

NAV News Letter

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III INTERNATIONAL SYMPOSIUM ON VECTORS AND VECTOR BORNE DISEASES

The III Symposium on Vectors & Vector Borne Diseases was organised by the National Academy of Vector Borne Diseases from 29th May to 1st June, 1998 at Hotel Toshali Sands, Puri, Orissa. Sri Niranjan Pattnaik, Hon'ble Minister for Industries, Orissa inaugurated the Symposium and presented prestigious awards of the Academy to Dr. V.S. Chauhan, eminent scientist of International Centre for Genetic Engineering & Biotechnology, New Delhi and to Dr. V.K. Dua of Malaria Research Centre, Haradwar.

The Symposium started with the welcome address by Dr. A.P. Dash, Director, Institute of Life Sciences, Bhubaneswar & the Secretary General of the Academy. Dr. A.V. Kondrachine, Chief of Malaria Control of the World Health Organisation, Geneva, Switzerland delivered the plenary lecture on "Problems in Malaria Control—Global Scenario". In his address Dr. Kondrachine

emphasized that Malaria is by far the World's most important Vector Borne Disease. Every year it causes clinical illness, often very severe in 300 to 500 million people and 1.5 to 2.7 million of whom die. Besides 200 million of the world's total population is still exposed to malaria risk.

Dr. Kondrachine further stressed that ninety percent of malaria cases and deaths occur in Africa (South of the Sahara) mostly among young children. It is estimated that malaria claims more than 100,000 lives per year elsewhere in the world and deaths occur in all age groups. The total number of cases recorded outside tropical Africa is approximately 5 million per year but the actual number is estimated to be at least four times as high. About 80% of these cases are found in Asia where extremely severe parasite resistance to drugs has developed in the Indo-Chinese peninsula. With the exception of certain Indian states, progress in Malaria control has been slow in the endemic countries of the Indian subcontinent during the past few years.

He also informed the gathering that considering the magnitude of the problem, the WHO in South-East Asian Region (including India)

adopted the new malaria control strategy endorsed by the Ministerial conference on Malaria control convened by WHO in Amsterdam in 1992. The strategy is based on early diagnosis and prompt treatment of malaria through PHC system, implementation of selective prevention measures, including vector control, prevention and control of epidemics, extensive capacity building and operational research to support the above activities. By 1995 all member states were implementing the new strategy through this National Malaria Control Programmes. The major constraints affecting the rapid implementation of the Global strategy include the following :

There is a false but popular image as well as the misleading notion that (i) malaria control is a vertical programme, (ii) an impact on morbidity and mortality cannot be made with existing tools, (iii) Malaria control is the some responsibility of the health sector and (iv) Malaria in Africa is uniform and can be controlled by a "magic bullet".

These misconceptions of the Global strategy have contributed to reduce political and financial commitment at the local, national and international levels.

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Consequently, the expected level of accelerated implementation of malaria control efforts particularly in Africa has not been realized — because at the lack of funding necessary to support both the national control programmes and research for the possession of new tools and approaches.

In most malarious countries there is a shortage of people with knowledge of malaria and the planning and management of control.

The worsening problems of drug resistance in many parts of the world and the limited number of antimalarials available have led to increasing difficulty in producing adequate disease management.

There is a need to improve intersectoral collaboration as well as collaboration between countries with similar control problems. Surveillance systems need to be improved for successful programme implementation and are the key to improve information exchange.

There is a limited national capability for operational research to support and evaluate control activities as well as limited commitment in the private sector to develop new tools for malaria control, said Dr. Kondrachine.

In his Presidential address, Dr. V.P. Sharma gave some vital statistics which profoundly affect the transmission of communicable Diseases. In 1991 India's Population was 846 million and at present it stands at over 970 million. The urban population increased @ 26% from 62 m. in 1951 to 217 m. in 1991. The urban population is projected to cross 300 million in the year 2000.

