"The fabled musk deer searches the world over for the source of the scent which comes from itself."
-Ramakrishna

TESTAMENT TO SELF-RELIANCE

India's defense sector has witnessed a remarkable surge in exports, marking a significant milestone in the nation's journey towards self-reliance and global recognition. In recent years, the government's push for indigenous manufacturing, technological advancements, and policy reforms has positioned India as an emerging player in the global defense market.

India's defense exports have grown exponentially, reaching an all-time high in recent years. The country has expanded its customer base to over 85 nations, reflecting global confidence in India's defense manufacturing capabilities. This growth is attributed to various factors, including the 'Make in India' and 'Atmanirbhar Bharat' initiatives, aimed at boosting domestic production and reducing reliance on imports.

According to official data, India's defense exports have seen a multi-fold increase, rising from a mere Rs 1,500 crore in 2016-17 to over Rs 15,000 crore in 2023-24. This surge highlights the growing capability of Indian defense manufacturers, both public and private, in meeting international standards.

Several factors have contributed to this unprecedented rise in defense exports. One of the most significant drivers is the government's commitment to policy reforms that facilitate exports. Initiatives such as the Defence Export Promotion Policy and a simplified licensing process have made it easier for domestic manufacturers to enter the global market. The Defence Production and Export Promotion Policy (DPEPP) 2020 aims to achieve defense exports worth Rs 35,000 crore by 2025, reflecting the government's ambitious vision.

Another major factor fueling exports is India's emphasis on indigenous defense manufacturing and innovation. Over the years, Indian defense firms have developed world-class systems, including the BrahMos supersonic cruise missile, Akash missile system, and advanced light helicopters like Dhruv. These products have attracted interest from several countries due to their reliability and cost-effectiveness.

Strategic collaborations and global outreach have also played a crucial role in boosting exports. India has strengthened its defense partnerships with countries across Asia, Africa, and Latin America, leading to increased government-to-government agreements and technology transfers.

Additionally, the active participation of private players and micro, small, and medium enterprises (MSMEs) has enhanced the sector's competitiveness.

Salutations to Bhagat Singh, Rajguru, Sukhdev for supreme martyrdom

■ **PURAN CHAND SHARMA**

It is the finest tradition and positive thinking to pay heartfelt salutations to our Revolutionaries and Martyrs of our beloved country on their special occasions such as their birthdays and day of Martyrdom. The stark truth to be noted and considered is that "No war against deep rooted slavery of Powerful foreign Rulers such as British can be easily won sans well coordinated effort and active participation of all segments of the society. This is a proven fact so far as freedom of our own country BHARAT is concerned. There is no denying the fact that all sections of our country irrespective of caste, creed and colour whole heartedly took part in the prolonged struggle for freedom. Undoubtedly. of course the role played by dare devil Revolutionaries was unprecedented and swashbuckling. This 'WRITE UP ' is thoughtfully dedicated to the Young Turk freedom fighters mentioned herein above who smilingly laid down their lives in the form of foundation stones of INDEPENDENCE of Bharat in 1947. They were dare devil fighters and fearless warriors who shook the MIGHTY BRITISH EMPIRE from the roots and paved way for the ultimate freedom at the cost of their precious lives in the prime of their youth. Let us deeply meditate on their inspiring journey leading to supreme martyrdom and the ultimate freedom for the country.

SHAHEEDEAZAM BHAGAT SINGH

In his early childhood when he just a growing child, he went to the field along with his father, Sardar Ajit Singh wherein the wheat seeds were being sown in the field, the little child raised a query as what we are doing in this field, then his father explained that we are putting seeds in this field, which in due course of time would sprout and grow into wheat crop for consumption. Tiny Bhagat singh said, Dear father, cannot we grow bullets in this farm to fight against the cruel Rulers to win freedom, exhibiting early signs of a true Revolutionary.

Bhagat Singh incarnated in the family which had a strong history of patriotism on September 28, 1907 in BANGA, Punjab (now in Pakistan).He was inspired by Freedom Fighters like Kartar Singh Sarabha and Lala Lajpat Rai. In his early life Bhagat Singh was deeply moved by JALLIANWALA BAGH MASSACRE (1919) and joined the Hindustan Socialist Republican Association.

By and by he was coming of age and finally made up his mind to be a revolutionary, he approached Pt. Ram Prasad Bismil who was leading the revolutionary movement. Bismil found him to be highly spirited and charged against the heinous cruelties of alien rulers. Subsequently he was put to a severe test as per their strategy wherein he was asked to take oath on the burning candle which he successfully cleared despite his hand being badly burnt , Pt. Ram Prasad Bismil was greatly impressed and convinced that he would never break down and divulge secrets despite being caught and extremely tortured.

