Seven Billion Dreams. One Planet. Consume with Care.

The well-being of humanity, the environment, and the functioning of the economy, ultimately depend upon the responsible management of the planet's natural resources. Evidence is building that people are consuming far more natural resources than what the planet can sustainably provide.

Many of the Earth's ecosystems are nearing critical tipping points of depletion or irreversible change, pushed by high population growth and economic development. By 2050, if current consumption and production patterns remain the same and with a rising population expected to reach 9.6 billion, we will need three planets to sustain our ways of living and consumption.

The WED theme this year is therefore "Seven Billion Dreams. One Planet. Consume with Care." Living within planetary boundaries is the most promising strategy for ensuring a healthy future. Human prosperity need not cost the earth. Living sustainably is about doing more and better with less. It is about knowing that rising rates of natural resource use and the environmental impacts that occur are not a necessary by-product of economic growth.

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FOCUS

To school with rain... Students are back to school with the advent of monsoon

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EDITORIAL

Food for Thought

Two important days were observed across the globe recently. World environment Day and World Earth Day. The functions associated with days apart, they provided an occasion for people to sit back and think about key issues like conservation of food, water ,energy, forest ,soil and all our rich natural resources.

On energy front India's use has nearly doubled since 2000. But even today a sizable section of our population has no access to modern energy. Pollution levels are increasing alarmingly with WHO pointing out that most Indian cities are becoming death traps because of high air pollution and unchecked motorization. Of the 20 most polluted cities in the world 13 are in India according to WHO database. India's demand for water is growing. Existing water infrastructure is unable to meet drinking water needs of entire population. To avoid dark future, focus needs to be on water conservation, rainwater harvest , effective waste management and regulation on extracting ground water .While rising consumption has helped in meeting basic needs and create jobs ,the unprecedented consumer appetite is undermining the natural system on which we depend.

Soil the precious natural resource which has been the base of sustaining life on earth has been subject to gross neglect. UN has declared 2015 as International year of soil to create awareness about due importance of soil for the functions of ecosystems and food security . Like food ,water and energy , soil also needs to be protected. from diseases. We have plenty in terms of natural resources but for conserving it for our future generation we need to spare a thought for what Mahatma Gandhi said :"There is enough on earth for every body's need, but not for everyone's greed ".

Mini Antony IAS
Editor in Chief

COVERSTORY

The unhealthy soils that in turn result in the present unproductive and unprofitable agriculture scenario in the state, force traditional farm families to divert into non agricultural occupations and avenues of income generation.

PARENTING

OBSERVANCES

To live in ones own culture and tradition it is very necessary to protect and preserve the variety of priceless cultural heritage and historical monuments.

RIGHTS

Reckless consumption of natural capital is endangering the world's future prosperity, with clear economic impacts including high costs for food, water and energy.

SUSTAINABLE CONSUMPTION

LIVESTOCK

Even though rigorous control measures have been implemented, this disease still ranks as one of the deadliest viral disease of poultry.

GERANTOLOGY

Elder abuse may or may not get noticed in society, but its possibility lurks everywhere, especially in modern societies.

WOMEN EMPOWERMENT

HEALTH

To understand the concept of human reproduction Ayurveda says it is just like the germination of seed. As a plant grows when it is cultivated in a proper season, well ploughed field supplied with adequate water and good quality of seeds.

COVER STORY

Dr. P N PREMACHANDRAN

"We speak a lot of about the importance of sustainable food systems for healthy lives. Well, it starts with soil"
- Jose Graziano da Silva, FAO Director General

The Year 2015 has been declared the "International Year of Soils (IYS)"by the 68th UN General Assembly. The IYS aims to be a platform for raising awareness of the importance of soils for food security and essential eco-system functions.

On 24 April 2013 at the 146 Food and Agriculture Organization (FAO) of the United Nations Council, FAO member countries endorsed the request from the Kingdom of Thailand in the framework of the Global Soil Partnership for the proclamation of the International Year of Soils (IYS) 2015. The IYS will serve as a platform for raising awareness on the importance of sustainable soil management as the basis for food systems, fuel and fibre production, essential

ecosystem functions and better adaptation to climate change for present and future generations.

The Global Soil Partnership, the Secretariat of IYS has listed the following as the objectives of the International Year of Soils.

- To create full awareness of civil society and decision makers about the fundamental roles of soils for human's life.
- To achieve full recognition of the prominent contributions of soils to food security, climate change adaptation and mitigation ,essential ecosystem services, poverty alleviation and sustainable development
- To promote effective policies and actions for the sustainable maintenance and protection of soil resources.
- To sensitize decision makers about the need for robust environment in sustainable soil management activities aiming at healthy soils for the different land users and population groups.
- To catalyze initiatives in connection with the SDG process and Post 2015 agenda
- To advocate rapid enhancement of capacities and systems for soil information collection and monitoring at all levels (global, regional and national)

Soils play a key role in the supply of clean water and resilience to floods and droughts. The largest store of terrestrial carbon is in the soils so that its preservation may contribute to climate change adaptation and mitigation. The maintenance or enhancement of global soil resources is essential if humanity's need for food, water and energy security is to be met.

Soils have been neglected for too long. We fail to connect soil with our food, water, climate, biodiversity and life. The multiple roles of soils often go unnoticed. We must invert this tendency and take up some preserving and restoring actions. The need of the day is to promote activities to connect people with soils and raise awareness on their crucial importance in our lives.

Soil is under pressure. The

The unhealthy soils that in turn result in the present unproductive and unprofitable agriculture scenario in the state, force traditional farm families to divert into non agricultural occupations and avenues of income generation.

renewed recognition of the central role of soil resources is a basis for food security and their provision of key ecosystem services, including climate change adaptation and mitigation, has triggered numerous regional and international projects, initiatives and actions. Despite these numerous emerging activities, soil resources are still seen as a second tier priority and no international governance body exists that advocates for and coordinates initiatives to ensure the knowledge and recognition of soils are appropriately represented in global change dialogues and decision making processes.

At the same time, there is need for co-ordination and partnership to create a unified and recognized voice for soils and to avoid fragmentation of efforts and wastage of resources. Maintaining healthy soils required for feeding the growing population of the world and meeting their needs for biomass (energy), fibre, fodder and other products can only be ensured through a strong partnership. This is one of the key guiding principles for the establishment of the Global Soil partnership.

The Department of Soil Survey and Soil Conservation is planning a series of events in connection with the celebration of the year 2015 as the International Year of Soils for a range of audiences throughout the year.

The role played by the Department of Soil Survey & Soil Conservation in the protection and maintenance of healthy soils

The Department of Soil Survey &Soil Conservation is the State Department dealing with soils and its conservation in the entire state. It emphasizes the importance given to soils, our precious natural resources that have been sustaining our lives silently since time immemorial.

The alarming increase in population ,escalating urbanization and competing demands of various other land uses has put tremendous pressure on our finite land resources and has led to making soils an increasingly scarce natural resource . Years of neglect of these land resources and its unscientific and unsustainable use have resulted in polluted and unhealthy soils struggling to carry out its basic functions. The unhealthy soils that in turn result in the present unproductive and unprofitable agriculture scenario in the state , force traditional farm families to divert into non agricultural occupations and avenues of income generation. These challenges have to be tackled effectively by addressing issues at the farm level.

The various activities undertaken by the Department of Soil Survey & Soil Conservation for meeting the challenges of conserving and protecting the soils of our state include.

- Providing information support on the soil and land resources of all the stakeholders including local bodies for the formulation of local level, watershed level and regional level plans for the implementation of development programs for the optimum use of

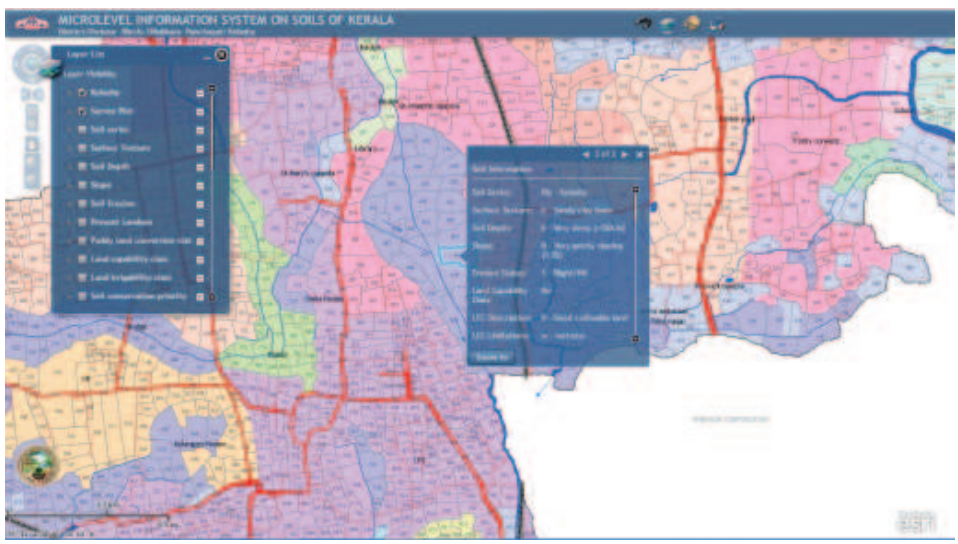
land resources.

- Technical support to watershed based development programmes by identifying ,delineating and prioritizing the watersheds for implementation of development programs
- Analysis of soil samples which is essential to support the field observations and supplement data for sound interpretation and recommendation for soil resource management.
- To provide consultancy in all matters related to soil and land use.
- Conservation of fertile top soil for enhanced production and productivity.
- Conservation of rain water to mitigate droughts and moderate flood.
- Bringing in improved and sustainable agricultural productivity in identified watersheds area by adopting scientific soil and water conservation activities.
- Stabilization of landslide prone areas of the state by adopting suitable vegetative and mechanical soil conservation interventions.
- Capacity building activities to sensitize the community to involve more creatively in the conservation and development of natural resources.
- Prevention of soil erosion and run off from the watershed with a view to preventing premature siltation of multipurpose reservoirs and also to reduce flood peaks and volumes of runoff.
- Developing suitable strategies for rainfed farming through peoples participation for potential development of watersheds and promotion of a farming system approach for augmenting the income of farming communities.

A brief report on the major activities undertaken by the department for the protection and conservation of soils of our state is given below.

Microlevel Information System on Soils of Kerala (MISSK)

Even though research on soils has been continuing for a long time, output of the research on soil in general is highly fragmented , mostly the domain of soil scientists , not accessible for use by the various disciplines and for decision making not tailored to address problems of today. The soil resource data that exists in our state is generally fragmented, heterogenous and difficult to compare not easily accessible and not responding to user needs. A detailed site specific database on soil resources of the state is essential to enable viable site specific on farm planning, which in turn will lead to increased productivity without jeopardizing the sustainability of the resource base. The creation of soil and land resource database by Soil Survey through detailed categorization and mapping of all existing land resources enable formulating plans and execution of developmental programmes in agricultural and non agricultural sectors. The major thrust area of the Department of Soil Survey & Soil Conservation includes undertaking comprehensive soil survey to generate a sound soil resource database for land use planning development along with a land resource action plan for the future development. It is intended to provide comprehensive information about soil and land resources of an area and best management practices to be adopted by the farmers and planners at their fingertips. The data so generated uploaded in the departmental website can be directly accessed by all end users.



Soil Information on survey Plot basis

Implementation of soil and water conservation activities

The Department of Soil Survey & Soil Conservation functions for the cause of conservation and management of the soil and water resources of the state. The mandate of the Department is to preserve/ restore/ revitalize the soil health by the conservation of the two natural resources of soil and water for sustainable agricultural Production and Ecorestoration. The major thrust areas includes undertaking comprehensive soil survey to generate a sound soil resources data base for land use planning & execution of various developmen-

Keeping in view of the importance of evolving an organized soil resource data at cadastral scale for the formulation of micro level plans under decentralized support system, the Department of Soil Survey & Soil Conservation has launched a web based "Microlevel Information system on soils of Kerala (MISSK). This involves generation of soil resource data at cadastral level on panchayat basis and the development of a GIS based spatial model for delineating suitable sites for agriculture