Vector borne diseases hit the poor sections of the society and 1/3rd of the world's poor lives in India; and 44% population of India lives in absolute poverty. It is noteworthy to mention that the 1995 World Health Report mentions a new category of disease in its International Classification of Diseases (ICD) called Z 59.5 which stands for "extreme poverty". In India as many as 135 million people are denied access to primary health care, 226 million are without safe drinking water, and 640 million have to do without basic sanitation facilities and about 62 million children under the age of five are malnourished; and about 30% of the infants born in India weigh 2500 grams, which is WHO's cut off level with low birth rate with lower chance of survival. World Bank puts India in the 142nd position among 174 nations in terms of per capita income.

Having said that Dr. Sharma started with a positive note and shared the excitement with all the participants that this year we have reported zero case of guinea worm. India has eradicated this dreadful helminthic infection and would be certified soon by the WHO. This is yet another achievement after the eradication of small pox. Yaws and leprosy are next on the list of eradication. A chemotherapeutic vaccine developed under the auspices of the Department of Biotechnology, Government of India reduces treatment schedule to about half or less and completely resolves lesions and the treatment is completely free of any side effects. A joint initiative between the WHO and the Pharmaceutical company, Smith Kline Beecham is aimed to

eradicate lymphatic filariasis by 2020. To achieve this goal extra money and more people to support the programme, as well as sufficient quantities of drug albendazole, will be provided free of cost. Prime Minister of Japan has announced Hashimoto Initiative "Global Parasitic Disease Control" and preparations are being made to launch this initiative. The opportunities to do good science and good to the society are immense and so are the challenges.

He then turned to malaria, a disease which has re-emerged and engulfed 3/4th of the country. Government of India is spending nearly Rs. 1400 million annually i.e. ca. 30% health budget on one disease alone plus the states contributing an equal amount except NE states. Economic loss due to malaria in the country is estimated to be about US \$ 1 billion. This does include the losses due to rejection of export which is an enormous amount and for which reliable figures are not available. NMEP reports about 3.0 million malaria cases annually, of which 35-40% constitute *P. falciparum* infections. Deaths due to malaria have also increased to >1000 annually. These figures only provide trends and the true incidence remains hidden. Malaria outbreaks witnessed in the 1980s have spread to larger areas and malaria epidemics now cover vast areas such as the western Rajasthan followed by an epidemic in eastern Rajasthan, Indo-Bhutan border, Haryana, Orissa and focal outbreaks in other endemic regions. Malaria control strategy is transient and insecticides have started producing diminishing returns due to resistance and exophily in

mosquitoes. To overcome this problem one has to resort to increasingly expensive chemicals which also have a limited period of effectiveness in the field. The killer parasite *P. falciparum* has become resistant to the anti-malaria drugs. Resistant *P. falciparum* is multiplying and spreading making diagnostics and treatment difficult and expensive. There are now reports of resistance in *P. vivax*. A revised malaria control strategy was launched in 1995, and in 1998 malaria control in 100 predominantly *P. falciparum* districts is being strengthened by the World Bank assistance of US \$ 215 million for 5 year period. Enhanced Malaria Control Project under the World Bank financing envisages emphasis on the non-chemical methods of malaria control, and we shall see more community based approaches to malaria control, new technologies, emphasis on insecticide treated mosquito nets supplemented by the bioenvironmental interventions. Place of insecticides in malaria control would be minimized. It is worth reminding that successful malaria control has been demonstrated many times and the disease can still be controlled but to maintain malaria free status in the endemic tropical countries is a formidable challenge. New programmes are being launched to bring malaria under control. These are the Multilateral Initiative in Malaria; New World Bank Proposals; Harare Declaration on Malaria Prevention and control by the Organization of the African Unity; Hyderabad Declaration on Malaria; Hashimoto initiative; and Roll Back Malaria (RBM) initiative of the WHO etc.

The problem of malaria is getting mixed up with the Dengue Hemorrhagic Fever (DHF) particularly in urban areas. Dengue cases with hemorrhagic manifestations have increased since 1991. DHF appears at the time of *falciparum* malaria making diagnosis difficult. In 1996 from August to November, 1996 Delhi witnessed an outbreak of DHF with over 900 admissions and about 400 deaths & with case fatality rate of 4.3 DHF cases occur every year in Delhi. The vector *Ae. Aegypti* has wide distribution in urban areas of country.