Believing in Socialism and armed struggle, he actively participated in revolutionary activities against the British Rule.

In 1928, he , along with Rajguru and Sukhdev, killed John Saunders, a British officer to take revenge of the death of Lala Lajpat Rai, who had been beaten to death on his instructions during the course of leading a fierce protest against the Simon commission.

Further in the year 1929, he and Batukeshwar Dutt threw Bombs in the central Legislative Assembly to protest against the repressive laws and he deliberately got arrested to disseminate his message across the country.

ARREST, TRIAL AND MARTYRDOM:- Bhagat Singh was charged in the Lahore Conspiracy Case (1915) which was a legal case against Indian revolutionaries who attempted to overthrow British rule in India. It was part of the GHADAR MOVEMENT which sought to incite an armed rebellion against the British during world war1. This case was significant in India's freedom struggle inspiring future revolutionaries including BHAGAT SINGH. Despite Nationwide protests in support of their release, Bhagat Singh, together with Rajguru and Sukhdev were hanged on March 23,1931 at the Lahore Central Jail. He martyred himself at the age of 23 for the National cause and became a symbol of India's crusade for freedom. Despite being a hardcore revolutionary, he was a fine human being. Whilst in the Jail, one toilet sweeper, BODHA was cleaning his dry latrine to whom he dearly used to address as BEBE which means mother in Punjabi. One day Bodha asked Bhagat singh as to why you call me as 'BEBE', then he politely said, " when I was a child, my mother was performing this duty. He was cleaning and throwing away my 'MAILA' (FAECAL MATTER), therefore, you are my BEBE(Mother) in the prison. As you know I am going to be hanged by British Rulers after few days, as my last wish it is my fervent desire to dine with you , pl bring homemade food and we shall eat together. On hearing this, Bodha got emotional and tears started rolling down from his eyes. Next day he brought food from his home and ate together. Therefore, BHAGAT SINGH was not only a fearless Revolutionary but also a true human being who believed in unity and discarded caste based discrimination.

SHIVA RAM RAJGURU

Shiva Ram Hari Rajguru was born on August 24, 1908, in KHED, Maharashtra, called as Rajgurunagar at present. He was greatly inspired by Shiva ji Maharaj and was passionate towards fighting against British oppression.

ROLE IN THE FREEDOM MOVEMENT:- Rajguru was also a member of HINDUSTAN SOCIALIST REPUBLICAN ASSOCIATION and he was an expert in Marksmanship, prominently known for his sharpshooting skills and fearless attitude.

TRIAL AND EXECUTION

He was also arrested together with Bhagat Singh and Sukhdev , sentenced to death in the Lahore Conspiracy Case and sent to the gallows on March, 23, 1931 at Lahore Jail.

SUKHDEV THAPAR

Born on May 15, 1907 in LUDHIANA, Punjab, SUKHDEV was also active member of HSRA and played a very significant role in Revolutionary activities, he was involved in planning and executing the Saunder's assassination, worked closely with Bhagat Singh and Rajguru in spreading revolutionary ideas.

Sukhdev was arrested and tried in the Lahore Conspiracy case and hanged on March 23, 1931 along with Bhagat Singh and Rajguru.

The martyrdom of Bhagat Singh, Rajguru, Sukhdev on March 23,1931 left an indelible impact on India's freedom struggle intensifying the fight against the British Rule.