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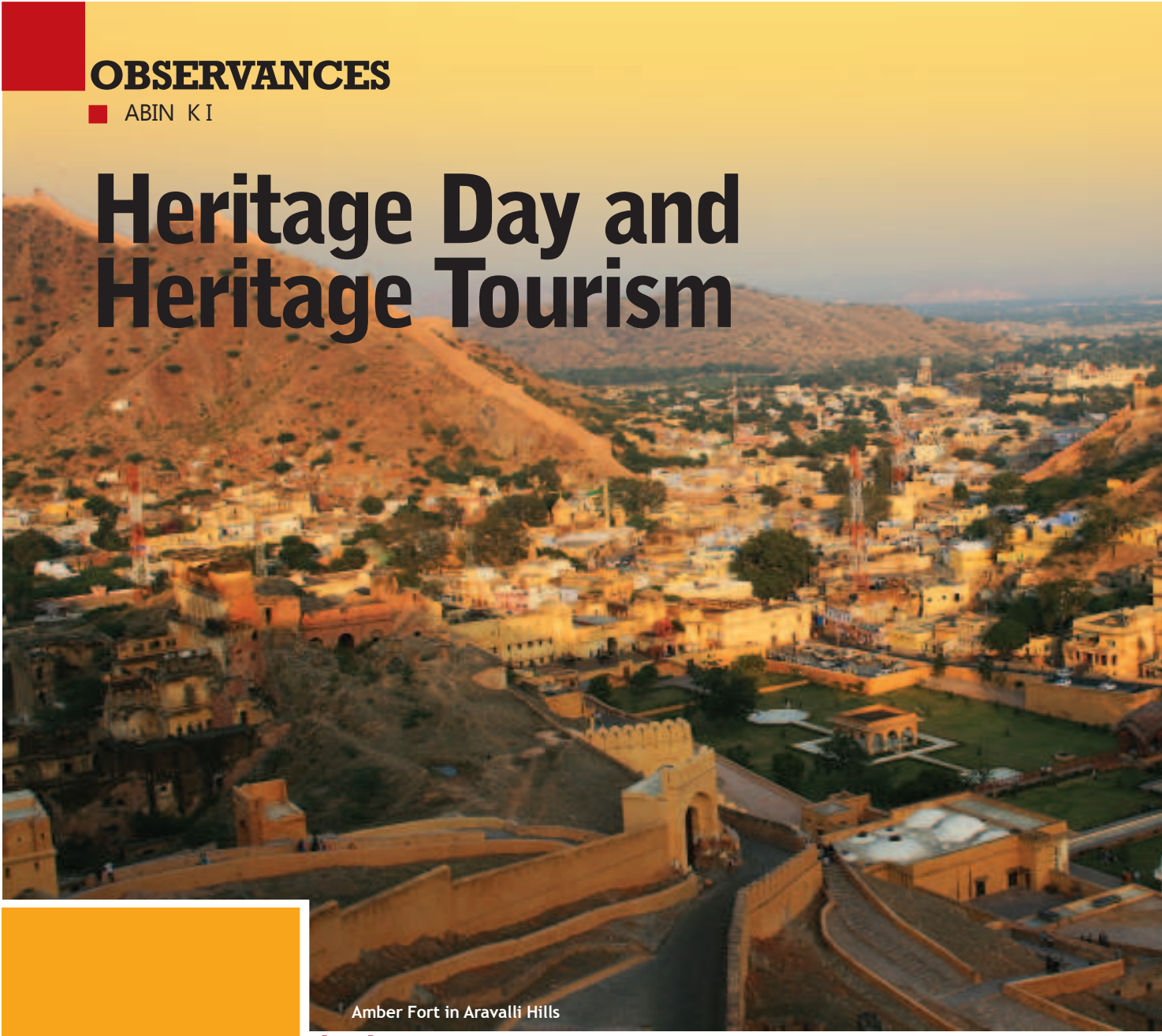
ABIN K I

Heritage Day and Heritage Tourism



Amber Fort in Aravalli Hills

To live in ones own culture and tradition it is very necessary to protect and preserve the variety of priceless cultural heritage and historical monuments.

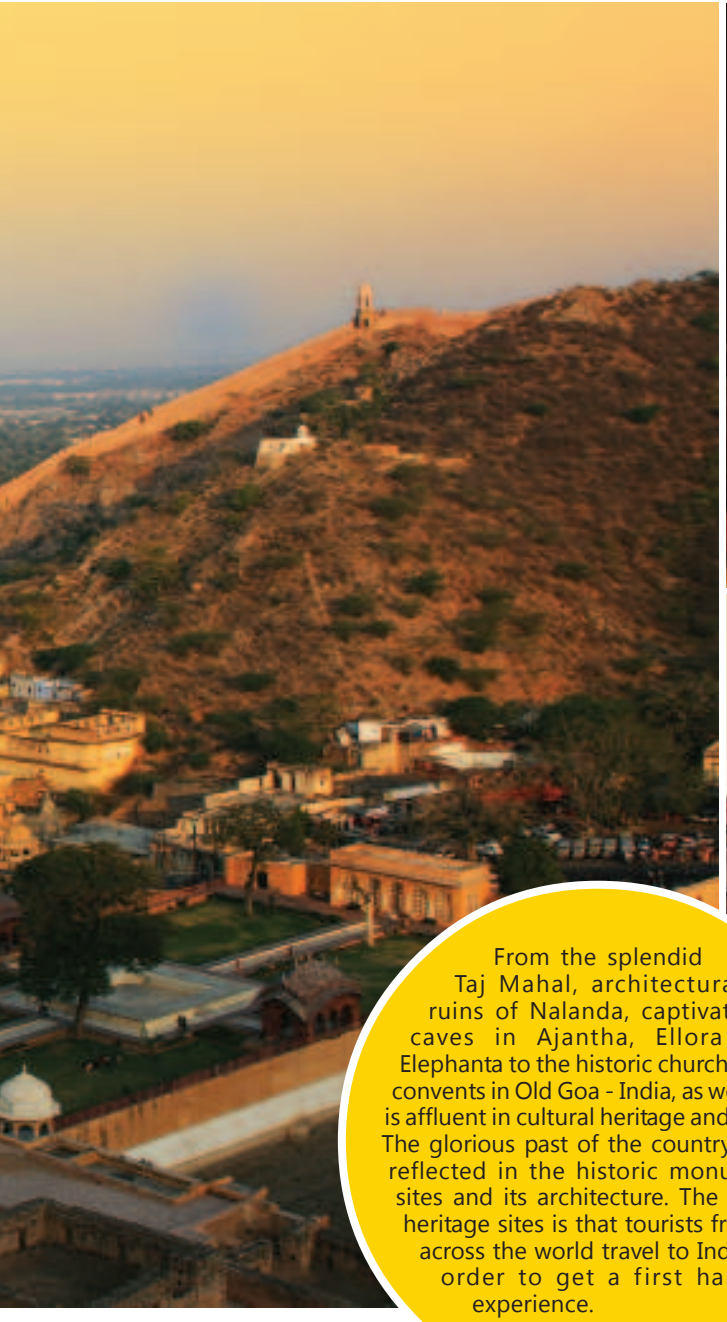
Heritage is defined as whatever we inherit from our past.Heritage signifies our tradition and rich cultural values that future generations ought to know. India is the storehouse of rich heritage cities, towns, sites and monuments in the world that need to be preserved and restored. To live in ones own culture and tradition it is very necessary to protect and preserve the variety of priceless cultural heritage and historical monuments. World Heritage Day was first celebrated by the International Council of Monuments and Sites (ICOMOS) on 18th April 1982 in Tunisia. The day suggests that the historical monuments and sites located in every part of the world needs to be protected and this can be only done with collective efforts at international levels. The United Nations Educational, Scientific and Cultural Organization (UNESCO) approved the proposal in 1983 and April 18th is celebrated as World Heritage Day.

Purpose

The purpose of World Heritage Day is intended to "encourage local communities throughout the world to consider the importance of cultural heritage to their lives, identities and communities and to promote awareness of its diversity and vulnerability and the efforts required to protect and conserve it effectively through sustainable practices".

Theme

Also known as "International Monuments and Sites Day every year world heritage day is observed under a specific theme and this year's theme



Tajmahal in Agra

Red Fort in Delhi

From the splendid Taj Mahal, architectural ruins of Nalanda, captivating caves in Ajantha, Ellora and Elephanta to the historic churches and convents in Old Goa - India, as we know, is affluent in cultural heritage and history. The glorious past of the country is truly reflected in the historic monuments, sites and its architecture. The lure of heritage sites is that tourists from all across the world travel to India in order to get a first hand experience.

Art Museum, Thiruvananthapuram

Central Railway Station
Thiruvananthapuram

is "celebrating the worlds built heritage." The theme stresses the need for conserving and creating awareness about the man made heritage wonders of the world. International Council of Monuments and Sites (ICOMOS) decide the theme for each year. At the global level World Heritage Day is observed under the leadership of United Nations Educational Scientific and Cultural Organization (UNESCO) through various programmes and events. Tour to heritage monuments and heritage walks are the most important ones.

Earlier Themes

2014 - Heritage of Commemoration

2013 - Heritage in Education" and its "Expressions in Diverse Geo-cultural Contexts".

2012 - Celebrating the 40th anniversary of the World Heritage Convention

2011 - The Cultural Heritage of Water

2010 - Agricultural Heritage

Heritage Day in India

The glorious past of the

country is truly reflected in its monuments and architecture. The Archaeological Survey of India (ASI) under the Union Culture Ministry's jurisdiction is seeing this development as an acknowledgement of the diversity of architectural and the rich cultural heritage of the country. The chief purpose of celebrating the World Heritage day is aimed at increasing the awareness and encourages people about the preservation and safety of the cultural heritage, monuments of the country. It is also expected at urging the public to share with the ASI to preserve the incredible cultural heritage for posterity. The younger generation has a pivotal role in these celebrations as the habit of inculcating the need to preserve heritage from a tender age benefits the country as a whole. Besides ASI, Indian National Trust for Art and Cultural Heritage (INTACH) plays a crucial role to spread awareness about the cultural and architectural legacy of the country on this day. It works for protection of heritage in the country and also promotes tourism to popularize the heritage.

Heritage Tourism

Heritage tourism involves visiting historical or heritage sites and monuments that may include palaces, caves, forts, museums, light houses, temples, villages, churches, tombs, battle grounds, step wells, havelies etc. The prime purpose of heritage tourism is to gain an appreciation about the past. Million of visitors from all parts of the world arrive India every year to see and experience its vast cultural heritage. Numerous heritage monuments and sites are spread in different parts of the country having huge potentials for the development and promotion of heritage tourism. Heritage sites tempt tourists from all across the globe to travel to India in order to get a firsthand experience. Heritage Tourism is truly attributed to historical events that have been dramatized to make them more entertaining and interesting rather than presenting a balanced view of that historical period. Its aim may not always be the presentation of accurate historical facts as opposed to economically developing the site and surrounding areas. As a result heritage tourism can be seen as a mixture of education, entertainment, preservation and profit.

Heritage tourism has vast potential in India that remains yet to be tapped. The development and promotion of cultural heritage tourism is significant for a country like India because it has a positive economic and social impact, it establishes and reinforces cultural identity. It helps preserve the cultural heritage of the destinations, with culture as an attraction. It facilitates greater harmony and understanding among hosts and guests, it supports culture and helps renew tourism in a responsible way. Heritage structures help not only boost tourism but also reflect a city's history.

Heritage tourism has registered an immense growth in India during the last few years ever since additional initiatives were taken by the government to boost India's image as a destination for heritage tourism. People should take interest in preventing damage to monuments and help the government conserve efforts. There are examples of several countries that have exploited their little cultural history to boost their heritage tourism potential. Notable examples are – Srilanka, Nepal and Bangladesh. Despite India having a rich heritage it has not been used effectively to promote heritage tourism in a sustainable manner.

Promoting our heritages globally would bring in more tourists and develop our economy. Heritage tourism promises ample employment opportunities especially to the rural youth. Government should initiate measures to protect heritage sites under UNESCO World Heritage Status. Cultural heritage restoration speaks of values of the hoary past.Besides UNESCO sites, other famed and unknown monuments and sites should also be promoted by providing the required facilities. The rail heritage of India is fabulous and toy trains operating in hilly areas are attracting hordes of tourists.

UNESCO World Heritage Sites

The UNESCO convention held on 1972 focused on the protection of the World Cultural and Heritage sites which are of 'outstanding universal value' from various aesthetic, scientific, artistic, historic and conservationist

Planned strategies and sound steps should be taken to conserve the sites and monuments of archaeological and heritage importance in the country.

UNESCO Cultural Heritage Sites and year of inclusion

- Agra Fort (1983)
- Ajanta Caves (1983)
- Ellora Caves (1983)
- Taj Mahal (1983)
- Group of Monuments at Mahabalipuram (1984)
- Sun Temple, Konark (1984)
- Churches and Convents of Goa (1986)
- Fatehpur Sikri (1986)
- Group of Monuments at Hampi (1986)
- Khajuraho Group of Monuments (1986)
- Elephanta Caves (1987)
- Great Living Chola Temples (1987)
- Group of Monuments at Pattadakal (1987)
- Buddhist Monuments at Sanchi (1989)
- Humayun's Tomb, Delhi (1993)
- QutubMinar and its Monuments, Delhi (1993)
- Mountain Railways of India (1999)
- Mahabodhi Temple Complex at Bodh Gaya (2002)
- Rock Shelters of Bhimbetka (2003)
- Champaner-Pavagadh Archaeological Park (2004)
- Chhatrapati Shivaji Terminus (earlier known as Victoria Terminus) (2004)
- Red Fort Complex (2007)
- Jantar Mantar, Jaipur (2010)
- Hill Forts of Rajasthan (2013)
- Rani – Ki – Vav, Pathan (2014)

UNESCO Natural Heritage Sites and year of inclusion

- Kaziranga National Park (1985)
- Keoladeo National Park (1985)
- Manas Wildlife Sanctuary (1985)
- Nanda Devi and Valley of Flowers National Parks (1988)
- Sundarbans National Park (1987)
- Western Ghats (2012)
- Great Himalayan National Park (2014)

points of view. Majority of the sites declared by UNESCO in the world are cultural sites when they are compared to natural sites. The designation of World Heritage Status to sites is not just recognition of their cultural significance but it is also a powerful means by which heritage can be displayed to a global tourist. Recognizing the 'heritage of the world' not only signals a wider sense of responsibility towards our common past but also provides an opportunity for the tourist to access to education and experience of such important sites. The World Heritage Convention is considered as the most successful of all the UNESCO conventions and it has been ratified by 188 States Parties. Presently the World Heritage List includes 1007 properties forming part of the cultural and natural heritage which the World Heritage Committee considers as having outstanding universal value. These include 779 cultural, 197 natural and 31 mixed properties situated in 161states parties.

World Heritage Sites in India

India has 32 World Heritage Sites recognized by UNSECO, out of which 25 are cultural sites and 7 are natural sites like mountain ranges, mangrove forests and national parks. Currently there is no site belonging to the mixed category from India. India had made its debut into the UNESCO World Heritage Site list in 1983 with foursites. Taj Mahal, Agra Fort, Ajantha and Ellora caves are the first four sites included in the UNESCO list.

