Introduction

The Sikkim Anti-Rabies and Animal Health (SARAH) Programme is a collaborative Animal welfare and Public Health project between the Department of AH,LF&VS (Government of Sikkim), Fondation Brigitte Bardot (France), Australia-based NGO, Vets Beyond Borders (VBB), and SSPCA.

The achievements and benefits of a state-wide animal birth control and anti-rabies (ABC/AR) and animal welfare programme are now widely accepted in Sikkim. The SARAH Division continues to achieve its objectives and to champion animal welfare throughout the state of Sikkim.

Key Achievements

- Animal Birth Control surgeries and anti-rabies vaccinations continued throughout the state.
- Thirteen thousand animals were vaccinated during the first State-Wide Annual Rabies Vaccination Campaign in September/October 2010.
- There were no reported cases of human rabies in 2010/11.
- There was rapid containment of 2 cases of sylvatic rabies associated with disruption of jackal and fox habitat and economic development.
- A Dog census in East Sikkim was undertaken.
- Public education about rabies was undertaken through schools, meetings and public media.
- The Feral Dog Project/Wild Life Conservation Programme continued in the Cold Desert and National Park regions in collaboration with the Dept of Forest, Environment and Wildlife Management (FEWLM).
SARAH provided medical, surgical and hospital care to hundreds of sick and injured domestic animals and wildlife.

Data collection for a state-wide survey on Knowledge, Attitudes and Practices about rabies was completed. Data analysis is underway.

Volunteers from around the world worked in the programme for a total of 47 weeks and also provided training to local staff.

Surgical training was provided to 3 Sikkimese new graduate veterinarians

SARAH Local Coordinator, Dr Thinlay Bhutia gave key-note address on Animal Welfare at Gandhi Jayanti, 2010.

SARAH Programme Manager, Dr Helen Byrnes, gave presentation on SARAH Programme at International One Health Congress, Melbourne, Australia, February 2011

SARAH invited to speak at Federation of Indian Animal Protection Organisations, Chennai, January 2011.

Three SARAH paravets accredited as Master Animal Handlers by AWBI.

Two SARAH paravets invited to assist with dog catching, handling, vaccinating and microchipping in project trial on nonsurgical reproduction technology in Raipur, Chattisgarh.

SARAH continues to act as animal advocate and the need to continue to protect and improve animal welfare of all animals in the development of Government policies.
Sikkim Anti-Rabies and Animal Health Programme

"Achievement through cooperation"

Summary of Work SARAH Program

<table>
<thead>
<tr>
<th></th>
<th>2010/2011</th>
<th>2009/2010</th>
<th>Total since start of program</th>
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<tbody>
<tr>
<td>ABC</td>
<td>3283</td>
<td>2797</td>
<td>21659</td>
</tr>
<tr>
<td>ARV*</td>
<td>16807</td>
<td>4941</td>
<td>36722</td>
</tr>
<tr>
<td>Major Surgeries</td>
<td>54</td>
<td>n/a**</td>
<td>n/a</td>
</tr>
<tr>
<td>Days Hospitalisation</td>
<td>1935</td>
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<td>Medical Consultations</td>
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<tr>
<td>Hospital Inpatients</td>
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<td>185</td>
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</tr>
<tr>
<td>Av. No. days hospitalisation per animal</td>
<td>11.1</td>
<td>12.4</td>
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<tr>
<td>Gangtok ABC</td>
<td>2162</td>
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<td>Mobile Camp ABC</td>
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<tr>
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<tr>
<td>Mobile Camp ARV</td>
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<tr>
<td>ARV Campaign</td>
<td>13000</td>
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</table>

*includes Annual Vaccination Campaign
**data not available

Animal Birth Control

We achieved over 3000 desexings in 2010/2011, which was an increase on the previous year. The numbers of dogs being desexed is not decreasing at this stage although it was expected to occur. This is partly due to increasing human population in Sikkim. Another important factor was that we undertook a dog census when undertaking the rabies vaccination campaign so that we were able to identify and subsequently target localities with high numbers of non-desexed dogs.
Annual Rabies Vaccination Campaign

Over 16,000 doses of rabies vaccine were administered by SARAH during the year. Thirteen thousand doses were administered during the first State-wide Annual Rabies Vaccination Campaign in September/October 2010.

The World Health Organisation advises that it is necessary to vaccinate 70% of the total dog population in a short period of time, and maintain that immune coverage. Dr Gongal of WHO recommended that SARAH undertake an annual parenteral mass rabies vaccination programme over 1-5 weeks and that the ABC programme be continued for the remaining eleven months of the year. A top-up vaccination programme for puppies less than 6 months age should be conducted 6 months from the mass programme. In accordance with that recommendation, the mass vaccination campaign was undertaken. The top-up vaccination programme for puppies less than 6 months age is planned for April 2011 in conjunction with a Pet Show and World Veterinary Day.