Jai Bharat

Bleeding Gums: A Condition of Poor Oral Hygiene

■ **DR. RAJKUMAR SINGH**

Bleeding gums can be traced back to poor oral hygiene or underlying medical conditions. Historically, gum bleeding has been associated with diseases like scurvy (caused by Vitamin C deficiency) or gingivitis. The condition has been observed for centuries, often indicating poor nutrition or dental care. a. Causes: Poor Oral Hygiene - The most common cause; plaque build-up irritates gums. Gingivitis - Early stage of gum disease, causing inflammation and bleeding. Periodontitis - Advanced gum disease where the gums pull away from teeth, leading to bleeding. Vitamin Deficiencies - Lack of Vitamin C or Vitamin K. Hormonal Changes - Pregnancy, menstruation, or menopause can make gums more sensitive. Medications - Blood thinners like aspirin or anticoagulants. Brushing Too Hard - Using a hard-bristle toothbrush or aggressive brushing. Smoking - Weakens gums and increases the risk of gum disease. Medical Conditions - Diabetes, leukemia, or immune disorders. b. Symptoms: Red, swollen gums, bleeding during brushing or flossing, bad breath (halitosis), gum tenderness, receding gums, loose teeth (in advanced stages) and pain while chewing. c. Diagnosis: Dental examination, x-rays (to check bone loss) and blood tests (to identify vitamin deficiencies or medical conditions). d. Treatment: Oral Hygiene Improvement: Brushing twice daily with a soft-bristle toothbrush, regular flossing, and antiseptic mouthwash. Professional Dental Cleaning: Scaling and root planning. Medications: Antibiotic mouth rinses, vitamin supplements (Vitamin C, K). Lifestyle Changes: Quit smoking, balanced diet. Medical Treatment: Treat underlying health conditions (like diabetes or blood disorders). Prevention: Regular dental check-ups, proper brushing and flossing, balanced diet rich in vitamins, avoid smoking.

Diet and precautions

A well-balanced diet plays a vital role in maintaining healthy gums and preventing bleeding. Consuming foods rich in essential nutrients can strengthen gum tissues and promote faster healing. a. Essential Nutrients: Including vitamin C-rich foods such as oranges, lemons, tomatoes, and bell peppers helps boost gum health and fight infections. Vitamin K, found in spinach, kale, and broccoli, aids in blood clotting and prevents excessive bleeding. Calcium from dairy products like milk, yogurt, and cheese strengthens teeth and bones, while omega-3 fatty acids from fish, flaxseeds, and walnuts help reduce gum inflammation. Iron-rich foods like spinach, lentils, and red meat prevent anaemia-related gum bleeding, and zinc from nuts, seeds, and chickpeas aids in wound healing and boosts immunity. It is advisable to avoid sugary foods, processed foods, alcohol, and carbonated drinks, as they contribute to plaque build-up and worsen gum health. Drinking plenty of water and consuming green tea can also promote oral hygiene by reducing bacterial growth. b. Precautions: Maintaining proper oral hygiene is the most effective precaution against bleeding gums. Brushing teeth twice daily with a soft-bristle toothbrush and fluoride toothpaste helps remove plaque and prevent gum irritation. Flossing regularly is essential to clean areas between teeth that brushing cannot reach. Using an antiseptic mouthwash further reduces bacteria and plaque build-up. Lifestyle changes, such as quitting smoking and limiting alcohol intake, contribute significantly to gum health. Managing stress is equally important, as high stress levels can weaken the immune system, making gums more vulnerable to infections. Regular dental check-ups every six months allow early detection of gum diseases and ensure timely treatment. Additionally, adopting a gentle brushing technique with circular motions rather than harsh strokes prevents gum damage. Natural remedies like saltwater rinses, aloe vera gel, and clove oil can provide relief from inflammation and promote healing.

Advancements and future treatment

Modern dentistry has seen significant advancements in the diagnosis, treatment, and management of bleeding gums, especially in addressing the root causes like gum disease and vitamin deficiencies. a. Laser Therapy: Non-invasive treatment that uses lasers to remove plaque, tartar, and infected tissues. Promotes faster healing with minimal pain. b. Platelet-Rich Plasma (PRP) Therapy: Uses the patient's own blood to extract platelets, which are then injected into the gums. Accelerates tissue regeneration and healing. c. Probiotic Treatments: Oral probiotics help balance the bacteria in the mouth, reducing harmful bacteria that cause gum disease. d. Antimicrobial Photodynamic Therapy (aPDT): Uses light-activated antimicrobial agents to destroy bacteria in gum pockets. e. Stem Cell Therapy: Still in experimental stages, but shows promise in regenerating damaged gum tissues. f. 3D-Printed Grafts: Custom-made gum grafts using 3D printing technology. Offers precision and faster recovery. Foods to Include: Fresh fruits and vegetables (especially citrus and leafy greens), dairy products (for calcium), whole grains, nuts and seeds, green tea (for its antibacterial properties) and water (to maintain saliva production and wash away bacteria) Foods to Avoid: Sugary foods and drinks (increase plaque build-up), processed foods, alcohol (dries out the mouth), carbonated drinks and caffeine in excess (can dry out the mouth).

