Newsletter

SOVE Indian Region

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Contents

Breaking News

Inaugural Conference:
The Inaugural conference of SOVE Indian Region will held in idyllic Goa, India from the 13th – 16th Feb. 2019. For details log on to www.soveindia.org
This website will keep you updated from time to time. Members get discount in Registration. Membership form can be downloaded from the site.

Important

Events & Meetings:

Malaria World Congress
Australia

SOVE Golden Jubilee Year Meeting
Yosemite, California USA

e-SOVE Meeting
Palermo Italy

Quote

"The Science of Today is the Technology of Tomorrow"

Edward Teller

Editorial

Dear Reader,
Welcome to this first Newsletter of SOVE Indian Region!
Society for Vector Ecology is an International Organization dedicated to the amelioration of vector borne diseases with main focus on vector ecology and sustainable control of vectors and vector borne diseases of humans and animals. There are a number of similar dedicated organizations doing good work for promotion of knowledge and control of vector borne diseases. SOVE is unique in that it takes holistic view (ecosystem approach) of the disease with eco-biology of vectors at its heart. Like any other enterprise, vector control seems an easy undertaking on the surface of it, but deep down, it is highly professional, technical, often repetitive and resource intensive. There are several vectors and vector borne diseases, as we know. Each vector has unique bio-ecology and behavior. Similarly, different vector borne diseases have unique epidemiology. Understanding different vectors well can take several years. While knowledge and wisdom can only be acquired with time, lectures, discussions, literature, hands on work and looking at the vectors in their microcosm and appreciating their interactions with biotic and abiotic factors can be enriching and rewarding both in research and control of vectors.

SOVE has served vector research and control community across the globe in its 50 years of illustrious existence. SOVE Indian Region in that sense is an infant and is safely piggy backing on the parent SOVE, the ethos and goals being similar. The SOVE Indian region is a platform for students, scholars, scientists, pest control professionals, vector control and household product industry, R&D organizations, public health entomologists, public health officials, programme managers, policy makers, product formulation experts, regulatory experts and quality control organizations to network. The existing gap of bringing together this vast array of experts and professionals on a common ground can be challenging yet very much necessary. Additionally, SOVE Indian Region will facilitate networking, formulation and evaluation of new tools, cross breeding of ideas and new synergies for disease management.

It is in this spirit that the first Conference of Indian SOVE is being organized from 13th – 16th Feb. 2019 in Goa (www.soveindia.org). We wish and hope that large numbers of professionals will come together. We expect the membership of SOVE Indian Region to grow from current 40 to 100 in the coming year by encouraging students, scholars, professionals with different expertise and skills to join and strengthen the organization. Gracias!
Ashwani Kumar, Director SOVE Indian Region

New bloodless malaria test

Brian Gitta developed the new malaria diagnostic device after three of his tests failed to detect malaria. The device name is '**Matibabu'**

Brian Gitta, 24, is a Ugandan who won the Royal Academy of Engineering's Africa Prize for this device which detects malaria without drawing blood. After the test has been performed, the device shares results with a mobile phone in a minute as per claim. All the device does is that it throws a red beam of light on the patient's finger.

Gitta brought up the idea: "why can't we find a way of using skills we have found in computer science, of diagnosing a disease without having to prick somebody?" said **Sekitto** who was team member of Gitta

"Matibabu" which means "treatment" in Swahili, is simply a game changer," **Rebecca Enonchong**, Africa Prize for Engineering Innovation Judge and Cameroonian technology entrepreneur, said in a statement.

"It's a perfect example of how engineering can unlock development- in this case by improving healthcare".

Matibabu's red beam can detect changes in the colour, shape and concentration of red blood cells- all of which are affected by malaria. Gitta hopes the device can one day be used as way to detect malaria across the globe. But before that, the device has to be approved by a number of regulators that it is safe for the human use. For more details please log on to the source https://www.bbc.com/news/world-africa-44481723

Filariasis

Triple drug therapy with Ivermectin, Diethylcarbamazine and Albendazole (IDA) to accelerate elimination of Filariasis is recommended by WHO and in India IDA is being tested jointly by National Vector Borne Diseases Control Programme in collaboration with Vector Control Research Centre (VCRC), Puducherry. The earlier date set for elimination of Filariasis from India was 2020 which may need revision. It may be mentioned that several rounds of Mass Drug Administration (MDA) with single dose of DEC drug were earlier carried out at the country scale in India. *Culex quinquefasciatus* and *Mansonia annulifera* are the two primary vectors of filarial nematode worms, *Wuchereria bancrofti* and *Brugia malayi* besides several other mosquito species acting as vectors occasionally.