Strategies for conservation

Heritage sites and monuments require adequate conservation. A heritage destination loses its charm with disappearing of heritage sites due to lack of sound protection measures. In all heritage structures the use of cement should be avoided because it has the capacity to degenerate the monument. Cement and plaster were used extensively in the cells and they threatened the longevity of the red sandstone structure. Therefore it is better to use limestone in order to preserve the structure and enhance its life. Ultraviolet is used to discern patterns. Infrared photography helps understand what the paintings are made of and how they looked years ago. At the same time, photography of certain paintings may alter their color pattern. For example - it is a challenge to maintain a heritage monument likethe gateway of Indiabecause of its age and scale designed by British architect George Wittet in the year 1914 which is one of the finest examples of Indo-Saracenic architecture - a style that is a blend of Hindu, Islamic and Western elements. The Red Fort complex or the Lal Quila in Delhi is an amalgamation of Persian, Arabic and Hindu architecture.


Great Wall of China


Sun Temple in Konark

Planned strategies and sound steps should be taken to conserve the sites and monuments of archaeological and heritage importance in the country. A rapport between ministry of tourism, archaeological survey of India and non governmental organizations is needed at the earliest to reap the benefits of heritage tourism through sustainable practices. ASI has to ensure that the ageing monuments are healthy and in a better shape. The timely recommendations of the International Council of Monuments and Sites (ICOMOS) and of UNESCO should be implemented and followed by the ASI.Undoubtedly heritage tourism is the best fitting tool to conserve and promote heritage monuments and sites if properly planned and implemented.■

The writer is Lecturer, Dept of Tourism, MG University, Kottayam

Dr. DINESAN V P

For centuries people have regarded oceans as an inexhaustible supply of food, a useful transport route, and a convenient dumping ground - simply too vast to be affected by anything we do. But human activity, particularly over the last few decades, has finally deteriorated oceans to their limit.

Singing

Unwarranted practices by the human

Ocean is a body of saline water, partly or fully enclosed by land. Oceans, in descending order by area, constitute the Pacific, Atlantic, Indian, Southern, and Arctic Oceans. Saline water covers approximately 72% of the planet's surface (3.6×108 km2) and is customarily divided into several principal oceans and smaller seas, with the ocean covering approximately 71% of Earth's surface. The ocean contains 97% of Earth's water, and oceanographers have stated that only 5% of the World Ocean has been explored. The total volume the Ocean is approximately 1.35 billion cubic kilometers with an average depth of nearly 3,700 m. As it is the principal component of Earth's hydrosphere, the World Ocean is integral to all

known life, forms part of the carbon cycle, and influences climate and weather patterns. It is the habitat of 230,000 known species, although much of the oceans depths remain unexplored, and over two million marine species are estimated to exist.

Threats to oceans and coasts

For centuries people have regarded oceans as an inexhaustible supply of food, a useful transport route, and a convenient dumping ground - simply too vast to be affected by anything we do. But human activity, particularly over the last few decades, has finally deteriorated oceans to their limit.

Unsustainable fishing: 76% of the world's fisheries are already fully exploited or overfished, while billions of unwanted fish and other animals die needlessly each year. Unsustainable fishing is the largest threat to ocean life and habitats.

Inadequate protection: Oceans might cover over 71% of our planet's surface, but only a tiny fraction of the oceans has been protected, just 0.6%. Even worse, the vast majority of the world's few marine parks and reserves are protected in name only. Without more and better managed Marine Protected Areas, the future of the ocean's rich biodiversity - and the local economies it supports - remains uncertain.

Tourism & development: The beach is not just a favourite holiday destination, it's our favourite place to live. Around the World, coastlines have been steadily turned into new housing and tourist developments, and many beaches all but disappear under flocks of holiday-makers each year. This intense human presence is taking its toll on marine life.

Shipping: The oceans are huge highways, across which we ship all kinds of goods. Like other human activities, this heavy traffic is leaving its mark: oil spills, ship groundings, anchor damage, and the dumping of rubbish, ballast water, and oily waste are endangering marine habitats around the world.

Oil & Gas: Important reserves of oil, gas, and minerals lie deep beneath the seafloor. However, prospecting and drilling for these poses a major threat to sensitive marine habitats and species.

World Ocean Day 2015

"Healthy Oceans, Healthy Planet" is the theme for World Oceans Day 2015. The ocean is the heart of our planet. Like your heart pumping blood to every part of your body, the ocean connects people across the Earth, no matter where we live. The ocean regulates the climate, feeds millions of people every year, produces oxygen, is the home to an incredible array of wildlife, provides us with important medicines, and so much more! In order to ensure the health and safety of our communities and future generations, it's imperative that we take the responsibility to care for the ocean as it cares for us. The ocean and its wildlife is choking on plastic, and we need give more attention to both. We must stop this pollution at the source, and clean it up from the coasts. Hence, join with our family, friends, community, and the entire planet on 'World Oceans Day' to take appropriate actions and create a healthy future what we want. Working together, we can and will protect our shared ocean!

the Dirge

race lead oceans to their graveyard

Pollution: Untreated sewage, garbage, fertilizers, pesticides, industrial chemicals, most of the pollutants on land eventually make their way into the ocean, either deliberately dumped there or entering from water run-off and the atmosphere. Not surprisingly, this pollution is harming the entire marine food chain - all the way up to humans.

Aquaculture: Fish farming is often touted as the answer to declining wild fish stocks. But more often than not, the farming of fish and shellfish is actually harming wild fish, through the pollution the farms discharge, escaped farmed fish, increased parasite loads, and the need to catch wild fish as feed.

Climate change: Coral bleaching, rising sea levels, changing species distributions, global warming and climate change are already having a marked affect on the oceans. Strategies are needed to deal with these phenomena, and to reduce other pressures on marine habitats already stressed by rising water temperatures and levels.

Oceans are also affected by criminal activity. Piracy and armed robbery against ships threaten the lives of seafarers and the safety of international shipping, which transports 90 per cent of the world's goods. Smuggling of illegal drugs and the trafficking of persons by sea are further examples of how criminal activities threaten lives and the peace and security of the oceans.

Several international instruments drawn up under the auspices of the United Nations address these numerous challenges. At their centre lies the 1982 United Nations Convention on the Law of the Sea. It provides the legal framework within which all activities in the oceans and seas must be carried out, and is the basis for international cooperation at all levels. In addition to aiming at universal participation, the world must do more to implement this Convention and to uphold the rule of law on the seas and oceans.

World Ocean Day

Safe, healthy and productive seas and oceans are integral to human well-being, economic security and sustainable development. Saving our ocean is the responsibility of each and every person living on the earth and not only one is responsible for it. It's the global responsibility of saving the ocean and its creatures living in it for making an equal and natural balance of life on the earth.

World Oceans Day was officially established by the United Nations General Assembly in 2008 to be celebrated worldwide on 8th of June annually to resolve the ocean issues and save ocean water. Earlier it was celebrating unofficially every year on 8th of June after the first proposal of it in 1992 by the Canada at "Earth Summit in Rio de Janeiro, Brazil". It has been started celebrating on international level by the collaboration of The Ocean Project and the World Ocean Network. It was celebrated first time in the year 2009 on 8th of June after the official declaration of World Oceans Day in 2008 by the United Nations General Assembly. The celebration of this event was initiated by the collaboration of many countries worldwide. Oceans are the critical part of biosphere and essential element for the food security and life survival on the earth. World Oceans Day event provides an opportunity to all to combat with the current challenges spoiling the ocean cycle.

The Ocean Project, non-profit organization of the United States established in the late 1990s with more than 1600 partner aquariums currently has started an advance level project for the conservation of ocean.

THEME 2009 to 2014

2014 "Together we have the power to protect the ocean".
2013 "Together we have the power to protect the ocean".
2012 "Youth: the Next Wave for Change".
2011 "Youth: the Next Wave for Change".
2010 "Oceans of Life: Pick your favorite Protect your favorite".
2009 "Our Oceans, Our Responsibility" and "One Ocean, One Climate, One Future".

Another international non-profit organization, The World Ocean Network established in 2002 in France, promotes the required use of ocean with the motto "Caring for the Blue Planet, you can make a difference!".

Annual celebration of the event is targeted by the particular theme to increase public awareness about the specific issues of the ocean. People are motivated to directly involve in the celebration through the many activities like beach cleanups, educational activities, film festivals, art contests, saving water creatures including other activities raising public awareness.

Objectives

World Oceans Day is celebrated annually aiming to save the oceans and honor the oceans creatures for maintaining the balance of life on the earth. Day to day increasing human populations and modern advanced technologies with various lots of byproducts are the main reasons of ocean spoiling.

The Ocean Project and the World Ocean Network are working in association for years on this project of saving the ocean. They have promoted more than 1600 of the ocean conservation organizations throughout the world for working in association on this project for more effective and fast recovery of the oceans condition. They have created variety of effective awareness campaigns to run up such as beach cleanups, art contests, educational programs, sustainable seafood events, discussion events and etc for taking people into acts.

On the first celebration of world oceans day the variety of ways involving the society to save oceans worldwide were highlighted. It brings an opportunity to all to understand all the challenges come to way in regulating the global climate to maintain the proper ecosystem and livelihoods of human beings. It is celebrated to save the ocean from the criminal activities such as illegal drugs smuggling, draining instruments, human trafficking and threatening activities spoiling the oceans peace and security.

Ocean conservation is highlighted through unique themes on annual celebration. People are noticed about all the oceans importance through many activities. People get motivated about saving all the water resources such as rivers, ponds and etc. Some of the objectives are mentioned below:

- To motivate the public to change their attitudes by encouraging them to understand the need and importance of oceans in their daily life.
- To motivate people to learn about important ocean creatures and their role in maintaining the ecosystem cycle.
- To promote the oceans conservation throughout the world by encouraging everyone to become a good caretaker of the oceans and other water resources.

Activities

World ocean day is celebrated every year by organizing variety of events and activities throughout the year. Some of the organized events are arranging information booths, snacks distribution, specimen collection, departure bay beach, beach cleanup with friends and families, related posters distribution, distribution of ocean day T-shirts among youths, scavenger hunt, painting, tug of war, discussion, saving marine mammals, museum display, conservation and protection activities, seafood festival, related interactive and educational activities, touch tanks, organizing award ceremonies for students and teachers, class presentations, demonstrations, coloring contest, related videos displays online, photo contests, fossil hunting walks and etc.

Oceans are the essential part of the life on earth and very necessary to maintain the ecosystem balance. Oceans are the key part of the biosphere and most important source of the healthy foods and medicines. World ocean day provides opportunity to all to celebrate at one place, the natural climate, weather, food and oxygen balance with lots of economic, environmental and social benefits. Some of the awareness activities promoting the common public towards the oceans safety are:

- Protection and conservation of water resources.
- Save ocean by preventing it from pouring any chemical, garbage or other waste products into it.
- Limit the use of chemical fertilizers and pesticides.
- Use an alternative method of pest control and the proper system of disposal of all the household hazardous wastes.
- Follow all the practices of waste and pollution control.■

The writer is Scientist, CWRDM, Kunnamangalam

JASEENA BACKER

Sharing is caring

I asked her "You finished all of it?"

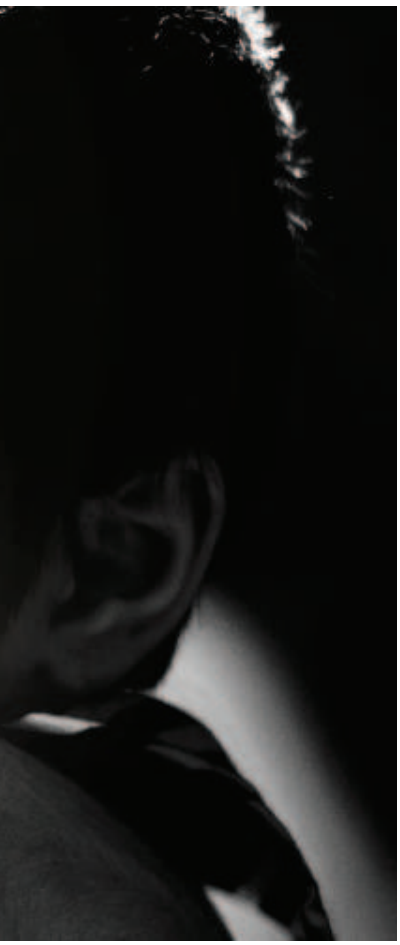
This could be coming from a mother who was excited that her picky eater had finished the entire fruit all by herself. Pediatricians say that the biggest anxiety mothers face with their children is that they do not eat according to the health chart or benchmark of a particular age. So when such a child finishes a fruit in a jiffy the mother ought to applaud, right? My little one knew that the tone of the question didn't depict excitement from her mother. She immediately asked me a matter of fact question "did you also want mama?". So she got it after all. I was glad that the justification of the tone gave her an understanding of my query. So it avoided a situation of clarity of inquiry.

We have been looking or rather leeching at the three trees bearing this fruit what we call Aani Chakka, for the past one month. Two trees filled with fruits behind the house and one tree infront of the house. The temptation was too much for the two of us to stomach. We have not been able to get even one of that delicate delicacy as they all come down splashing and scattering on the ground leaving us leeching more at the seeds. The residue from ground has several times tempted the duo to be scavengers, but we resisted. This time there was an intact fruit and my vacationing girl had finished up the whole thing without so much as offering anyone of us at home.

Since there was nothing from me beyond that single question, she validated, "mama you weren't here while I was eating.". Smart answer, but I would need to ground that smartness in logic. I told her "you could have saved some for me and you could have offered Umma (her grandmother) who is right before your eyes". Now she was couldn't find words edgeways to defend her action. My intension here was not to corner her but to know what was on her mind as she ate her favourite fruit.

This was a teaching moment for the mother as much as it was a learning moment for child. It is in desirous moments like these that we have to instill the dictum "Sharing is Caring". When we have a goal on instilling a value in the child it should not be merely told as a moral value in double inverted commas; it has to be taught as a learning situation and this situation was ideal for me.