Advancements in dental care are paving the way for more effective and minimally invasive treatments for bleeding gums. Laser therapy is becoming popular for its ability to remove plaque and infected tissues with minimal discomfort and faster healing. Platelet-rich plasma (PRP) therapy uses the patient's own blood to stimulate tissue regeneration, offering a natural and effective solution for gum repair. Probiotic treatments are also emerging as a promising option, helping balance oral bacteria and prevent gum infections. Antimicrobial photodynamic therapy (aPDT) uses light-activated agents to eliminate harmful bacteria in gum pockets. Ongoing research in stem cell therapy holds the potential to regenerate damaged gum tissues, while 3D-printed grafts offer customized gum repair solutions. In the future, gene therapy may correct genetic predispositions to gum disease, and nanotechnology could enable targeted medication delivery for faster healing. Artificial intelligence (AI) and smart toothbrushes are revolutionizing preventive care by offering personalized feedback and early detection of gum problems. However, the high cost and accessibility of these advanced treatments remain significant challenges. In conclusion, a combination of proper diet, preventive measures, and cutting-edge technologies can significantly improve gum health and prevent bleeding gums. Future treatments hold great promise in making gum disease management more effective and personalized. Regular dental care, healthy lifestyle choices, and advancements in medical science will collectively contribute to better oral health outcomes.

(The writer is a youth motivator)

Boosting Blue Revolution in J&K

■ **DR. BANARSI LAL**

India is blessed with more than 8000 km of sea shores,vast Exclusive Economic Zone, some of the biggest rivers and reservoirs and importantly hardworking human capital has always possessed an immense potential for fisheries development. A fisherman ,eulogized as the King of Ocean in many songs and tales in reality struggles everyday to earn his livelihood. There is an immense potential of Blue Economy for our fisher communities and needs to initiate systemic development of this sector. India possesses 2.4 per cent of the global land area and sustains 17.74 per cent of the world population.

There is huge potential of aquaculture, inland and marine fisheries in India. In India fish farming is a flourishing sector and a very important economic activity. This sector engages over 14.50 million people at the primary level. This sector transformed from traditional to commercial scale and has led to 11- fold increase in just six decades i.e. from 7.5 lakh tonne in 1950- 51 to 107.95 lakh tonne during 2015-16. This sector registered an overall annual growth rate of about 4 per cent. This sector has contributed around 0.91 per cent to the National Gross Domestic Production (GDP) and 5.23 per cent to the agricultural GDP (2014-15) .Besides meeting the national protein demand and livelihood, fisheries also earn foreign exchange to the tune of US$ 5.51billion (2014-15). This justifies the importance of this sector on the country's food, economy and livelihood security. India constitutes about 6.30 per cent of the global fish production and 5 per cent of global trade. India has attained the second largest fish producing and second largest aquaculture producing nation in the world. This sector has been named as the "Blue revolution".

Considering the limited scope of the capture fisheries from coastal waters and natural inland waters like rivers and estuaries, emphasis on aquaculture and culture based fisheries from reservoirs and floodplain wetlands has been given to meet the targeted fish requirement of 8.3 million tons by 2020.

Union Territory of Jammu and Kashmir serves a congenial habitat for a variety of fish species due to large number of cold water resources. J&K is blessed with Rivers like the Chenab, Indus, Jhelum along with lakes like Dal lake, Wular lake, Manasbal lake and Mansar lake.

In J&K the first batch of 10,000 eggs of trout arrived from the United Kingdom in the year 1899 but all of them perished. Department of Fisheries was created in 1903 in J&K to promote the fish farming.

J&K produces more than 20.00 thousands tonnes of fish production because of adoption of modern aqua cultural practices. Kashmir region produces more than 80 per cent of the fish production and Jammu has also emerged as a major producer of animal protein. The fish production data of four decades reflects increasing trend of production in all commercially important species of both the provinces.

Jammu and Kashmir is known as the tourist destination due to its munificence of blossoms and magnanimity of resorts. J&K is holding huge water spread area of around 57000 hectares out of which about 24000 hectares are in the shape of lakes, marshy areas and reservoirs and 23000 hectares in the shape of river systems. Temperate and subtropical zones of J&K offer a potential resource for the development of cold and warm water fisheries including Trouts, Schizothoracines, Indian major carps and Chinese carps. In Jammu region Jammu district leads in fish production (approx.6657 qtls.) followed by Kathua (approx.4481 qtls.) and Udhampur (approx.4195 qtls.).In Kashmir region Baramulla district leads in fish production (approx.42770 qtls.).