Ae. Aegypti is now making inroads in to rural areas along with provision of safe drinking water supply. Vector surveillance is still not in place in the country. DEN/DHF control should rely on environment management, sanitation and community participation. *Ae. aegypti* breeds in solid waste and in India urban population generates 100,000 tons solid waste every day or 36 million tons every year. The widespread presence of *Ae. aegypti* is worrisome as this mosquito is also the vector of Yellow Fever. Fortunately yellow fever does not occur in India, but we have a big responsibility to guard the country from the entry of this dreadful viral infection. Yellow fever virus is closely related to DEN/DHF virus. It is transmitted by *Ae. aegypti* and *Ae. albopictus*. Vulnerability and receptivity of Indians to yellow fever virus is rated high because of i) high susceptibility of Indian human population and common brown monkey species, ii) unprecedented increase in the build up of *Ae. aegypti* populations due to urbanization and prevalent water storage practices, iii)

large scale international traffic by air/ sea in respect of both passengers and cargo which can facilitate importation of virus through either infected persons or vectors, iv) inadequate health checks at the international air & sea ports; and v) deficient *Aedes* control programme at the ports. Preventive vector control, surveillance and strict health checks at the ports of entry should be instituted to eliminate the possible risk of yellow fever entry in to the country.

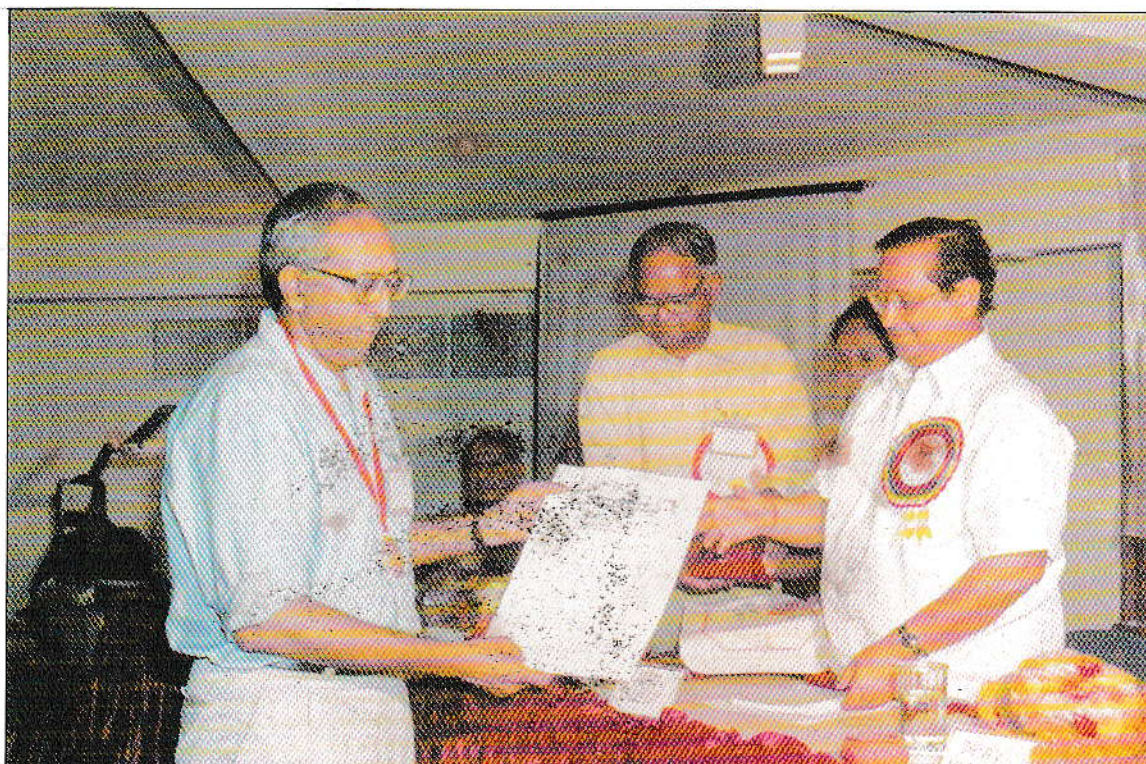
Prior to 1970, Japanese Encephalitis (JE) was reported from only in south India. Since 1973, large scale outbreaks have occurred in the northern and north eastern parts of the country, and by 1995 JE spread to western coast of India and northern western plains of Punjab & Haryana. The annual incidence for the country now runs in to several thousand cases. The case fatality rate averages around 35 with serious neurological problems in those that survive the attack. *Culex* mosquitoes belonging to *Culex vishnui* group (*C. vishnui*, *C. pseudo vishnui*, and *C. tritaeniorhynchus*) are the major vectors of JE. Vectors breed in rice agro-ecosystem. *Ardeola grayii* (Pond heron) and *Babulous ibis* (cattle egret) are the reservoir host of JE virus in a zoonotic cycle. In the human cycle, pigs act as amplifier host whereas man is the dead end. JE control requires intermittent irrigation in rice fields to control vector breeding and immunization of populations at risk. There is again no satisfactory answer to the control of JE, a big upcoming challenge to scientists working in public health in the country.