My daughter was very excited over the fruit that she got to eat but that



excitement will wear out soon and when she is left with reality then she would not have learned the priceless value of "Sharing is Caring". Parents often over do it for children which lead them to start sowing the seeds of selfishness. In this situation not having offered the fruit to her mother and grandmother would easily have been a path towards selfishness. Being parents and grandparents we do have the selflessness in us to refuse the offered fruit and let her enjoy the fruit on her own but the child should know to offer as well.

The atmosphere became a little taut and there was silence. From across declared the grandmother "It's okay I didn't want it in any case. Don't spoil her excitement by questioning her, it's her vacation and let her enjoy". There was the cliché right on to my ears " mother is a person who seeing there are only four pieces of pie for five people, promptly announces she never did care for pies" by Tenneva Jordan. Here it was the grandmother. We all know that grandparents pamper and spoil their grand children, so at this crucial time enlightening parenting had to come to force.

She would easily share an Apple or a Mango with me as she is not very fond of that fruit. I wished her to share, not just selectively share.... 'Be selfless with something that you don't like and be selfish with what you really love'. Not that kind of sharing... Just plain share... So that it becomes sharing is caring in the true sense.

I know how annoyed children of 7 years can become with lectures so I told her in plain words "we have been looking to eat atleast one pod of that fruit for days together and you would have enjoyed more if you had shared and eaten it, that's what we call sharing and caring."

She told me that next time she would offer before eating it herself. I am hopeful of my vacationing daughter.... There is always a next time. Trust your children when they say that; for next time could be the same yet they need for you to trust that they would change; as only this trust would make them attempt a change....

The writer is a Parenting Consultant

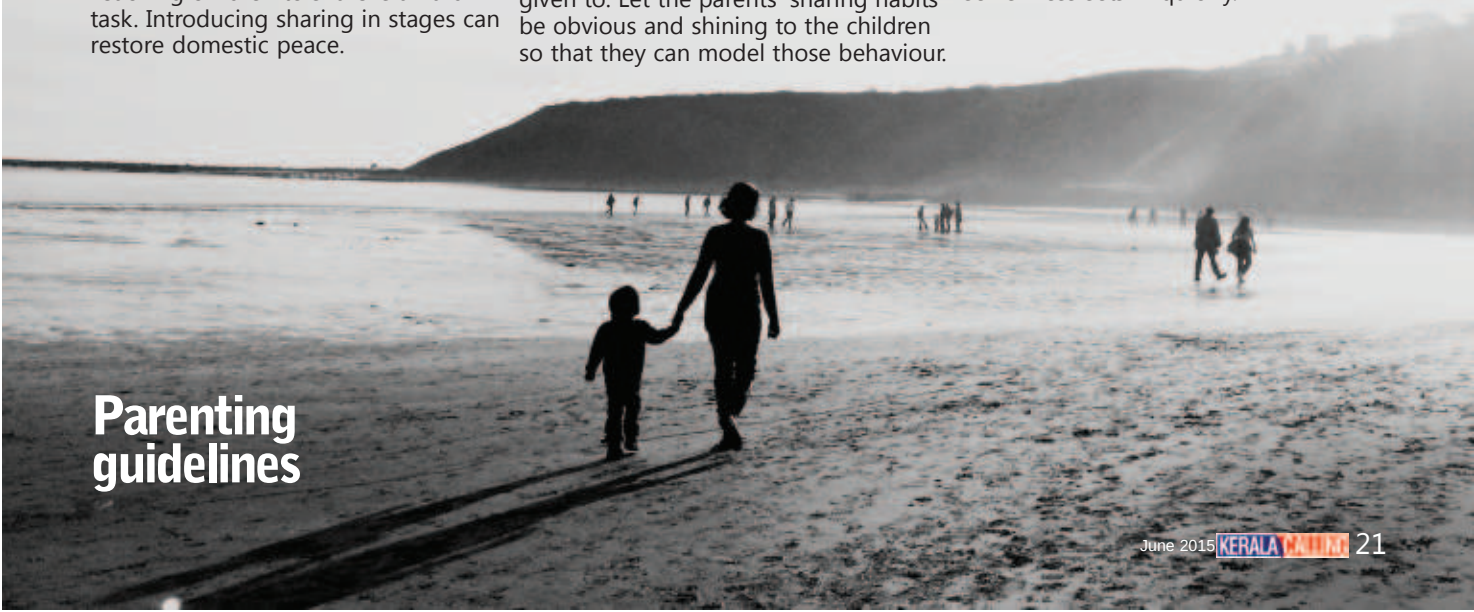
Parenting guidelines

The power to possess is a natural part of child's growing awareness. Children have difficulty in sharing. A growing child develops attachment to things just like she develops attachment to people. Sharing in the true sense means empathy; the ability to get into other's mind and see things from their perspective. Children are seldom capable of true empathy especially those below the age of 6 years. Teaching children to share is a hard task. Introducing sharing in stages can restore domestic peace.

Children may preserve a few precious possessions to themselves like a favourite tattered doll or a ball just like adults are possessive about their wedding bands or a family heirloom possession. Parents should respect this right to possession of their child.

Parents shouldn't force a child to share, instead create an attitude and environment to encourage the child to want to share. A child gives as he is given to. Let the parents' sharing habits be obvious and shining to the children so that they can model those behaviour.

A child doesn't understand the concept of sharing until the age of 5 or above. Parents could subtly introduce certain creative basics of sharing like- when you are with other children they also ask to share toys, waiting for turns, if the child leaves the toys then others can get to pick it up. Selflessness has to be introduced to them through modeling and connection otherwise selfishness sets in quickly.



SUSTAINABLE CONSUMPTION

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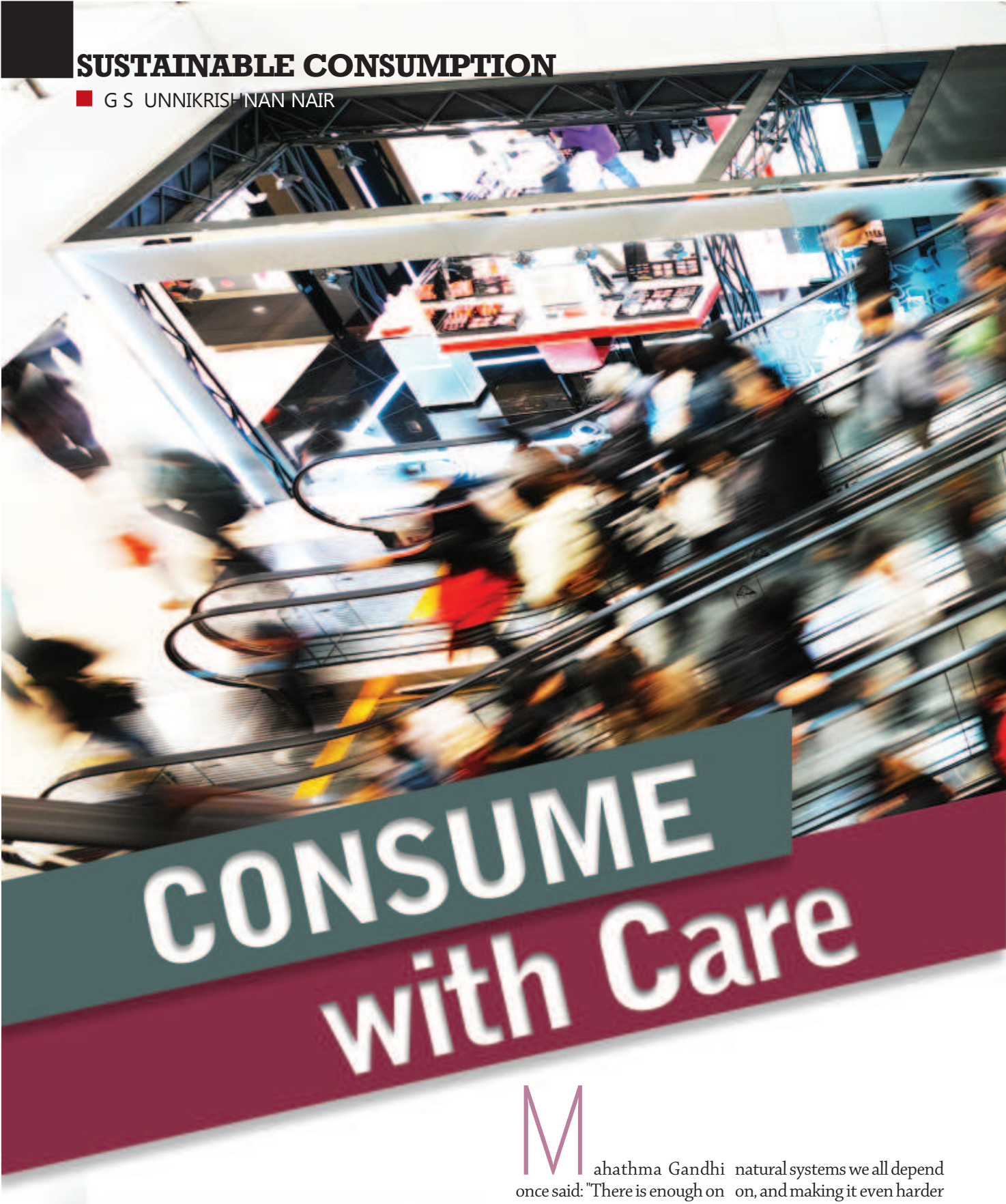


CONSUME with Care

Reckless consumption of natural capital is endangering the world's future prosperity, with clear economic impacts including high costs for food, water and energy.

Mahathma Gandhi once said: "There is enough on earth for everybody's need, but not for everyone's greed. Rising consumption has helped meet our basic needs and create jobs. But, this unprecedented consumer appetite is undermining the natural systems we all depend on, and making it even harder for the world's poor to meet their basic needs. It is in this context that UNEP selected this year's World Environment Day theme as "Seven Billion Dreams. One Planet, Consume with Care".

Threatened Biodiversity

A continuously rising demand for natural resources and increasing levels of CO2 in the atmosphere by a growing population are putting tremendous pressures on our planet's biodiversity, and are threatening our future security, health and well-being. Globally, populations of fish, birds, mammals, amphibians and reptiles have declined by 52 per cent since 1970; and freshwater species have suffered a 76 per cent decline - an average loss almost double that of land and marine species.

The well-being of humanity, the environment, and the functioning of the economy ultimately depend upon the responsible management of the planet's natural resources.

Many of the Earth's ecosystems are nearing critical tipping points of depletion or irreversible change, pushed by high population growth and economic development. World population crossed seven billion on 31st October 2011. By 2050, if current consumption and production patterns remain the same and with a rising population expected to reach 9.6 billion, we will need three planets to sustain our ways of living and consumption. The WED theme this year spreads the message that living within planetary boundaries is the most promising strategy for ensuring a healthy future. Human prosperity should not cost the earth.

Over consumption depletes natural resources

Approximately 1.7 billion people worldwide now belong to the "consumer class" - the group of people characterized by diets of highly processed food, desire for bigger houses, more and bigger cars, higher levels of debt, and lifestyles devoted to the accumulation of non-essential goods. Today, nearly half of global consumers reside in developing countries, including 240 million in China and 120 million in India - markets with the most potential for expansion.

Reckless consumption of natural capital is endangering the world's future prosperity, with clear economic impacts including high costs for food, water and energy. WWF points out that if our demands on the planet continue to increase at the same rate; by the mid-2030s we would need the equivalent of two planets to maintain our lifestyles. The dramatic ecological losses from pollution, deforestation, over-fishing and land conversion are having serious impacts. The world's global environmental "footprint" or depletion rate now exceeds the planet's capacity to regenerate by 30 percent.

Ecological Footprint is a measure of how much area of biologically productive land and water an individual, population or activity requires to produce all the resources it consumes and to absorb the waste it generates, using prevailing technology

and resource management practices. It measures the area (in hectares) required to supply the ecological goods and services we use as against the land actually available to produce these (bio capacity). Both bio capacity and ecological footprint are expressed in a unit called global hectare (gha).

According to 2014 edition of WWF's Living Planet Report, the top 10 countries with the biggest Ecological Footprint per person are: Kuwait, Qatar, United Arab Emirates, Denmark, Belgium, Trinidad and Tobago, Singapore, United States of America, Bahrain and Sweden. When individual footprint is multiplied with population of the country, China's share of ecological footprint is a massive 19 %, followed by USA's 13.7 % and India at 7.1 %. The top five countries, which include Brazil and Russia, make up about half the global total. China is ranked 76th in its per capita footprint but has the world's biggest national population and hence has the planet's largest national footprint. India shifts from having the 136th largest footprint per capita to the third largest. India looks set to overtake China as the world's most populous country from 2028, according to the United Nations. At that point, both nations will number 1.45 billion people. Subsequently India's population will continue to grow until the middle of the century, while China's slowly declines. India now demands the bio capacity of two Indias to provide for its consumption and absorb its wastes.

Water is precious

Even though households are relatively low consumers of water, population growth and expanded water use have outweighed the effect of water saving technology and behavior. Less than 3% of the world's water is fresh (drinkable), of which 2.5% is frozen in the Antarctica, Artic and glaciers. Humanity must therefore rely on 0.5% for all of man's ecosystems and fresh water needs. More than 1 billion people still do not have access to fresh water. Global pressure on our freshwater resources is increasing, mainly through changes to population and income levels, which have increased the demand for water-intensive products. Agriculture accounts for 92 per cent of the global water footprint. Humanity's growing water needs and climate change are exacerbating challenges of water scarcity. Similarly, changes in precipitation patterns as a result of climate change are adding to the pressures on our global water resources.