Paraguay Eliminates Malaria: Certified malaria Free by WHO

The World Health Organization (WHO) today certified Paraguay as having eliminated malaria, the first country in the Americas to be granted this status since Cuba in 1973.

"It gives me great pleasure today to certify that Paraguay is officially free of malaria," said Dr Tedros Adhanom Ghebreyesus, WHO Director General, in a recorded statement. "Success stories like Paraguay's show what is possible. If malaria can be eliminated in one country, it can be eliminated in all countries. *"In this video message, WHO Director-General Dr Tedros Adhanom Ghebreyesus commends Paraguay on its achievement and briefly outlines the success factors that enabled the country to become malaria-free.*

In 2016, WHO identified Paraguay as one of 21 countries with the potential to eliminate malaria by 2020. Through the "E-2020 initiative," WHO is supporting these countries as they scale up activities to become malaria-free. Other E-2020 countries in the Americas include Belize, Costa Rica, Ecuador, El Salvador, Mexico and Suriname.

Achieving malaria-free status

From 1950 to 2011, Paraguay systematically developed policies and programmes to control and eliminate malaria, a significant public health challenge for a country that reported more than 80 000 cases of the disease in the 1940s. As a result, Paraguay registered its last case of Plasmodium falciparum malaria in 1995, and P. vivax malaria in 2011.

A five-year plan to consolidate the gains, prevent re-establishment of transmission and prepare for elimination certification was launched in 2011. Activities focused on robust case management, engagement with communities, and education to make people more aware of ways to prevent malaria transmission, and about diagnosis and treatment options.

"Receiving this certification is a recognition of more than five decades of hard work in Paraguay, both on the part of public sector workers, as well as the community itself, who have collaborated time and time again in order to achieve the elimination of malaria," said Dr Carlos Ignacio Morínigo, Minister of Health of Paraguay. "Reaching this goal also implies that we must now face the challenge of maintaining it. Therefore, Paraguay has put in place a solid surveillance and response system in order to prevent the re-establishment of malaria."

In 2016, in the next phase of the elimination drive, the Ministry of Health launched a three-year initiative to build Paraguay's front-line health workers' skills. Backed by The Global Fund to Fight AIDS, Tuberculosis and Malaria, the country strengthened its capacity to prevent disease, identify suspected malaria cases, accurately diagnose malaria and provide prompt treatment – key strategies to tackle the on-going threat of malaria importation from endemic countries elsewhere in the Americas and sub-Saharan Africa.

"Paraguay's success demonstrates the importance of investing in robust, sustainable systems for health, and I'm very pleased that the Global Fund supported this achievement," said Peter Sands, Executive Director of the Global Fund. "We need to remain vigilant and prevent resurgence, but we also need to celebrate this victory."

In April 2018, the independent Malaria Elimination Certification Panel concluded that Paraguay had interrupted indigenous malaria transmission for the requisite 3 years and had the capacity to prevent the re-establishment of transmission. The Panel recommended the WHO Director-General certify the country malaria-free. Courtesy WHO: http://www.who.int/news-room/detail/11-06-2018-who-certifies-paraguay-malaria-free

Kyasanur Forest Disease (KFD) in India

Kyasanur forest disease (KFD) was first detected in India from Shimoga in Karnataka state of India. It is a tick-borne disease of monkeys in nature caused by KFD virus (KFDV) of family Flaviviridae which is highly pathogenic and produces haemorrhagic disease in the infected human beings. KFD is thus a zoonotic disease and occurs in southern India. The disease in the recent years has shown tendency to spread in the western ghats of Maharashtra and Goa besides its known bastion in Karnataka. Alkhurma (AHFV) virus which is variant of KFDV with 89% homology has been detected in Saudi Arabia. This virus causes haemorrhagic fever like KFDV. Both have common ancestry. Homology modelling of KFDV envelop E protein has shown structure of protein envelop is similar to those of other flaviviruses suggesting that the tick-borne virus shares common mechanism of virus-cell fusion. It is suspected that KFDV may be silently persisting in many parts of Indian subcontinent. Recently increasing number of KFDV confirmed cases have been detected from Karnataka, Maharashtra and Goa despite routine vaccination, suggesting insufficient efficacy of the current vaccine protocol. There is need for rapid diagnostic kit as well as effective vaccine for KFD than the one existing.

