over

time. FDA-approved treatments like Palforzia for peanut allergies are now available. c. Allergen-Specific Immunotherapy (AIT): Includes sublingual immunotherapy (SLIT) and subcutaneous immunotherapy (SCIT): SLIT: Allergen drops or tablets are placed under the tongue. SCIT: Allergen extracts are injected under the skin. Proven to reduce symptoms of hay fever, asthma, and insect venom allergies. d. Epicutaneous Immunotherapy (EPIT): A newer approach where allergen patches are applied to the skin to desensitize the immune system. Shows promise in treating food allergies with reduced risk of systemic reactions. e. Microbiome-Based Therapies: Research on the gut microbiome reveals its critical role in immune regulation. Probiotics and prebiotics are being explored to modulate gut bacteria and reduce allergic responses. Future Treatments: a. Gene Therapy: Aims to correct or modify genes responsible for allergic conditions. Early studies focus on altering immune responses to allergens or reducing overactive immune cells. b. CRISPR-Cas9 and Genome Editing: Offers the potential to "switch off" genes linked to allergic reactions, such as IgE production. Could lead to permanent cures for some allergies. c. mRNA Vaccines for Allergies: Inspired by COVID-19

vaccines, mRNA-based treatments are being developed to train the immune system to tolerate allergens without triggering harmful reactions. d. Nanotechnology in Allergy Treatment: Nanoparticles are being explored to deliver allergens or drugs directly to immune cells, reducing systemic side effects and improving efficacy. e. T-Cell Therapies: Focused on reprogramming regulatory T-cells (Tregs) to suppress allergic responses. Promising for long-term tolerance to allergens. f. Personalized Medicine: Advances in genomics and immunology allow for treatments tailored to an individual's unique immune profile. Could involve custom immunotherapy doses or targeted biologics. Challenges and Outlook: Challenges: High costs of new therapies like biologics and immunotherapy. Ensuring long-term safety and efficacy of novel treatments. Accessibility and availability in underserved regions. Outlook: Continued research promises more effective, safer, and accessible treatments. In the context, the ultimate goal is to move from symptom management to curing or preventing allergies entirely.

(The writer is a youth motivator and former University Head, Dean, Social Sciences and Dean Students' Welfare (DSW) of the B.N. Mandal University, Madhepura)