A water footprint is a measure of the freshwater used in the production of the goods and services that a particular individual, business or nation uses. Water footprint is comprised of two components: direct water use and indirect use. The indirect wa-

The Paradox

Some aspects of rampant consumerism have resulted in startling anomalies. World watch reports that worldwide annual expenditures for cosmetics total U.S. $18 billion; the estimate for annual expenditures required to eliminate hunger and malnutrition is $19 billion. Expenditures on pet food in the United States and Europe total $17 billion a year; the estimated cost of immunizing every child, providing clean drinking water for all, and achieving universal literacy is $16.3 billion. European countries have three times more food than they actually need, while the US has four times more food. In USA between 40% and 50% of food is thrown away. The waste is valued at $165 billion (it's ¼ of the US military budget).

ter use is measured as "virtual" water (the volume of water required to produce a certain product). It includes the use of: blue water (rivers, lakes and aquifers), green water (rainfall in crop growth) and grey water (water polluted after agricultural, industrial and household use).WWF's Living Planet Report highlights the awful situation of local populations due to increasing water scarcity and the alarming depletion of ground water resources and aquifers in countries like India, Australia and the United States. India, USA and China with the highest water footprint also contain eight of the top ten most populous river basins experiencing almost year-round scarcity, a problem that is likely only to get compounded by climate change, population growth and developmental imperatives.

India has the largest total water footprint of any country in the world, essentially due to the size of its population, as its water use per capita is less than that in many countries with similar or higher incomes. In addition, many experts argue that India's population is growing faster than its ability to produce staples such as wheat and rice. Groundwater has also been depleted at an alarming rate. In Punjab, for example, more than 75 percent of districts extract more groundwater than is replenished by nature. Thus, India is facing a looming water crisis that has implications not only for its people, but for the entire globe. India's demand for water is growing even as it stretches its supplies. Water infrastructure is crumbling, preventing the government from being able to supply drinking water to its citizens. Pollution is rampant due to unfettered economic growth, poor waste management laws and practices. India has the power to avoid this dark future if people take action immediately: start conserving water, begin to harvest rainwater, treat human, agricultural, and industrial waste effectively, and regulate how much water can be drawn out of the ground.

Save Energy

Energy is vital to modern economies: for industry, transport, infrastructure, information technology, building heat and cooling, agriculture, household uses and more. Any nation that wants to grow its economy and improve living standards must secure a robust energy supply. As incomes rise, so does energy use: high-income countries consume more than 14 times much energy per capita as Least Developed Countries, and seven times as much as lower-middle-income countries. As more countries rise out of poverty and develop their economies, energy demand will rise with them, putting pressure on local supplies as well as global energy systems.

Despite technological advances that have promoted energy efficiency gains, energy use in countries will continue to grow another 35% by 2020. In 2002 the motor vehicle stock in OECD (Organization for Economic Co-operation and Development countries) was 550 million vehicles (75% of which were personal cars). A 32% increase in vehicle ownership is expected by 2020. At the same time, motor vehicle kilometers are projected to increase by 40% and global air travel is projected to triple in the same period.

Commercial and residential energy use is the second most rapidly growing area of global energy use after transport. Households consume 29% of global energy and consequently contribute to 21% of resultant CO2 emissions. Globalization is a driving factor in making goods and services previously out of reach in developing countries much more available. Items that at one point in time were considered luxuries - televisions, cell phones, computers, air conditioning - are now viewed as necessities. The cost of renewable energy is increasingly competitive with that derived from fossil fuels.

The potential for growth in demand for liquid fuels is focused on the emerging economies of China, India, and the Middle East, while liquid fuels demand in the United States, Europe, and other regions with well-established oil markets seems to have peaked. The United States, always rich in energy resources, has made a concerted effort to increase domestic energy production. It has become the world's top oil producer by 2014, and will be close to energy self-sufficiency in the next two decades.

China provides a snapshot of changing realities. For years, the streets of China's major cities were characterized by a virtual sea of people on bicycles, and 25 years ago there were barely any private cars in China. By 2000, 5 million cars moved people and goods making China the world's largest auto market. Last year, Chinese

consumers bought about 2.7 million more new domestic and foreign brand vehicles than American buyers. In the first six months of this year, the Chinese market leads by almost 3.7 million.

In the United States, there are more cars on the road than licensed drivers. Increased reliance on automobiles means more pollution, more traffic, more use of fossil fuels. Cars and other forms of transportation account for nearly 30 percent of world energy use and 95 percent of global oil consumption.

China's energy use has nearly tripled since 2000, mostly fuelled by coal. This phenomenal increase has been accompanied by strong economic growth, but also resulted in a highly energy-intensive economy with significant distortions, high levels of air pollution, and an emerging need to import energy.

India's energy use has nearly doubled since 2000 (though just to one-fifth of China's use). Yet much of the population still lacks access to modern energy. The latest urban air quality database released by the World Health Organization (WHO) reconfirms that most Indian cities are becoming death traps because of very high air pollution levels and untamed motorization. India appears among the group of countries with highest particulate matter (PM) levels. Also, its cities have the highest levels of PM10 and PM2.5 (particles with diameter of 10 microns and 2.5 microns) when compared to other cities.

Of the 20 most polluted cities in the world, 13 are in India, says the database. Delhi is among the most polluted cities in the world today. Last year, the Global Burden of Disease study pinned outdoor air pollution as the fifth largest killer in India after high blood pressure, indoor air pollution, tobacco smoking, and poor nutrition; about 620,000 early deaths occurred in India from air pollution-related diseases in 2010.In addition to this18 million years of healthy lives are lost due to illness burden that enhances the economic cost of pollution. Half of these deaths have been caused by ischemic heart disease triggered by exposure to air pollution and the rest due to stroke, chronic obstructive pulmonary disease, lower respiratory tract infection and lung cancer

In recent years, there has been a tremendous surge in carbon dioxide (CO2) levels in the atmosphere. These atmospheric carbon dioxide rises are believed to be the result of the earth's industrialization, which began in the second half of the 18th century and is still ongoing in the many emerging markets around the globe. In 2014, the largest CO2 producers included the United States and the four members of the BRIC countries; Brazil, Russia, India and China, with China taking the top spot. Second-ranked United States was also listed as one of the biggest polluters worldwide in per capita terms in 2012. The U.S. Energy Information Administration projects that worldwide energy-related carbon dioxide emissions will increase 46 percent by 2040.

Say no to Food waste

Growing that amount of food will put a significant strain on the planet. Food production is emissions-intensive because it converts lands-such as forests and savannas that store carbon and preserve ecosystems-into pasture or crop land. For example, farmers are chopping down Indonesia's rainforests to grow crops like palm oil, making Indonesia the world's largest carbon emitter per unit of GDP. In addition, 13 percent of the world's 2010 carbon emissions came from agricultural activities like raising cattle, using tractors, and producing and using nitrogen fertilizers. Including land conversion, agriculture contributes 24 percent of global greenhouse gas emissions, uses 37 percent of Earth's land, and accounts for 70 percent of water withdrawals worldwide.

Changing diet, with a growing emphasis on meat, illustrates the environmental and societal toll exacted by unbridled consumption. To provide enough beef, chicken, and pork to meet the demand, the livestock industry has moved to factory farming. Producing 250 grams of beef requires 25,000 litres of water; 95 percent of world soybean crops are consumed by farm animals, and 16 percent of the world's methane, a destructive greenhouse gas, is produced by belching, flatulent livestock. The enormous quantities of manure produced at factory farms become toxic waste rather than fertilizer, and runoff threatens nearby streams, bays, and estuaries. . Land degradation, declining soil fertility, unsustainable water use, overfishing and marine environment degradation is all lessening the ability of the natural resource base to supply food.

Chickens at a typical farm are kept in cages with about nine square inches (about 60 square centimeters) of space per bird. To force them to lay more eggs, they are often starved. Chickens slaughtered for meat are first fattened up with hormones, sometimes to the point where their legs can no longer support their weight. Crowded conditions can lead to the rapid spread of disease among the animals. To prevent this, antibiotics are included in their feed. The World Health Organization reports that the widespread use of these drugs in the livestock industry is helping breed antibiotic-resistant microbes, complicating the treatment of disease in both animals and people

35 Million Citizens, One Dream, My Kerala Forever

On WED Kerala Forest Department is launching the programme "Environmental stewardship. When 35 million people of the state join together to evolve as Environmental Stewards to adopt sustainable lifestyles; we can make Kerala a truly green state. People from all walks of life will be involved in the programme, which includes greening activities, protection of natural resources, awareness programmes etc.

While substantial environmental impacts from food occur in the production phase households influence these impacts through their dietary choices and habits. This consequently affects the environment through food-related energy consumption and waste generation. 1.3 billion Tonnes of food is wasted every year while almost 1 billion people go undernourished and another 1 billion hungry. On the other hand around 1.5 billion people in the whole world are overweight and 400 million are obese.

The Waste Resources and Action Programme (WRAP) have calculated that uneaten food costs the world up to $400 billion annually. More food goes uneaten at the consumption phase of the supply chain; in places like homes, restaurants and cafeterias than at any other stage. Almost all urban areas experience high levels of food waste, food that is fit for consumption when it reaches consumers but is discarded before or after spoiling. While food waste presents significant challenges, addressing waste also provides an opportunity for growing cities to reduce their carbon emissions, curb deforestation, and mitigate water withdrawals caused by agriculture.

If current trends continue, the world will need to increase food production by 70 percent by 2050. India's overall food consumption will double by 2030, according to new research by McKinsey and the Confederation of Indian Industry.

Water, food and energy nexus

Food and water are essential for human existence and energy is the key to human development. Access to these resources and their sustainable management are the basis for sustainable development. Recognizing that efficient use of these limited or declining resources is essential to sustainability, the global community has turned its attention to the concept of the food, water, and energy nexus. The World Economic Forum 2011, the Bonn2011 Nexus Conference, the sixth World Water Forum, and World Water Week 2012, to mention a few, have urged an integrated approach to food, water, and energy security. The Rio + 20 declaration 'The Future We Want', which stresses the need for a balanced integration of economic, social, and environmental issues in economic development, also stresses the need to address society's core issues of food, water, and energy security in a manner that reduces the adverse impacts on nature–water, biodiversity, air, and climate. The global community is well aware of food, energy and water challenges, but has so far addressed them in isolation, within sectoral boundaries. At the country level, fragmented sectoral responsibilities, lack of coordination, and inconsistencies between laws and regulatory frameworks may lead to misaligned incentives. If water, energy and food security are to be simultaneously achieved, decision-makers, including those responsible for only a single sector, need to consider broader influences and cross-sectoral impacts.

Individuals can also do many things to help conserve resources. Stopping food waste, turning off unnecessary lights, switching over to eco-friendly technologies, repairing leaky taps, recycling paper, aluminum cans, glass, and plastic are just a few examples. Riding bicycles, walking, carpooling, and using public transportation all help conserve fuel and reduce the amount of pollutants released into the environment. Individuals can plant trees to create homes for birds and squirrels and shield buildings with creepers. At grocery stores, people can bring their own reusable bags and carry reusable water bottles and coffee mugs rather than using disposable containers. If each of us would conserve in small ways, the result would be a major conservation effort. As Rachel Carson truly points out in her book Silent Spring- "We stand now where two roads diverge. They are not equally fair. The road we have long been traveling is deceptively easy; a smooth superhighway on which we progress with great speed, but at its end lays disaster. The other fork of the road — the one less traveled by — offers our last; our only chance to reach a destination that assures the preservation of the earth."■

PARAMESWARAN PRAJEESH

Leading from the front

Protection of Plant Varieties and Farmers' Rights Act of India and the Plant Genome Saviors of Kerala

This piece of writing gives a brief account of the farmers from Kerala who have been instrumental to lead the farmers of the country in getting access to the Farmers' Rights as envisioned in the Protection of Plant Varieties and Farmers' Rights Act of India.

Plant Genome Saviors of Kerala

In 2008, Government of India has recognized Kurichya and Kuruma Adivasi communities of Wayanad for their collective efforts in the conservation of indigenous rice germplasm. These communities have been conserving 20 rice landraces with a variety of specialities including tolerance to drought and flood, aroma etc. Later in 2010-2011, these communities were conferred with the Plant Genome Savior Award of Rupees Ten Lakhs to sustain their efforts in conserving those valuable germplasm. Wayanad District Tribal Development Action Council with the technical support of M. S. Swaminathan Research Foundation was instrumental to these initiatives. The Council has now got various activities in strengthening the community conservation efforts throughout the district, utilizing the award money. The Council has also instituted 'Wayanad

Community Agrobiodiversity Awards' to the Adivasi farmers who conserve valuable germplasm and who value and sustain agroecosystems.

Since the inception of Plant Genome Savior Recognitions in 2007-08 and Awards in 2009-10 by the Government of India, Kerala has dominated with 10 entries, viz., 3 community recognitions (Sri. B. Pradeesh & other Paddy farmers' of Akampadam Chimpachala Padasekara Samithy, Palakkad; Sri P. Narayanan Unny, Navara Eco Farm, Palakkad; Kurichya & Kuruma Adivasi communities of Wayanad); 3 community awards worth Rupees 10 Lakhs (Wayanad District Tribal Development Action Council; Pokkali Rice Farming Community, Ernakulam; Rice Farming Communities of Palakkad); 2 individual farmer recognitions (Sri. Jose Mathew, Ernakulam; Sri. Sajeevan Kavumkara, Kannur) and 2 individual farmer rewards worth Rupees 1 Lakh (Sri. N. Vasavan, Kannur; Sri. Ciby George Kallingal, Thrissur). Sri. P. Narayanan Unni of Palakkad who had won the Plant Genome Saviour Recognition in 2008-09 has also served as a member (Farmers' representative) of Protection of Plant Varieties and Farmers' Rights Authority during the period 2010-12.