The vaccination campaign required the cooperation of Panchayats and our Department of Animal Husbandry veterinarians and paravets located in the villages. SARAH vaccinating teams worked with departmental staff and tried to visit every village in the State. Advertising was undertaken on TV, radio, newspapers and through the local Panchayats. In every village, the opportunity was taken to make people aware about Rabies control and prevention, dog bite prevention and management and animal welfare. We were very pleased...
to achieve the 13,000 vaccinations in the period, for the logistics required to run the campaign are considerable. Many lessons were learnt and we aim to achieve 25,000 vaccinations during the next campaign. The preparation has commenced already with planning meetings with the Panchayats and Department staff for the 2011 campaign and ongoing public education about the annual vaccination campaign.

Rabies in Sikkim

There were no cases of human rabies reported in Sikkim, however two canine rabies incidents occurred. Four cattle died from rabies in these incidents causing considerable economic loss to the farmers. SARAH is critical in enabling a prompt response to suspect rabies cases in dogs and livestock in Sikkim.

The two rabies incidents occurred in May 2010 near the site of airport construction where there has been disruption of Fox/Jackal habitat and an increased number of fox/jackal dog bites. In the village of Machong, a suspect rabies dog bit a number of other dogs and livestock. One week after the incident in Machong, another rabies incident occurred in nearby Thekabung. The suspect dogs were captured and died within a few days. The in-contact dogs were captured, held in isolation for a period of 28 days, and post exposure rabies vaccination given. At the end of that period, no further dog deaths had occurred (and all dogs had gained weight). The dogs that were not desexed were surgically desexed and then all dogs were released back into the community. Livestock in the locality were also given rabies vaccine. One hundred doses of rabies vaccine were given to dogs, cattle and goat over a period of 3-4 weeks. A large public meeting was held for rabies awareness where more than 100 people participated.

Due to the continued efforts of the SARAH programme, many of the stray, village and pet dogs are now vaccinated. The local, controlled population of dogs acts as a first line of defense against sylvatic rabid animals and wildlife intruders. If a dog does become rabid, control measures can rapidly be implemented to prevent further spread of the disease. Had there been no proper preparedness of the department the impact could have been devastating.

Animal Welfare

SARAH provides a valuable service in the treatment of sick and injured dogs and cats. Pet and stray animals are brought to the clinic for treatment. Almost 600 medical consultations were undertaken in 2010/2011, and hospital care was provided for over 140 animals. Each hospitalised animal required an average of 12 days hospitalisation.
In addition to the animal birth control surgeries, a number of other major surgeries were performed including orthopaedic surgeries (bone fracture repairs and limb amputations), repair of aural haematomas, caesarean sections, surgical treatment of pyometra, urethrostomies and tumour removals.

Following the appointment of former SARAH veterinarian Dr Karma Doma as Veterinary Officer of the Himalayan Zoological Park, injured wildlife are now mostly treated at the Park although SARAH continues to see a number of sick and injured birds.

In addition to the rabies vaccination programme, SARAH has also wormed and vaccinated puppies for distemper/hepatitis/parvo/lepto wherever possible. We have been fortunate to have had no major parvovirus outbreaks this year although parvovirus continues to circulate throughout Sikkim causing illness and puppy death.

SARAH continues to champion the welfare of all animals including livestock in Sikkim. It is imperative that animal agriculture practices and the welfare of animals should be considered when developing government policies and programmes. Furthermore, policies and programmes that minimize the impact of animal production on the environment should not be at the expense of animals and/or their caregiver’s welfare.

- Dr Thinlay gave the keynote address on The Importance of Animal Welfare in a Prosperous and Developing Sikkim in the context of Gandhi’s love and compassion for animals during Gandhi Jayanti on 2 October 2010. The audience comprised the Hon’ble Chief Minister of Sikkim, Speaker, Dy. Chairman, Planning Commission, other Ministers, Government Officers and invited guests.

- Dr Thinlay addressed the Sikkim Climate Change Workshop on the need to incorporate considerations of animal welfare into climate change and agricultural development policies.
Public Education

SARAH has been working to increase public awareness of rabies and other zoonotic diseases and how to prevent such diseases. The 2 local TV stations, radio and newspapers were used to educate and inform the public. A Doordarshan TV crew accompanied a SARAH team on the rabies vaccination campaign and the resultant 1 hour TV programme was shown during the campaign. On the same TV channel throughout the year, SARAH also contributed to information segments on rabies control, dog bite management and the role of dogs in society, and a segment on cattle disease prevention and husbandry including the need to provide dog proof shedding for livestock to prevent dog bites. A short information segment providing an overview of SARAH activities was also shown on Nayuma TV. The TV segments were broadcast in late afternoon/early evening timeslots to ensure maximum exposure to the farming communities.