Inaugural ceremony of III Symposium on Vector Borne Diseases.
From L to R : Professor M.K.K. Pillai, Dr. S. Pattanayak, Dr. V.P. Sharma, Sri Niranjana Patnaik, Hon'ble Minister for Industries, Orissa (Chief Guest), Dr. A.V. Kondrachine from WHO, Geneva and Professor A.P. Dash



A portion of audience.



Dr. Chauhan, Director, ICGEB, New Delhi, receiving the Academy's Award for his contribution on Molecular Biology of Vector Borne Diseases.



Dr. Dua receiving the Academy's Award for his contribution of Environmental aspects of Vector Borne Diseases.

Filariasis caused by *Wuchereria bancrofti* is transmitted by *Culex quinquefasciatus* mosquito. It is endemic in urban areas, and with the urbanization of villages, it is now spreading into rural areas. The mosquito is ubiquitous and breeds all over particularly in polluted water. Filariasis is now widespread in the country and as of 1996, 302.87 rural & 108.78 million urban population is at risk of contracting infection. There are already 26.42 million infected and 20.40 million chronic cases in the country. Filariasis control is an urban programme only, and anti-larval methods are not proceeding desired impact on the occurrence and spread of the disease. WHO has declared filariasis as the eradicable disease, and the challenge before us is organizational as most of the technical problems seems to be resolved.

DDT spraying under NMEP eliminated Kala-azar in the 1960s. However with the withdrawal of DDT, Kala-azar resurged in Bihar by 1970s. Kala-azar has spread to west Bengal and eastern U.P. districts and spreading further in to Assam. Disease incidence is not known but in 1977, 70,000 cases and 4500 deaths were reported. Drugs to treat Kala Azar are spurious, substandard, poor compliance and parasite has become resistant to antimony compounds. In endemic areas this is a major cause of misery of the poor people. Sanitation and selective spraying provides lasting control of Kala azar, but lack of these measures is the principal cause of Kala azar endemicity. Residual insecticidal spraying is an effective method to control Kala azar.

The last confirmed case of human plague was reported in 1966. Plague outbreak in 1994 was a warning signal of an imminent possibility of plague surfacing again from any of the main foci in the Northern, Southern, and Central India. Often major ecological disturbances caused by colonization, deforestation, and natural disasters etc., expose and spill zoonotic reservoirs of animals to humans. Long term planning, risk assessment before exploitation of hinterland and suitable ecological control approaches are the safeguards to prevent future outbreak.

Dr. Sharma raised some issues relevant to the control of malaria and other vector borne diseases. The foremost guiding principle is to apply the existing knowledge in the control of diseases. We already know enough in many areas but the translation of this knowledge in to practical application is lacking. Let me give you some examples. Environmental management methods have successfully controlled malaria in the past and there are several examples such as the TVA, Malaysia, Indonesia, Caribbean island etc. Control of stable malaria in India by clearing jungles during the second world war in Manipur station is another classical example. Malaria control using the insecticide treated mosquito nets by China and again use of medicated salt to control filaria in China are examples of what can be achieved by the already available technologies. There is a need of retrospection and all out efforts to maximize the return from the investments and knowledge generated in the past. This is

important as the new technologies, as and when they will be available would depend heavily on their proper integration and delivery by the health care system.