First Farmers' Varieties from Kerala

SEED CARE is a farmer–lead Association of Traditional Crop Conservers of Malabar established in 2009 in Wayanad, Kerala under the guidance of M. S. Swaminathan Research Foundation and represents the rural farmers including Kurichya and Kuruma Adivasi communities who have been already honoured as the Plant Genome Saviors. Until now SEED CARE, representing the farmers of Wayanad have forwarded 27 applications for Farmers' Rice Varieties of paddy to the Govt of India in which 6 were got registered in 2013 (Veliyan, Thondi, Chennellu, Chomala, Gandhakasala and Jeerakasala). As per the registration, Wayanad farmers have the exclusive right to produce, sell, market, distribute, import or export the registered Farmers' Varieties for a specified period. SEED CARE is now actively involved in advocating farmers' rights and also leads various agrobiodiversity conservation programmes.

Some background: Agriculture and Intellectual Property Rights

Farming had begun around 10,000 years ago, when the

hunter-gatherers started identifying wild plants and utilizing them as food. Since the first crop, the farmers have had happily enjoyed the free use and vending of the seeds that they cultivate. The year 1930 marked the ascend of ownership rights to vegetative propagated plant varieties in USA. Subsequently in 1961, the Paris convention on the Protection of New Varieties of Plants (popularly known as UPOV convention) came out with the concept of Plant Breeders' Rights. Following the General Agreement on Tariff and Trade (GATT, 1948-1994), the World Trade Organization (WTO, 1995) brought in the agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS). TRIPS insisted all the signatories of WTO to protect the Intellectual Property Rights on plant varieties either by (1) a patent or (2) an effective 'sui-generis' (Latin word meaning 'of its own kind' or 'unique in its characteristics') system or by (3) a combination of these two. India, being a signatory to TRIPS since 1995, has decided to place a 'sui-generis' system for the protection of plant varieties, but borrowing heavily from the UPOV system.

India's Protection of Plant Varieties and Farmer's Rights Act, 2001

The Protection of Plant Varieties and Farmer's Rights Act, 2001 (PPV & FR Act, 2001, No. 53 of 2001) received the assent of the President of India on 30th October, 2001. The act is meant for providing the establishment of an effective system for protection of plant varieties, the rights of farmers and plant breeders and to encourage the development of new varieties of plants. The Act is administered by the Protection of Plant Varieties and Famers' Rights Authority (PPV&FR Authority) under the Central Ministry of Agriculture. One of the very attractive aspects of this Act is the inclusion of Farmers' Rights. Farmer is not just who cultivates crop but a farmer is also a breeder who experiment with the seed. The Act defines farmers in three roles, as cultivators, conservers and breeders. Specifically 9 Rights have been given to the farmers by the Act which include the right on seeds, rights to: register farmers' varieties, receive reward and recognition, get the benefits shared out of the use of farmers' varieties, get compensation for losses caused by the cultivation of registered commercial varieties, check undisclosed use of traditional varieties, get access to seed and get free services and protection against accusations of innocent infringements.

The PPV & FR Act has many provisions in it to protect the rights of the farmers and to recognize their efforts for the conservation of agrobiodiversity. The Plant Genome Savior Recognitions and Awards given away by the PPV&FR Authority every year are for the rural and tribal farming communities or individuals engaged in conservation, improvement and preservation of genetic resources of plants and their wild relatives. The provision of registration of Farmers' Varieties allow the farmers to register a variety which has been traditionally cultivated and evolved by the farmers in their fields; or it is a wild relative or land race of a variety about which the farmers possess the common knowledge. Now the registration is offered to 92 crops as notified by the Authority. 1738 varieties have been registered so far in which 533 are Farmers' Varieties, as on January, 2015.

It is learned that the PPV&FR Authority is extending its training and awareness programmes through National Agricultural Research System, NGOs and Farm Science Centres throughout the country and it has made arrangements with Krishi Vigyan Kendras (KVKs under ICAR) in many districts to support the farmers in this regard. The decision taken by the PPV&FR Authority to open a regional centre at Thiruvananthapuram is also welcoming. It is noted here that the mode of collaboration of the Government of Kerala with the Authority is important in order to support the farmers in: 1) learning the provisions of the said Act and; 2) accessing the rights offered by it.■

Contd. from Page 11

tal programmes consistent with soil and land characters of the locality, planning and implementing various soil and water conservation and management programmes in the State for ground water charge, sustenance of agricultural production and safer environment. The Department is implementing various State/ Central Sector schemes on Soil Survey & Soil and water Conservation in all the districts in the state.

The department strives to acquire, classify, interpret and generate soil and land resource data facilitating enhancement of agricultural production through optimum use of the land according to its capability, through watershed development planning and adopting Soil Health Management Programme. It is involved in planning, promoting, coordinating and overseeing the implementation of various soil and water conservation programmes on watershed basis with an aim to conserve the valuable resource trinity of soil, water and biomass in a sustainable manner by ensuring active participation of all stakeholders.

Soil health management support service to farmers

The department is providing Soil Health Management Support Service to farmers through distribution of soil health cards to every individual plot in selected panchayats. This card gives information on the various physic-chemical properties of the soil including micronutrient content with general fertilizer recomentations. 48000 soil health cards have been distributed to farmers of selected panchayats in the State so far. The Soil Health card serves as a valuable guide to the farmers in regulating the amount of fertilizers to be applied to the crops based on actual requirement calculated on the analytical data of the soil of his particular plot, rather than going in for a generalized recommendation for the crop. This will help in earning significant savings for the farmer on costly fertilizer inputs, at the same time increasing his income by maximizing production and productivity.

Soils being a continuum subject to constant charge, there is need for updation of the soil analytical data of each farmers plot on a regular basis, viz., once in three years for major and secondary nutrients and once in five years for micronutrients. Hence, soil samples are again collected from the farmers fields at the said intervals and the Soil Health Cards are reissued to every farmer with modified fertilizer and soil management recommendations based on the latest soil analytical data.

Awareness creation and establishment of state soil museum

Awareness that soil is a precarious resource and requires special care from its users is extremely low and hence investments in soil management also is very low compared to the needs. The Department of soil Survey & Soil Conservation has been involved in awareness creation about the importance of soils and various soil and water conservation methods to be adopted depending upon the terrain and soil type by way of direct interaction with farmers and by organizing various seminars, symposia and social media programmes. The department has been regularly organizing World Soil Day celebrations on December 5th of every year, ensuring that farmers are necessarily included in the activities.

The Department of Soil Survey & Soil Conservation has also successfully established the State Soil Museum, documentation and reference centre on the Soils of Kerala aimed to provide an overview

on the heterogeneous soils of the state at Parottukonam, Thiruvananthapuram. The museum displays a cross section of all the Benchmark soils identified in the state along with the description on its occurrence, distribution, identifying characteristics, unique feature etc., rock and mineral samples, watershed model, and models of Soil and water conservation measures practiced in the state. Since its inception on 01.01.2014, the museum has been attracting visitors from all sections of the society including scientists, professionals, researchers, students and the farming community. The museum also include a Soil Information centre, a repository of information on soils for all those who are interested in soils and also a Mini theatre for screening short films on soils and soil water conservation techniques.

Soil, the precious natural resource which has been sustaining life on the earth has been subject to gross neglect and misuse for a long time. It is only in the recent years that soils have started gaining its due importance among the global society. In 2002, the International Union of Soil Science proposed December 5 of every year to be "World Soil Day" to celebrate the importance of soil in our lives. Under the framework of the Global Soil Partnership, the sixty-eighth session of the United Nations General Assembly in December 2013 designated December 5th as the World Soil Day and declared 2015 as the International Year of Soils with the aim to raise awareness on the importance of soils for ecosystem functions and food security. The Department of Soil Survey & Soil Conservation is proud to be a part of these initiatives by building up the database on soils of the state, increasing knowledge on soil management, increasing output and reducing costs for farmers and contributing to the state's agricultural growth rate.■

The writer is former Director, Department of Soil Survey & Soil Conservation,Kerala

Dr. D SHINE KUMAR

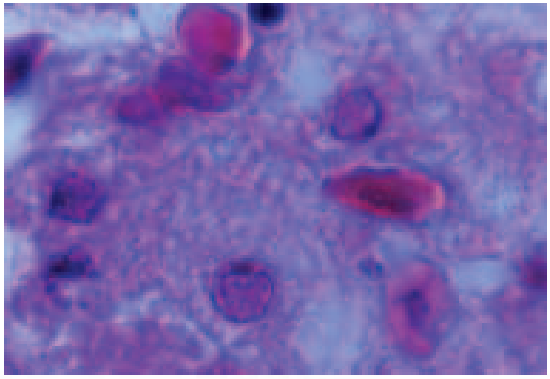
The unfortunate incidents of dreadful outbreaks including Ranikhet and Duck plague which claims a large number of birds annually pose a real threat to the farming community. The trouncing of these precious farm assets causes a massive financial loss in Kerala's agricultural sector. So the eradication of these contagious diseases distressing poultry is of utmost importance as far as the State is concerned.

Preventing Poultry Diseases

Duck Plague and Ranikhet Disease

Kerala houses more than 105 crores of priceless population of poultry, which includes chicken, ducks, geese, turkeys etc.. These birds nourish the enduring dream of food and nutritional security of the State. So evidently this biological aura of our living land is unavoidable to Kerala also.

But the unfortunate incidents of dreadful outbreaks including Ranikhet and Duck plague which claims a large number of birds annually pose a real threat to the farming community. The trouncing of these precious farm assets causes a massive financial loss in Kerala's agricultural sector. So the eradication of these contagious diseases distressing poultry is of utmost importance as far as the State is concerned. Right now the Kerala government is leading the warfront by conducting vaccination campaigns like ASCAD in every panchayaths of the State. This article intends to instill a very basic knowledge on rearing of poultry, their common diseases and preventive measures to be adopted against them. Hopeful this will help out the farming community..



Vaccination regimen to be followed in ducks as per directions

Age group	*Vaccine strain*	*Route of administration*
6-7 weeks	DP live vaccine	0.5 ml Subcutaneous injection (wing)
16 weeks	DP live vaccine	0.5 ml Subcutaneous injection (wing)

Duck Plague

Duck Viral Enteritis

Duck virus enteritis popularly known as Duck Plague (DP) is a highly contagious viral infection that naturally occurs only in ducks, geese and swans. The disease is a potential threat to commercially reared domestic waterfowl in and around the Kuttanad region. The aetiological agent, anatid herpesvirus-1 belonging to genus Mardivirus is a member of the family Herpesviridae. In susceptible/ unvaccinated duck population, the first signs are often sudden, high and persistent mortality with a significant drop in egg production. Mortality usually occurs 3-4 days after the onset of clinical signs. The most critical event during the DP outbreak is that if the birds recover from infection, they may act as latent carriers for long periods and shed the virus into the environment to infect other susceptible flocks.

The major clinical manifestations observed during an outbreak are; sudden death, rapid spread, drop in egg production, photophobia (intolerance to light, ie. the birds will cover the head and neck in thick grassy vegetations), conjunctivitis, greenish diarrhea and weakness of limbs. Internally, the birds will have crusty deposits in esophagus and hemorrhagic enteritis with mucosal eruptions. However, in young ducks, lymphoid involvement is more when compared to the enteric lesions.

As to date, there is no effective treatment to alleviate the infection in DP affected flocks. Even antiviral

Even though rigorous control measures have been implemented, this disease still ranks as one of the deadliest viral disease of poultry.

drugs like acyclovir (specific to herpes infections) show no impact on the progression of the infection. However, use of DP vaccination during the phase of an outbreak has shown some effect as part of the vaccine virus induced interference phenomenon. Hence to effectively protect ones flock from DP infection, prime importance should be given to vaccinate the concerned flock with DP vaccine, which is manufactured at the VBI, Palode and issued through various veterinary hospitals in and around the duck rearing regions of Kuttanad.

In this context, it is important to mention that the vaccination procedures followed by farmers against Duck Plague in the state of Kerala is not yielding the desired results in some instances, as there are reports of infection in vaccinated flocks. At this juncture, it is to be kept in mind that the DP vaccine is a live attenuated one and it needs precise storage conditions and righteous ways of administration to exhibit its potency to the desired levels. Majority of the time, the ducks farmers are known to ignore these stringencies and this makes the vaccine inefficient to protect their flocks. Finally, to remind, it is of essence to believe in properly following DP vaccine administration regimen to get the desired results and thereby engaging in profitable duck farming.

Ranikhet Disease

Newcastle Disease

Newcastle disease popularly known as Ranikhet disease (RD) in India is a highly contagious and fatal disease of poultry flocks. Even though rigorous control measures have been implemented, this disease still ranks as one of the deadliest viral disease of poultry. In general the mortality rate can go as high as 100%. This viral

Vaccination regimen to be followed in the state as per directions		
Age group	*Vaccine strain*	*Route of administration*
5-7 days	F or Lasota	Occulo-nasal
42 days	RDVK or R2B	0.5 ml Subcutaneous injection
16-18 weeks	RDVK or R2B (live or killed)	Subcutaneous injection (Booster)

infection is caused by virulent virus strains of avian paramyxovirus type 1 (APMV-1), the genus being Avulavirus belonging to the family Paramyxoviridae. Even though the virus can infect about 200 species of birds, the severity of the disease produced is relevant mostly to domestic fowl. However, for the past 3-4 years, most of the pigeon lofts in our state experience the havoc caused by APMV-1. Even though the mortality in pigeons is about 10-15% only, the recovered birds can act as carriers and the apparently healthy birds will be sold by the pigeon rearers causing the infection to spread all over the state.