Newspapers and local radio are also used to inform people about the Animal Birth Control-anti Rabies Programme. Radio was utilised to advertise the rabies vaccination campaign and a “Radio Phone-In” Question/Answer session was also undertaken during the campaign. Weekly newspaper articles were published throughout the rabies vaccination campaign, and periodically through the year. Regular meetings and briefings are held with townspeople, public leaders, and the army regarding SARAH activities and rabies control.

SARAH veterinarians continued the ongoing programme of school visits (government and private schools) across Sikkim to teach schoolchildren about rabies prevention and control. Essay competitions were held in South and East Districts as part of the rabies vaccination campaign and World Rabies Day activities. Lessons in animal care and the role of animals in our ecosystem (prepared by Fondation Brigitte Bardot) have been incorporated into the School curriculum and primary school texts.
Information brochures in both English and Nepali about rabies and first aid treatment of dog bites are distributed to villagers and officials wherever SARAH activities are undertaken.

**KAP Survey**

Data collection for a survey to assess the Knowledge Attitude and Practice on Rabies and Animal Bites in Sikkim is complete. The objective is to collect information on (1) the knowledge of rabies transmission and prevention; (2) the practices about dog and cat bites; (3) the attitude towards stray dogs; and (4) the pet care attitude in the different areas in Sikkim. The data is being analysed by Dr Malcolm Anderson (Department of Primary Industries and Resources of South Australia) with Professor Michael Reichel, University of South Australia. The results of the KAP survey will provide crucial information to assess the impact of the activities carried out by SARAH as well as to plan the future activities to ensure the local needs (i.e. education, access to treatment) are targeted properly.

**Training and Presentations**

Volunteers from Vets Beyond Borders continued to contribute to SARAH by performing surgery and also by sharing their clinical skills and giving formal presentations to local staff. In 2010/2011 15 volunteers from Australia, USA, and Europe contributed 47 weeks of professional expertise. The imputed value of volunteer professional time and travel costs is 64 Lakh.

SARAH provided surgical training to 3 new Sikkimese graduate veterinarians as part of a programme to improve the clinical and surgical skills of all the veterinarians of Sikkim.

SARAH Programme Manager, Dr Helen Byrnnes, gave a presentation on the SARAH Programme at the 1st International One Health Congress, held in Melbourne, Australia, February 2011. The Congress was hosted by Australia’s national science agency, the Commonwealth Scientific and Industrial Research Organization (CSIRO). Abstracts from the Congress are published in the journal EcoHealth 2011, Volume 7 Supplement 1 and the SARAH abstract outlines the SARAH programme as a successful state-wide anti-rabies programme made possible by collaborative effort and political will.

SARAH was invited to speak at the Federation of Indian Animal Protection Organisations Conference, Chennai, January 2011. Dr Shamsuddhin addressed the Conference on the history and evolution of the SARAH programme and the integration of an animal welfare programme within State Government.
Three SARAH paravets, Dupchen Bhitia, Hissay Dorje, and Phurba Tsering (Bucchu) were invited to assist Dr Mark Johnstone at the Humane Animal Handling Programme organised by VBB Vet-Train in partnership with the Animal Welfare Board of India (AWBI), Municipal Corporation of Gurgaon, Global Wildlife Resources and Brigitte Bardot Foundation.

SARAH

loaned box traps and Y poles, dog nets and other catching materials so that course participants could learn humane techniques for use of this equipment. Dupchen, Hissay and Bucchu are accredited with AWBI as Master Animal Handlers.

SARAH provided 2 paravets on a cost-recovery basis for a 9 day period to assist with dog catching, handling, vaccinating and microchipping in a project trial by Sensetech Inc on nonsurgical reproduction technology in dogs in Raipur, Chattisgarh. The paravets received high acclaim for their animal handling skills and humane approach.

Wildlife conservation

SARAH continues to assist the Department of Forests, Conservation and Wildlife Management in their efforts to save several critically threatened wildlife species such as the Bharal (Himalayan Blue Sheep), Red Panda, Shapi (Himalayan Tahr), Kiang (Tibetan Wild Ass), Snow Leopard and Tibetan Wolf. SARAH works with the Department of Forestry, Environment and Wildlife Management so that problem areas can be identified, and humane, sustainable ABC-AR programmes implemented. ABC programmes are conducted in areas adjacent to wildlife conservation areas in North Sikkim and the Cold Desert and East Sikkim near the bamboo forests in cooperation with the Army and Forestry. The SARAH activity in this area also provides a buffer of vaccinated dogs in the regions to reduce the likelihood of rabies being introduced across national and international boundaries for rabies is endemic in neighbouring Bhutan, China, Nepal and West Bengal.

Thankyou

Our appreciation and gratitude is expressed to Fondation Brigitte Bardot for their generous funding of the SARAH.
Sikkim Anti-Rabies and Animal Health Programme

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programme and to the many volunteers of Vets Beyond Borders.