Although we have one primary health centre for 30,000 population but epidemics build-up slowly without the knowledge of local health officials. The first report is flashed invariably by the media giving details of how people are dying and the status of the availability of drugs.

Population explosion and developments under the 5 year plans are constantly changing our environment making it receptive for the proliferation of vectors. Incorporation of health safeguards can greatly mitigate these newly established havens. Unfortunately Health Impact Assessment in the Environment Impact Assessment (HIA in EIA) is the most neglected field. Today >50 malaria is generated as a result of human activity. This is true for filaria, JE and DHF. Scientists definitely would like to see developments without destruction i.e. preventive safeguards should be in place. Unfortunately this has been neglected for too long and now we lack experienced staff and an awakening to ensure problem free development.

Scientists have also ignored sociological determinants of the diseases. It is now being realized that without the full knowledge of sociological factors impeding control it would be difficult to manage disease vector control. We know that hard core areas comprising of about 200 million population living in forests with predominantly *P. falciparum* have not responded to any control

measures so far. It is time that we change our attitude and work in harmony with these communities, develop appropriate technologies suitable for local needs and work in their partnership.

Another equally important aspect are the economics of control and the cost of diseases to the household economy and the individuals. There are very few studies that bring out the cost effective and cost benefit ratios of field operations before attempting to select the control strategy. Health economists must join hands with the control organizations to guide the programme in developing cost effective and sustainable tools and strategies.

Some vector control activities can be linked with income generating schemes such as the edible fish productions, plantation in the waste land to eliminate mosquito breeding

sites; and with the environment improvement schemes such as the solar cooker, smokeless Chulha and other alternate sources of energy. At the same time cottage industries can be encouraged to improve income in the rural areas. Improved rural economy would bring about better health and literacy, the two important parameters of development.

Dr. S. Pattanayak, Consultant, WHO highlighted importance of various vector borne diseases in India. Prof. M.K.K. Pillai from Delhi University also presented and chaired a scientific session.

The Academy's prestigious award winner Dr. V.S. Chauhan from ICGB, Delhi gave a brief outline on current status of Malaria Vaccine Research while Prof. Y.D. Sharma from AIIMS, Delhi gave a detailed account on genetic diversity among

field isolates of *P. falciparum*, the dangerous malaria parasite.

Sri Nirajan Pattnaik, Hon'ble Minister for industries said that with 3.8% of India's population, Orissa contributes of 18% of total malaria cases, 35% of *P. falciparum* cases and 40 % of malaria deaths of the country. Orissa is also equally endemic for filariasis. Therefore, selection of the symposium venue in Orissa is most appropriate. Though we know the cause of the disease, the prevention & control methods of these diseases, we fail to control these due to lack of appropriate efforts from all the sector, said the Minister.

The symposium was attended by nearly 100 eminent scientists. The recommendations of the symposium is being sent to Govt. of India.

IMPORTANT ACHIEVEMENTS BY LIFE MEMBERS

FICCI CASH AWARD 1997-98

DR. V. P. SHARMA, NEW DELHI

In recognition of individual initiative in LIFE SCIENCES including AGRICULTURE

Dr. V.P. Sharma, President of the Academy, New Delhi shares the 1997-98 FICCI Cash Award in Life Sciences, including Agriculture, with Dr. Jayaraman Gowrishankar, Scientist, Centre for Cellular & Molecular Biology, Hyderabad. Dr Sharma's scientific contributions deal with basic studies on vector biology, genetics and control, on the one hand and epidemiology and bioenvironmental control of malaria in different parts of the country, on the other. Dr. Sharma is a recipient of Padmashree award in 1992. The Cash Award of Rs.50,000 is presented to Dr. Sharma.

Prof. Md Hafeez, Executive Member of the Academy, took over as Principal, College of Veterinary Sciences, Acharya N.G. Ranga University of Agriculture, Tirupati.