In chickens, the most severe form of the disease is characterized by high mortality with nervous signs and hemorrhagic enteritis. This viscerotropic velogenic (VV) virus is the most pathogenic strain which produces haemorrhagic intestinal lesions. Recently, neurotropic velogenic (NV) viruses were also observed during some outbreaks in the state. Generally, the initial symptoms observed in the flock include sneezing, gasping and droopiness. At this stage, the birds should be brought for a check-up in the state-owned avian disease diagnostic facility to rule out RD in the flock. If the condition is identified as RD and not Infectious bronchitis or Mycoplasmosis, then measures should be adopted to minimize the spread of the virus. Treatment is of no use in such flocks and death occurs rapidly and in increasing numbers as day progresses. During such a stage following signs are commonly seen viz. a state of severe depression with ruffled feathers, greenish diarrhoea, trembling of head and paralysis of the legs or wings. In layers, sudden onset with high mortality, drop in egg production and misshapen eggs are observed as manifestations of Ranikhet disease.

It is imperative that the control measure against RD infection is of paramount importance and we are fortunate to have indigenously developed vaccines that are highly efficacious in thwarting the threat posed by this pathogen. The vaccines developed by VBI, Palode viz. F strain and RDVK are excellent ones that if given based on the recommendations, the flocks will be 100% protected against this deadly disease. RDVK strain vaccines are safer than the R2B vaccines to administer in case of birds with lower bodyweight gain at 42 days of age.

As majority of the RD vaccines are live attenuated ones, the proper storage and administration is crucial and if not stringently followed can result in unsuccessful vaccination programs. Hence maintenance of cold chain, administration via proper route etc. should be properly followed by farmers to ensure good results. Also the birds that are having coccidiosis or round worm infestation may not elicit efficient antibody response and sufficient protection as part of vaccination procedures. To conclude, if are a broiler or a layer farmer, it is perilous to grow your birds without following RD vaccination regimen as the virus is so ubiquitously present all over the country.■

The writer is PRO, Animal Husbandry Department

BIJU MATHEW

Lend ME YOUR hands please...

Elder abuse may or may not get noticed in society, but its possibility lurks everywhere, especially in modern societies.

Elder abuse term evokes contrasting opinions. These, like all the others, are based on the complex mix of social and psychological state of the individual. The element of subjectivity is very high. Most of the victims of elder abuse give you incidents of abuse varying in intensity and frequency. The difficult question is what constitutes abuse and how to tackle it?

Elder abuse may or may not get noticed in society, but its possibility lurks everywhere, especially in modern societies where a hundred year life span is a demographic realityfor large section of the population. India has around 100 million elderly at present and the number is expected to increase to 324 million, constituting 20% of the total population, by 2050.

As a result of the current ageing scenario, there is pressure on all aspects of care for the older person's namely; financial, health and shelter. With older people living longer, the households are getting smaller and congested, causing stress in joint or extended families. Marginalization, isolation and insecurity is felt among the older persons due to the generation gap and change in life styles. Increase in lifespan also results in chronic functional

In simple terms, Elder Abuse refers to intreatment of older people by those who are supposed to care for them.

disabilities creating a need for assistance required by the older person to manage simple chores of daily living, which too increases the strain on the families.

Elder Abuse defined

Elder abuse has been variously defined but are similar in content. The World Health Organization (WHO) document defines Elder abuse as "single, or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust which causes harm or distress to an older person".

In simple terms, Elder Abuse refers to iltreatment of older people by those who are supposed to care for them. If the person is old and not able; then children, spouse, relatives, doctors, nurses, or servants are expected to look after them. If such persons harm elders, or neglect them, then it is called abuse. It is any act of omission or commission that harms the senior citizen.

Types of Elder Abuse

The most common way of classifying different types of abuse are Physical Abuse; Verbal, Emotional or Psychological Abuse; Sexual Abuse; Financial Abuse and Exploitation; Medication Abuse, negligence in care and irreverance.

Neglect and Verbal abuse are the three major forms of abuse as understood by the elderly and the same are the most prevalent forms as reported by the most. The major reasons for such abusive behaviour include: lack of adjustment, economic dependence of the abused and increasing longevity of the old.

Tackling Elder Abuse

Strengthening intergenerational bonding,

increasing economic independence of the abused and sensitizing young adults are the measures to deal with Elder Abuse. Social security of the elderly should be taken care of by giving opportunity for income generation, programmes to sensitize children and young adults and involvement of society at large against elder abuse should be initiated.

A supplementary preventive step is also required to arrest the trend. Therefore, it is important that programmes may be initiated at school and college level to increase the affection, formative and functional integration of thefamily members, particularly the children and grand parents.

The aim at the end of it all is, to sensitize and engage young adults and urge them to take a stand against this heinous crime by making changes however small, within their own lives for instance, Spending time with their own parents/ grandparents, engaging elders in family matters, looking after their needs etc. The above mentioned are "Duties / Pay-back" by young adults when their parents are in their 'Second Childhood'.

Initiatives by the Governmentof Kerala

Maintenance and Welfare of Parents and Senior Citizens Act, 2007 was made applicable in the state of Kerala on 24th September, 2008 followed by framing of Kerala Maintenance and Welfare of Parents and Senior Citizens Rules, 2009. This Act provides for speedy & timely redress for the Senior Citizens facing various types of abuses.

Kerala Police have initiatedRs 10 crore project CARE (Care Aid & Relief for Elderly) for protection and care of senior citizens in Kerala State. Under this scheme a State level Senior Citizen Bureau (SCSB) and 17 District level Senior Citizen Bureau (DSCB) will be created. This will be followed by creating dedicated police helpline for senior citizens in district police control rooms. Senior Citizen help desks are being formed in 230 police stations in Kerala state.

Fighting Isolation, Poverty, Neglect

Help Age India felt the need to understand the situation of Elder Abuse so that necessary action can be taken to prevent the rising elderly population from falling victim to such acts and adopt effective mechanisms by which the elderly will be cared and respected and will be able to live a life of dignity.

We have been conducting national surveys on elder abuse for the past 5 years. This study aims at knowing the perceptions of elderly regarding Elder Abuse, its prevalence in the society and their experience of abuse and the primary perpetrators. Elder Abuse has been reportedly experienced by more than one fifth of the elderly with the most common forms of being experienced disrespect and neglect. The extent of reporting of abuse is low and this can be attributed to maintaining confidentiality of family matter and fear of retaliation. Relatives are mostly approached to report cases of abuse as confidentiality of the family matter can be maintained.

The aim at the end of it all is, to sensitize and engage young adults and urge them to take a stand against this heinous crime of elder abuse by making changes however small, within their own lives.

Educational curriculum at all stages of formal education as also non-formal education programmes will incorporate material to strengthen inter-generational bonds and mutually supporting relationships

This year on June 15 'World Elder Abuse Awareness Day' we look at a totally different perspective on the issue. Over the years we were conducting Elder Abuse surveys keeping the elders perspective in mind and found out that the most common assumption, that in old age the son would be the main caregiver has been completely shattered. The son along with the daughter-in-law turned out to be the primary abusers. The young adult seems to be the main culprit. Therefore, it is important to understand what turns a perfectly normal and healthy relationship into an abusive one in later years.

Help Age India has decided to survey the perspective of the young adults, concentrating on the Youth narrative by doing an extensive 10 city survey among young working adults. The survey hopes to ascertain what the youth think of Elder Abuse - does it at all happen, what makes it happen, who or what causes it and what can any of us do to help/prevent abuse. We can then compare youth perception to the elder perception.

To get a complete 3600 perspective on the issue we are targeting the same cities primarily where the survey was conducted last year. Only this time the young working adult would be surveyed.

Promoting Agecare Values – Initiative for Intergenerational Solidarity

There is a gradual breakdown of the socializing function of the family. In such a situation, an effective alternative must be there for developing appropriate value based pedagogy kits for inculcation of ethics and moral standards. This emphasizes the need for an "ethical emergency" to ensure that the new generation children are re-connected with the time-tested family and social values of care, concern and commitment to the older and their needs. Through this, sensitive and sensible youngsters can be moulded. To achieve this, schools can be made value-rich family backyards through an appropriate age-friendly response.

"Education is a means to awaken the nation's conscience" – Mahatma Gandhi.

Acknowledging this important social role, HelpAge India's "SAVE - Student Action for Value Education" and "HUG – Help Unite Generations" programme's main focus is to sensitize school children & College going youth respectively on ageing issues early in life, so that, they treat elderly with love and care and understand their issues in depth.■

The writer is Director, HelpAge India

INDHU NARAYAN

Vegetable Oothappam

Raw rice - 1 cup
Boiled rice - 1 cup
Urad dal - 1 cup
Salt - to taste
Green chillies - 2, chopped finely
Coriander leaves - 2 tbsp, chopped finely
Fresh peas - 1 cup, boiled and slightly mashed
Onion - 1, chopped finely

Method: Soak the rice and dal for 6 hours. Strain the excess water, wash well and grind to a fine paste adding boiled rice. Set aside overnight to ferment.

Add salt, green chilli, coriander leaves, mashed peas, chopped onion and mix well.

Heat a tawa and grease it with oil. Pour one laddle of the batter and spread to one cm thickness. Pour half tsp of oil along the edges. After a few seconds to transfer it to the tiffin box with chutney and chutney powder.

Jeera Stuffed Poori

Wheat flour - 1 cup
Hot ghee - 1 tbsp
salt to taste

For the filling

Gram flour - 1/2 cup
Black jeera - 1 tsp
Garam masala - 1 tea spoon
Chilli powder - 1 tsp
Ghee- 2 tbsp

Method to make the filling

Heat ghee in a pan and fry the ingredients writen under filling. Fry this till its raw smell disappears. Powder this coarsely.

How to prepare

Make a thick dough with wheat flour, salt and melted ghee. Add just enough water to make it a pliable dough. Make small balls with the dough and roll into small rounds 2 inch diametre. Place the masala powder filling in one poori and cover it with another poori. Gently press the edges and deep fry in hot oil.

Paper Roast

Raw rice - 2 cups
Wheat flour - 1 cup
Channa dal- 1/2cup
Urad dal - 1/2 cup
Tur dal- 1/2 cup

Mix all the above ingredients and wash well. Spread over a cloth to make it dry. Give it in the mixi for pounding. Should make a fine powder.

To make dosa

Dosa powder - 2 cups
Green chillies - 4, finely chopped
Ginger, 1 inch piece, finely chopped
Coriander leaves - 1 sprig, finely chopped
Curry leaves - 1 sprig, finely chopped
Salt to taste

Oil - to make dosa

Mix all the ingredients together in a bowl. Add just enough water to make a thin batter. This batter should not be too thin or to thick. It should be poured in round circle over heated and greased dosa pan covering all the places evenly. Pour oil around the edges and when one side of the dosa becomes brown in colour, fold it and transfer to the tiffin box with coconut chutney.

Coconut-poha Dosa

Rice -250 gm, soaked for 4 horus
Poha- 100 gm, soaked for 15 mts
Steamed rice - 100 gm
Grated coconut - 50 gm
Coriander leaves , chopped- 50 gm
Salt to taste
Oil- 12 tsp

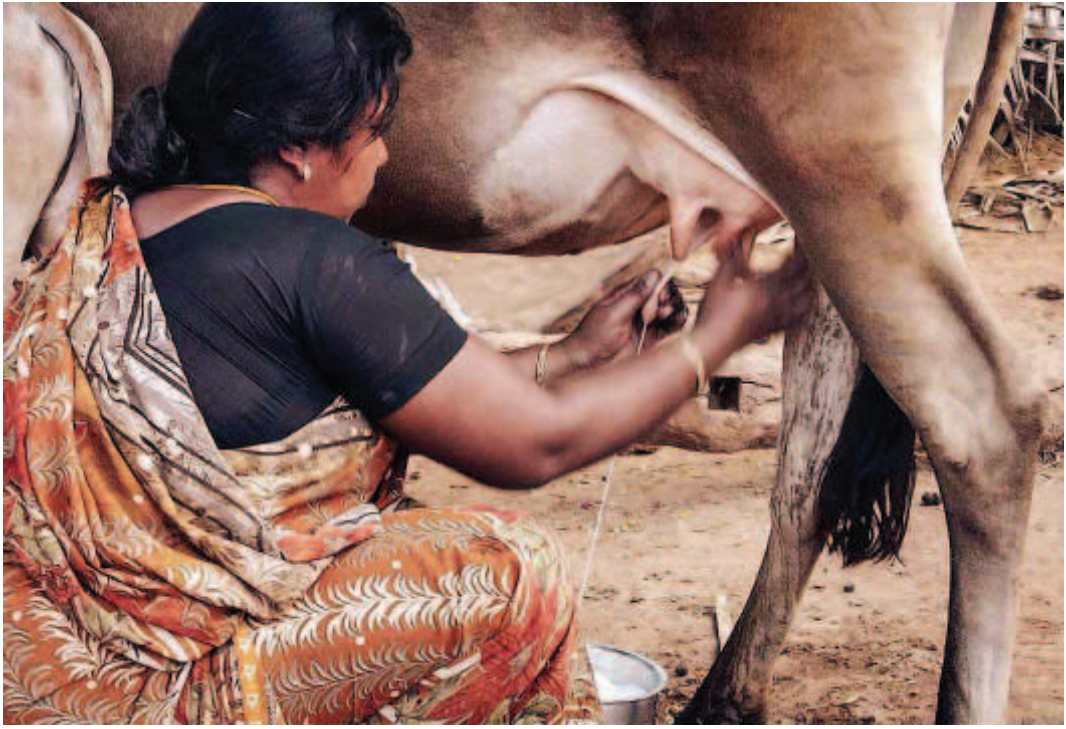
Grind all the ingredients, except oil, to form a thick batter. Grease and heat a flat pan. Pour a spoonful of batter and spread with back of the spoon to make a thin dosa. Pour a spoonful oil over it. Cook until crisp. Repeat for the remaining batter. Keep it in the tiffin box with chutney..