Major objectives of blue revolution is to fully tap the total fish potential of the country both in the inland and the marine sector and triple the production by 2020, to transform the fisheries sector as a modern industry with special focus on new technologies and processes, to double the income of the fishers and fish farmers with special focus on increasing productivity and better marketing, post-harvest infrastructure including e-commerce and other technologies and global best innovations. The Ministry of Agriculture and Farmers Welfare, Department of Animal Husbandry, Dairying & Fisheries has accordingly restructured the scheme by merging all the ongoing schemes under an umbrella of Blue Revolution. To provides focused development and management of fisheries, covering inland fisheries, aquaculture and marine fisheries including deep sea fishing, mariculture and all activities undertaken by the National Fisheries Development Board (NFDB).

India is blessed with varied potential resources in the form of rivers and canals, floodplain lakes, ponds and tanks, reservoirs and brackish water. The marine fisheries resources are estimated at 4.41 million metric tonne and their activities spread along the country's long coastline of 8118 km contributed by 9 coastal states, Andaman & Nicobar, Lakshadweep islands with 2.02 million square km Exclusive Economic Zone (EEZ) after declaration of the EEZ in 1976 and the continental shelf area of 0.53 million sq.km.

With sovereign rights on the EEZ, India has also acquired the responsibility to conserve, develop and optimally harness the marine living resources within this area. The average marine fish catch during the last 4 years (2012-13 to 2015-16) is 3.499mMT. According to the National Marine Fisheries Census 2010, the marine fishermen population in India is estimated at 4.0 million, of which 0.99 million are active fishermen.

In terms of revenue, some of the high value species such as Tunas that occur in the oceanic waters are yet to be optimally harvested.

The marine fisheries development has its major thrust areas on research on biology of commercially important species and monitoring their stocks for proper management; judicious exploitation and conservation; conducting exploratory surveys and mapping of the productive fishing grounds, locating new areas and resource through the application of remote sensing and carrying out environmental studies related to fisheries, better harvesting technologies including the design of various fishing crafts, gears, fishing techniques, methods of handlings and post-harvest processing and utilization.

Further, the use of mechanical fishing accessories, ancillary fishing equipment and electronic testing devices of practical value in fishing operation were added to improve the catch per unit effort (CPUE). National Policy on Marine Fisheries, 2016 (NPMF) recommends that the overall strategy of the NPMF, 2016 will be based on the pillars of sustainable development, principle of subsidiarity, partnerships, intergenerational equity and precautionary approach.

Research and development efforts in the last five decades have greatly improved average fish yields in the country making carp culture an important economic activity. Indian Major Carps (IMC) Rohu (Labeo rohito), Catla (Catla catla), Mrigal (Cirrhinus mrigala) were the principal species cultured in ponds since ages. Species like Labeo calbasu, L. gonius, L. bata, Puntius pulchellus, P. sarana, P. bolus and Cirrhinus cirrhosa are considered to be important species due to their production potential, high market price and consumer preference.

Catfishes have great commercial importance. Magur (Clarias batrachus) and Singhi (Hetero-pneustes fossilis) are the two air-breathing candidate species for culture. Several other non-air breathing catfishes like Mystus seenghala, Pungasiuspungasius, Wallago attu, Ompak pabda are also being cultured in view of the high consumer preference.

The giant freshwater prawn, (Macrobrachium rosenbergii) is the largest and fastest growing species among freshwater prawns. The development of hatchery technology for M. rosenbergii and later, for Indian river prawn, M. malcolmsonii has opened up new possibilities freshwater aquaculture.

Integrated fish farming is the combination of two or more separate farming systems where the waste from one subsystem is utilized for sustenance of the other. For example, fish-pig /poultry/ducks farming. The system provides considerable potential and scope for augmenting production and also offers an enormous scope for employment generation and rural economy. The country possesses significant water bodies both in Himalayan region and Western Ghats, which hold large populations of both indigenous and exotic cultivable and non-cultivable cold water fish species. Important food fishes in the region are Mahaseers] and Schizothoracids among the indigenous species and Trouts among the exotic varieties. Increasing per capita fish availability from the present level of only 8 kg to 11 kg (as recommended by WHO) is the primary challenge before the country. Considering the scope of the capture fisheries from coastal waters and natural inland waters like rivers and estuaries, emphasis on aquaculture and culture based fisheries from reservoirs and floodplain wetlands should also be given to meet the targeted fish requirement of 8.3 million tons by 2020.J&K has immense potential in fish farming.

There is need to upgrade the technical knowledge of fish farmers and modern technologies on fish farming should be provided to them.

There is urgent need to build a roadmap to mitigate the fish requirement.

The fishery ecosystem developed over last nine years is maturing fast,showing spectacular results bringing wealth to out fisher communities.

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