Dengue

Aedes mosquito borne dengue is becoming a major global threat as its incidence in last decade has increased several folds. Traditional methods of *Aedes* population containment such as application of insecticides and source reduction of the breeding habitats have their limitations and have not been able to contain the disease transmission. In the recent years trials have begun with *Wolbachia* infested *Aedes aegypti* populations which control the virus replication. *Wolbachia* is inherited by *Aedes aegypti* from one generation to another efficiently and cause cytoplasmic incompatibility in the host. Such *Aedes* populations are shown to be inhospitable to the Dengue viruses (DENV). Genetically modified *Aedes aegypti* strains have also been developed and are under field evaluation for the containment of vector populations and for reversal of alarming disease trends. More about dengue can be read by visiting http://www.eliminatedengue.com/our-research/Wolbachia

Chikungunya

Chikungunya for the first time was identified in Tanzania in 1952. Like Dengue the vector of Chikungunya is *Aedes aegypti and Aedes albopictus*. The name Chikungunya is derived from a word in Kimakonde language, meaning to become contorted. This is because the disease causes extensive debility including bent posture, pain and inflammation in the joints. Chikungunya is most prevalent in Asia, Africa and India. In the year 2015 there was extensive outbreak of chikungunya in Caribbean islands, Latin America and the United States of America. Over 1.3 million cases and about 200 deaths were reported during these outbreaks. Chikungunya is a viral disease (Family Flaviviridae) transmitted to human by infected bite of *Aedes aegypti* mosquito similar to Zika and Dengue disease. Being a viral disease, there is no specific treatment. The after effects of disease could last from weeks to several months. The disease in Kerala state of India during 2006-2009 was so rampant that it crippled all members of many affected families and led to social problems as incomes and daily household routines including studies of children and occupation of adults were severely hampered. Indian Army's help was taken by the local administration to quell the epidemic in Kerala. In addition to traditional control of vector, newer strategies such as Wolbachia and CRISPER based vector control is gaining ground as these new strategies are under field testing. For more please visit http://www.who.int/news-room/fact-sheets/detail/chikungunya

Japanese encephalitis

Japanese encephalitis virus (JEV) is a flavivirus related to dengue, yellow fever and West Nile viruses, and is spread by *Culex vishnui* group of mosquitoes (*Cx. vishnui, Cx. pseudovishnui* and *Cx. gelidus*) in India. Pigs and birds (cattle egrets and Paddy Herons) are the amplifying hosts. Besides India, JEV is the main cause of viral encephalitis in many countries of Asia with an estimated 68 000 clinical cases every year. Although symptomatic Japanese encephalitis (JE) is rare and its occurrence is sporadic, the case-fatality rate among those with encephalitis can be as high as 30%. Permanent neurologic or psychiatric sequelae can occur in 30%–50% of those with encephalitis. Children are the worst affected. 24 countries in the WHO South-East Asia and Western Pacific regions have endemic JEV transmission, exposing more than 3 billion people to risks of infection. There is no cure for the disease. Treatment is focused on relieving severe clinical signs and supporting the patient to overcome the infection. Safe and effective vaccines are available to prevent JE. WHO recommends that JE vaccination be integrated into national immunization schedules in all areas where JE disease is recognized as a public health issue. Vector control by residual sprays in affected areas has limitations.

Leishmaniasis

Currently India is home for 40% of the cases of Visceral Leishmaniasis (caused by *Leishmania donovani* transmitted by phlebatomine flies known as sandflies) reported in the world. Cutaneous Leishmaniasis caused by *L. tropica* and *L. major* is also prevalent especially in Rajasthan and Punjab. Post Kala Azar Dermal Leishmaniasis (PKDL) is also showing increasing trend. The disease was targeted for elimination in 2015 in its geographical areas of distribution which are primarily Bihar, Eastern UP and Western West Bengal Districts. Some contiguous districts of Nepal and Bangladesh are also affected. Commonly called Kala Azar, the disease was almost eradicated during malaria eradication era in 1950s and early 1960s from India primarily under the impact of DDT spray. The disease causes significant economic burden to the affected families, communities and the nation. Hence eradication efforts need to be stepped up considering its limited distribution in the country. India has made significant progress toward KA elimination in the recent decades.

Important upcoming Meeting

World Malaria Congress

1st Malaria World Congress is being organized in Melbourne 2018 with theme "to unite to eliminate malaria" https://www.malariaworldcongress .org/

SOVE Golden Jubilee Meeting

SOVE 48th Annual Conference will be held in Yosemite National Park, California from 7th -11th October, 2018 (www.sove.org/SOVE%20folder/conference.html)

European-SOVE

e-SOVE Annual meeting will be held in Palermo Italy from 22nd - 26th Oct. 2018 (http://www.sove.org/European%20SOVE%folder/greece main.html)