Dr. JACOB ABRAHAM

Livestock and Gender Dynamics

Livestock are important assets for the poor and tend to be easier for women to acquire than land. Livestock ownership can confer higher status and self-esteem, which in turn leads to greater financial success. Women with low status tend to have weaker control over household resources, less access to information and health services and lower self-esteem. The importance of livestock in contributing to household income varies by region and production system.

However, market norms can change over time and as a result of an increase in households headed by women, women can play an increasingly prominent role in livestock management and marketing.



Food security and Health

Livestock interventions often promote food security through alleviation of child malnutrition. This is because livestock products controlled by women are more likely to be consumed by the family than products controlled by men. For women, income from the sale of small stock and products, such as eggs and milk, enable the purchase of other foods, including grain, health care and basic household sustenance. Livestock development, however, had a mixed record with regard to poverty alleviation. Women have access to fewer productive assets, such as land, tools, water and technology, inputs such as vaccines, medicines and feed, financial services, animal health services, information and time compared to men of the same class. If women had the same access to productive resources as men, they could increase yields on their farms by 20–30% for crops as well as livestock.

Women were found to be more conscious about the health of the animals. With such an attitude of the women, the probability of diseases was found to be low while the probability of income was high. Owing to their close proximity to animals and their handling of raw animal products, women are often more exposed to zoonotic diseases than men and, when sick, do not receive the same level of care as male members of the family.

Economic empowerment

Women face specific challenges to market participation compared to men of the same class and age. Most women have limited mobility. They need to stay near the home to provide child care, animal care and other domestic chores, seldom own transport and may also face harassment or assault during travel. Husbands may be reluctant to give wives permission to travel because they fear insecurity. Generally, women have less experience in markets than men, so they may be offered lower prices. However, market norms can change over time and as a result of an increase in households headed by women, women can play an increasingly prominent role in livestock management and marketing. This can increase their workload but also their independence.

Many women traditionally sold milk, egg and dairy products through informal markets for cash which they kept and used for household purchases. In dairy markets and poultry production, women's greatest challenge is keeping the income they have traditionally enjoyed; as markets become more formal and commercial, income tends to shift to men. Compared to men, women tend to be paid less and take part in less financially rewarding livestock processing activities.

Thrust areas

Women's economic empowerment is routinely cited as an objective for livestock interventions, but the arena of definition must expand to include their ability to earn income and the power to make and act on decisions. Women's role in livestock production has often been framed as being 'helpers' to male head of household. This is, however, misleading; a more accurate depiction is of women who, although overburdened, under-

rewarded, vulnerable and poor, play the central role of providing food security and household well-being. Efforts to systematically integrate gender variables in livestock data collection need to be scaled. Effective livestock development must begin with dismantling discrimination against women in access to agricultural resources, education, extension and financial services, property rights and labour markets.

Women's voices should be heard at all levels in decision-making through their groups and co-operatives, as members of boards of co-operatives, as policy makers, researchers and extension managers in the livestock sector. Increasingly, both the donor community and national governments require gender analysis before making agricultural sector investments. Gender analysis means an understanding of typical current behaviour of men and women within the household, community and country, and the likely impacts of the intervention on the gender roles and responsibilities.

Group membership and collective action facilitates the ability of poor men and women livestock keepers to access resources and influence decision making. Organized female groups like 'Kudumbasree' in Kerala are, therefore, central to realizing the potential of female force in effectively using the livestock sector for poverty reduction. Kudumbashree became the lifeline to many poor women in the state of Kerala and they have become active participants in the planning and implementation process of various anti poverty programmes. By participating in various income generating and developmental activities, the morale and confidence of women get elevated. Women who were regarded as

Recommendations for integration of gender equality throughout livestock value chains are the need of the hour for better integration of gender equality throughout livestock value chains.

voiceless and powerless started identifying their inner power, their strength, opportunities for growth and their role in reshaping their own destiny.

Recommendations for integration of gender equality throughout livestock value chains are the need of the hour for better integration of gender equality throughout livestock value chains. Any livestock policy related to natural resources, technology, infrastructure or markets will affect men and women differently because they play different roles and experience different constraints and opportunities in the sector. Good agricultural and livestock policy requires an understanding of the gender dimensions at stake. The full integration of gender equality goals as well as smallholder participation will make livestock policy more effective at increasing production, income generation, food security and protecting and enhancing public health. Substitution of the words 'men and women' for farmers, producers or processors can help reinforce the notion that gender differences matter and must be accounted for.

Livestock and gender development, even now a neglected area of research and the research agenda should focus on livestock owned by women. This must be on labour saving technology for women, technology for home processing of dairy products, prioritization of small ruminants and poultry mechanisms for listening to women's priorities and understanding their context. Also livestock training should integrate approaches that reduce gender inequalities and involve women in different aspects of livestock development.

Cooperation and coordination with appropriate ministries and other organizations like NGOs and the private sector to mainstream gender equality throughout the livestock sector is essential although it is recognised that this is difficult to achieve. A food system approach characterised by Women's role as producers, processors and especially purchasers and preparers of animal related food means that nutritional campaigns must target them. As purchasers of family food, women must have the means to buy wholesome food, so their income streams must be protected and expanded.

Many a time, it has felt that while livestock keeping and poverty alleviation are closely linked, livestock development projects are struggling to fulfil their promise with regard to the poor. Therefore, a new approach to livestock development is required. To be successful, such an approach must closely account for, and address, the realities faced by the poor.■

SURESH MUTHUKULAM

Lipstick Palm for Tropical Gardens

The ornamental palm with bright scarlet red leaf stalks which resembles the colour of red sealing wax is probably the most beautiful of all palms in the world named Sealing Wax Palm. The brilliant red trunk and leaf stalks of the palm make it a necessary ingredient in almost all tropical gardens. The evergreen Sealing Wax Palm is native to the hot regions of Malaysia, Thailand and Indonesia. The Red Sealing Wax palm got its name because its leaf sheaths have the same colour as the wax used to seal letters and envelopes. More over a fed wax was obtained by boiling down the red petioles which was earlier used by the nobles for imprinting a seal on documents and letters. This is best suited for tropical landscapes and bright conservatories. The palm is also commonly known as

Lipstick Palm, Red palm, Rajah palm etc.In Malayalam this is colloquially called "Chuvanna pana".The plant is botanically christened Cyrtostachys renda.Due to the bright red crown shafts and leaf sheaths this is a much popular ornamental plant which is widely admired in almost all tropical countries across the world. The red crown shafts always create a nice contrast with its luxuriant bright green fronds.

The plant can grow to 5 to 6 metres in height and forms dense clusters, as multiple stems arise from the base. Stems are 5 to 14 cm in diameter. The leaves are compound with the leaf blade divided into two leaflets. Each leaf contains around 50 leaflets, each of them is long and narrow and can be up to 45 cm long. The leaf bases forming the crown shaft, the stems and the leaf stalks or petioles are bright red in colour which makes it a valuable asset in any landscape. There are flowers formed in clusters that are 60 cm long which are visible beneath the green foliage. Small round black fruits develop later in the season. There are also some varieties in Sealing Wax palm existing with difference in crown shaft and leaf petiole colour. Some are brighter scarlet, golden yellow, orange or light green.

Minimum temperature in its natural habitat rarely goes below 15 degrees and humidity is 80% most of the time. If we can re-create this natural habitat the palms can be grown successfully. Sealing Wax palm likes to grow in an outside location with dappled sunlight in rich moist loamy soils. Intense sunlight may burn the fronds at the tips and sides especially in young palms. The palm can be planted either in a suitable container or in the garden where it requires well draining soil. Applying 3 to 4 inches of mulch, such as bark chips or leaf debris around the base helps to keep the soil moist even during summer and also reduces weed growth. Watering the palm frequently is mandatory. Keep the soil moist to the touch, but not water logged. Remember that Sealing Wax palm will not tolerate drought and will quickly wilt. Regular misting is necessary if the environment around the palm is too dry. Propagation of the palm is by seeds which are very slow to germinate, sometimes up to one year or by way of dividing out suckers growing from the base of the mother palm. Suckers are the best for the quick establishment of palms. Anyway the palm is slow in growth. The seedlings can be planted either in loamy soil or in a potting mix created by mixing one part of general purpose potting soil, one part peat moss and one part coarse sand. Instead of peat moss we can also use leaf manure. This can be planted as hedge plants in garden or screen or potted accent or as focal plant in lawns. To maintain the palm beautiful regular thinning and cleaning of clusters are essential. Now palm seedlings are available in the instructional farms of Kerala Agriculture University, Agriculture Department farms and also approved nurseries. The price may vary according to the size or growth of the seedling.■

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Ayurveda
an elixir for infertility

To understand the concept of human reproduction Ayurveda says it is just like the germination of seed. As a plant grows when it is cultivated in a proper season, well ploughed field supplied with adequate water and good quality of seeds.

Progress in medicine and medical research goes hand on hand. There have been phenomenal advances in medicines over the last fifty years; still there are many questions which remain unanswerable in treatment methodology. Worldwide there is evidence of increased shift towards the use of traditional medicine. The people's acceptance of traditional medicinal products may be attributed to growing appreciation of such products on account of being made up of organic and natural materials, their cost effectiveness and comparative safety, holistic use and disenchantment with chemical drugs. This phenomenon has equally touched the medicine of traditional Indian system. Ayurveda is being explored for providing therapeutic solutions to the emerging health problems.

Infertility or sub-fertility is a day to day challenge for a gynecologist. As reproduction is very important part of nature for its smooth progress. When a couple not having a child even after one or two years of planning feels the urge to seek the help of a gynecologist. Modern medicine has advanced lots of techniques to help the infertile couples to have a baby. Recent advances like IUI, ICSI, ZIFT, MIST GIFT methods in Assisted Reproductive Therapies somehow proved their effectiveness. But success rate is still below the mark.

The current problem is a burning issue in modern life. Though both the partners are sometimes equally responsible for their childlessness, the lady bears the mental pain and agony much more; even this ends in marital disharmony and family unhappiness in cases. To extend a helping hand to these situations traditional medicine like Ayurveda has a great treasure in it.

Factors of Fertility

To understand the concept of human reproduction Ayurveda says it is just like the germination of seed. As a plant grows when it is cultivated in a proper season, well ploughed field supplied with

adequate water and good quality of seeds. Just in the same way in a human life also these four factors are essential for getting an offspring. They are

- Ritu (Fertile period which is specified by ovulation)
- Kshetra (Healthy Uterus to hold the conceptus)
- Ambu (Ovarian nutrients and hormonal balance state)
- Beeja (Pumbeeja and stree beeja on good quality of sperms in male and ovum in female)

Above all these essential factors for reproductive, the mental condition on preparedness of the couple is another factor.

Types of infertility

Ayurveda explained infertility mainly of two types. Apraja (Primary infertility), Sapraja (Secondary infertility). Secondary infertility also categorized as

- **Mrita Vatsha** (Repeated still births or intra uterine deaths)
- **Kaka Vandhya** one child alive but unable to conceive again
- **Garbhasravi** Repeated Abortions and unable to continue the pregnancy.
- **Bala Kshyaya/Dhatukshya Janya Vandhya** unable to conceive due to chronic disease and general debility.
- **Kostha bhagna and Garbhasaya Bhramsa** injury uterus and prolapsed uterus.

Factors for Infertility

As we see the incidence of rate of infertility or sub fertility is growing day by day other social factors are also dominating the issue like

- Late marriage
- Staying apart for job/ education
- By use of contraceptive pills to postpone pregnancy.
- Addicted to drugs/ alcohol and tobacco.
- Life style diseases such as obesity, diabetes mellitus polycystic ovary syndrome and thyroid dysfunction.
- STDs and Uro -genital infections
- Exposed to radiation/ heat

Investigations

To find out the cause the childless couple must be investigated thoroughly. Routine investigations include

- Semen analysis
- Ultrasonography of abdomen and pelvic organs of ladies
- Thyroid function test of both
- Fasting blood sugar of both
- Hystero salpingography of ladies
- HIV /HbSAg/VDRL of both
- Hormonal levels such as FSH,LH,Serum Progesteron,Estradiole,Prolactin in ladies
- Blood haemoglobin %
- Pap smear of cervical mucus
- TORCH test

Prognosis

According to Ayurveda the prognosis of Vandhya depends on its causative factor. Congenital absence of reproductive organs in females (chromosomal trisomy) cannot bear any child thus considered incurable. All other can be treated well in medicines. Principle of Ayurvedic treatment gives emphasis on specific Panchakarma Therapy followed by Brimhana/ Rasayana (Nutrition). Some local treatment to the reproductive organs like Pichu, uttaravasti etc.can also done to get the ailments out.

Specific diet

Dietary recommendations to get a healthy baby are explained in our ancient health classics. Husband has to take ghee & milk medicated with madhura (sweet) rasa herbs like Aswagandha, Vidarigandha and Kapikachhu. Wife has to take oil, masha (Black gram) for nutrition.

Specific rituals

Pumsavana karma (nasal instillation of juice of certain herbs) also helps in conception. Garbhadhana samskara is one of the rituals to be done if needed.

Fertility being a matter of concern since age's long. In our Vedas it is said that, Earth is the mother, Sky is the father and we the human are the children. Ayurveda is a branch of Atharva Veda, which holds a lot of descriptions for various health issues.All the great maharshis like Charaka,Sushruta and Vagbhatta explain various medicinal formulations to cure different Sthree Rogas.They were of same opinion that dushita yoni garbhasaya(diseased genital organs)cannot bear offspring. More over Ayurveda Oushadis have their own Prabhava(effects) to create miracles.■

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Associated diseases in ladies

Infertile ladies may have some underlying factors, which has to be traced out by various investigations. Such as

- Fallopian tube block
- Uterine fibroid
- Endometriosis
- Ovarian tumor
- Cervical incompetency
- Septed uterus
- Ovarian dysfunction/anovulation
- Corpus luteal insufficiency/thin endometrium
- Anti sperm antibodies in blood
- Hormonal imbalance,etc