Dr. A.P. Dash, Secretary General of the Academy, has taken over as Director, Institute of Life Sciences, Bhubaneswar-751 007, Orissa with effect from 2nd March, 1998.

NATIONAL ACADEMY OF VECTOR BORNE DISEASES

(Registered under Societies of Registration Act XXI of 1860)

The National Academy of Vector Borne Diseases is a nonprofit scientific/academic organisation established in 1994 in India with more than 100 eminent senior scientists from 20 different States of the country. The Academy itself came into existence as a spin off from the recommendations made by a panel of experts from both India and abroad during the proceedings of the **"First International Symposium on Vectors and Vector Borne Diseases"** held at the Regional Medical Research Centre, Bhubaneswar in November, 1994.

The National Academy of Vector Borne Diseases (Academy) is a registered pioneering organisation championing the cause of promotion of knowledge in vectors and vector borne diseases. The Academy published the proceedings of the International symposia on vectors and vector borne diseases in September, 1995 and 1997. The Academy also publishes a **"News Letter"** in every year which disseminates timely news of the Academy. The Academy also organises national/international symposia on Vectors and Vector Borne Diseases in alternate years. The Academy also co-sponsored the II Global meet on parasitic diseases held at Hyderabad during 17-22 August, 1997.

Membership is open to any individual interested in any aspect(s) of Vectors and Vector Borne Diseases (i.e., epidemiological, control, clinical, entomological, parasitological, experimental, sociological, economics and cost-benefits and cost-effectiveness of control methods, etc.). Following memberships are available :

Annual Member	:	Rs.100/- per annum (US \$ 10.00 for scientists abroad)
Student Member	:	Rs.50/- per annum (US \$ 5.00 for scientists abroad)
Life Member	:	Rs.500/- (at present), one time (US \$ 50.00 for scientists abroad)
Institutional Member	:	Rs.20,000/- (one time) (US \$ 2000.00 for institutions abroad)
Patron	:	By donating more than Rs.20,000/- or US \$ 20000.00 for persons abroad.

Contact Address : Dr. R.K. Hazra, Treasurer, National Academy of Vector Borne Diseases, Regional Medical Research Centre, Bhubaneswar-751 016, India.

- The Life members of the Academy are requested to send their important achievements, if any, from time to time to Dr. (Mrs.) Namita Mahapatra, Joint Secretary, National Academy of Vector Borne Diseases, Regional Medical Research Centre, Bhubaneswar-751 016 for possible inclusion in the News Letter.
- Members are also requested to intimate about their change of address, if any, to Dr. Mahapatra in the above address.
- Mini review articles (2-4 typed pages) of good quality in any aspect of vector borne diseases are invited from members of the Academy for possible use in the News Letter.
- Members are requested to renew their Annual Membership before 31.12.1997.

NEW LIFE MEMBERS

1. **Dr. Arunachalam N.**
Asst. Director, C.R.M.E.
4, Sarojini Nagar,
Chinna Chokikulam, Madurai-2
2. **Dr. Biswas Gautam**
Deputy Director, N.M.E.P.
22-Shamntha Marg, Delhi-110 054
Res: 162, Kailash Hills
New Delhi-110 065
3. **Dr. Das, M.K.**
Deputy Director (Sr. Grade)
Regional Medical Research Centre
Chandrasekharapur
Bhubaneswar-751 016
4. **Dr. Deshpande, S.G.**
Entomology Section
National Chemical Laboratory
Pune- 411008
5. **Ms. Dixit Vandana**
S.O.S. in Life Science
Pandit Ravi Shankar University
Raipur (M.P.)
6. **Dr. Hazra Banasri**
Dept. of Pharmacy
Jadavpur University
Calcutta-700032
7. **Prof. Kabilan, Lalitha**
Deputy Director
Centre for Research in Medical
Entomology
4, Sarojini Nagar, Chinna Chokikulam
Madurai-652 002
8. **Dr. Kanungo, D.**
Jt. Director & Head
Central Insecticides Laboratory
N. H.-IV, Faridabad-121 001
9. **Mr. Kanta Rao, V.L.**
Chief Entomologist,
Vector Control Division
Pest Control (I) Limited
213, 214 Bhanu Enclave
Beside E.S.I.
S. R. Nagar, Hyderabad-38.
10. **Ms. Mohanty Madhuchhanda**
Regional Medical Research Centre
Chandrasekharapur
Bhubaneswar-751 016
11. **Mr. Narayanaswamy, G.**
Senior Entomologist
A 11/1, Deani Quarters
New Nathan Road, Madurai-625 002
12. **Dr. Raina, V. K.**
Deputy Director, N.I.C.D.
22-Shamnath Marg, Delhi-110 054
13. **Dr. Rajendran, C.**
Chief Entomologist
259, Anna Salai
Directorate of Public Health and
Preventive Medicine
Chennai-600 006
14. **Dr. Singh Jagbir**
Sr. Lecturer, Department of Zoology
Punjab University
Patiala-147 002, Punjab

ANNOUNCEMENTS

BEST SCIENTIST AWARDS

The Academy has instituted the following awards since 1997 :

1. Best Scientist award related to excellence in molecular aspects of Vector Borne Diseases. Dr. Shobbona Sharma, Senior Scientist, TIFR, Mumbai and Dr. V.S. Chauhan, Director, ICGEB, New Delhi are the recipients of the award in 1997 and 1998 respectively.
2. Best Scientist award for outstanding contributions in environmental aspects of Vector Borne Diseases. Dr. Sarala K. Subbarao, Director, MRC, Delhi and Dr. V.K. Dua, MRC Field Station, Haradwar are recipients of this award in 1997 and 1998 respectively.

The deadline for receiving nominations for the above awards is 31st of July every year. Nominations/ applications with biodata, list of publications, copies of five important publications and a summary of significant contributions in the field (about 300 words) may be sent to Dr. V.P. Sharma, Malaria Research Centre, 20-Madhuban, Vikas Marg, Delhi-110 092 before 31st July.

Few copies of the Proceedings volumes of the First and Second International Symposia on Vectors and Vector Borne Diseases held in November, 1994 and March 1997 are available. Interested persons/institutions are requested to send Rs.550.00 (inclusive of postal charges) by M.O. or bank draft drawn in favour of "The Treasurer, National Academy of Vector Borne Diseases" to Dr. R.K. Hazra, Treasurer, National Academy of Vector Borne Diseases, Regional Medical Research Centre, Bhubaneswar-751 016, Orissa, India; for each proceedings.

NATIONAL ACADEMY OF VECTOR BORNE DISEASES

(Regd. No. 19767/199 of 1994-95 under Societies Registration Act XXI of 1860)

(Regional Medical Research Centre, Bhubaneswar - 751 016, India)

MEMBERSHIP FORM

(Kindly fill in the form and send it to Dr. A.P. Dash, Regional Medical Research Centre,
Bhubaneswar-751 016, Orissa, India)

Phone : (0674) 440444 Telex : 0675-491 RMRC IN

1. Name :
2. Designation :
3. Date of Birth :
4. Academic Qualification :
(Only Post-Graduate degree)
5. Address
a. Present :
(For correspondence)
Phone : Fax : Telex :
b. Permanent :
6. Experience : Research :
(Total No. of years) Teaching :
Management :

7. Type of Membership & Fee : (Fee sent by Draft/M.O.)

Membership	Period	Rs.	For Scientists abroad US \$
Student Member	Annually	50	10
Ordinary Member	Annually	100	20
Life Member	Life time	500	50
Institutional Member	Life time	20,000	2,000
Patron	Life time	By donating more than 20,000	By donating more than US \$ 2,000

The membership fees are likely to be enhanced from 1st April, 1999. The membership fee may be sent by bank draft (drawn in favour of Treasurer, National Academy of Vector Borne Diseases, Bhubaneswar) or M.O. to R.K. Hazra, Treasurer, National Academy of Vector Borne Diseases, Regional Medical Research Centre, Bhubaneswar-751 016, Orissa, India.

- Sl. No. 2,3,4 and 6 are not applicable for institutions.

Place :

Date :

Signature