

sells nearly 100,000 litres of milk every year. The other farmer was Reidar Kjølvik living in Murumoen farm on the shore of Muru Lake. We sat in the shade of a pine-birch forest on a hill slope and listened to his story of failure in sheep farming. After spending many long years as a lumberman in Sweden, Reidar bought the farm with the aim of leaving a prosperous sheep farm as a legacy to his daughter. Twenty years ago, he had 200 ewes, which he grazed on the slopes of Hartkjolen mountain across the Muru Lake. Bear predation was so serious that he now had only 28 ewes kept in an area protected by an electric fence close to his barn. Even here, his sheep are threatened occasionally by bears. Reidar cried as he finished telling us of his unsuccessful career as a sheep farmer. The mournful cries of a loon (*Gavia arctica*) over the waters of the lake gave a touch of sadness to the whole episode, and we had few words to console him. Reidar's wife, as brave as a person could be, kept a cheerful face, and in broken English thanked us for our visit and sharing their problems.

On the day I departed from Steinkjer, the weather was dry, and for the first time I noticed countless seeds of fireweed floating in the air. I remembered the words of Canadian Professor Val Geist, a renowned authority on wild ungulates, who once told me that in Canada, in the past, native Indians timed some of their activities with the phenology of the fireweed. For example, they chose the end of the seeding season to go and hunt moose, which would be in last stages of velvet with a good deposit of fat. Times have changed now, and bulls in velvet antlers are no longer hunted. Norwegians, who have a strong tradition of hunting, fishing and collecting mushrooms and berries from the forest, start hunting moose for a month from the last week of September, when all the bulls are in hard antler. One disturbing report which we received when we were talking to the people of Lierne Municipality was that in one or two locations, the women stopped going to the forest to collect mushrooms and berries when there were reports of bears with cubs. In Norway, the women introduce the children to the forest by taking them along with them on their berry and mushroom picking expeditions. It will be a sad development if women

stop going to the forest and thereby deny the opportunity for the children to learn the ways of harvesting the valuable resources from the forest. As a result of good breeding and protection in Sweden, Norway is bound to have more bears in future. In spite of the best efforts by the Government to encourage people to have more livestock-guarding dogs and electric fences, Norway is bound to have more farmers like Reidar losing out to the bear and other carnivores such as wolves (*Canis lupus*), lynx (*Felis lynx*) and wolverines (*Gulo gulo*), which are also slowly increasing in number and expanding their range. This return of carnivores, nevertheless, should not deter the Norwegian women from collecting delicacies from the forest and introducing their children to the joys and thrills of forests, as the long-term study has clearly demonstrated that the Scandinavian bear is less dangerous to the people than brown bears elsewhere. If the women remain in noisy groups when they wander through the forest, they will be safe in Scandinavian bear country. Along with their children, they will continue to have opportunities to collect mushrooms, berries and watch alarmed moose stampeding through the undergrowth.

Human-Bear Conflict and Acceptance of Bears to the Society

Naim Akhtar

There were four participants from India in 14th IBA conference held at Steinkjer, Norway between July 28-August 3, 2002. In fact, this conference was followed by 3-day field trip in Sweden, organized by Jon Swenson, leader of Scandinavian brown bear project. Days in Sweden were memorable not only for beautiful landscape sceneries and candle light dinners but also for the field demonstration of brown bear radio collaring exercise. As compared to Norway, Sweden has large areas of conifer forests and high population of brown bear (*Ursus arctos*), moose (*Alces alces*), lynx (*Felis lynx*), and rein deer (*Rangifer tarandus*). There is regular practice of wild animal harvesting for three month in a year, for which the Government issues licenses to hunters for hunting limited number of wild animals. Norway and Sweden is well known for

sheep-bear conflict because brown bear is the only major predator there. Farmers leave their sheep for grazing in forest for six months mainly during summer season, which is also the period of bear peak activity and lots of sheep lifting and killing occur during this period. Possession of arms is legal and availability as well, is very easy in Norway and Sweden and farmers kill many wild animals either in self defense or while protecting their sheep. As far as acceptance of brown bear is concerned, Norwegian farmers do not like this animal and by and large Swedish people don't hate this species. One of the reasons perhaps may be that Norway is smaller in size and has more farmers than Sweden.

Keeping this fact in mind, the Organizers of 14th International Bear Association planned to conduct a workshop on "Human dimension in bear management" and invited Dr. Barie K. Gilbert from Utah State University, USA; Dr. Piotr I. Danilov from Institute of Biology Karelian research Centre, Russia, Dr. Isac Goldstein from Venezuela, Dr. Vemund Jaren and Anders Biarvall of Directorate for nature management, Norway and Dr. N.P.S. Chauhan of Wildlife Institute of India, Dehradun, India for participation and deliberation. The broad topics of the workshop were (a) What disputes around man-bear encounters exist, and how would those develop given a possible rise in the bear population? (b) What acceptance limits exist in the society towards bears living



Indian bear ecologist in an international arena. (Photo: H.S. Bargali)

next to human settlement and (c) What advice's will the conference give to bear managers concerning to reduce conflicts and handle the social and psychological tension that is a part of the controversy?

During the workshop sheep killing was the major issue as far as man-bear conflict is concerned in Europe and experts from this region emphasized the need for proper compensation to the farmers and reduction in killing of brown bear for the conservation of species. Similarly experts from United States expressed that grizzly bear and black bear should be discouraged from coming near garbage points and human settlements by fencing of garbage points and putting all edible stuff in closed containers in and around the human settlements.

Human and sloth bear conflicts in North Bilaspur, India is of different nature in comparison to bear problems in rest of the world, and conflict can not be reduced until unless we enhance the living status of the people of the area, protection of the sloth bear habitat and translocation of bears from isolated den sites, surrounded by the human settlement and agriculture field. In the Himalayan region killing or hunting of brown bear and Asiatic black bear is rare. Over the period of times, strict wildlife protection laws have also made the people to live in harmony with wild creatures. Apparently these bears species are quite acceptable to human society in India. Due to increasing biotic pressure on bear habitats and degradation of the habitats, occurrences of human-bear conflicts are quite obvious.

The conflicts can be resolved through active participation of people of affected areas in resource management, enhancement of living status of people, timely compensation, education awareness among people regarding the importance of bears in nature and how to avoid bears in the wild, villages or crop fields. All these views were widely hailed by the participants and audience.

Viruses – The Havoc Makers

Dinesh Singh Pundir

Virus : A virus is usually a maliciously authored piece of software which interferes with the normal functioning of your system and corrupts data.

Worm : Some people distinguish between general viruses and *worms*. A worm is a special type of virus that can replicate itself and use memory, but cannot attach itself to other programs.

Macro Virus : A type of computer code that is encoded as a macro embedded in a document. Many Microsoft products such as Microsoft Word and Excel, support powerful macro languages. These applications allow you to embed a macro in a document, and have the macro execute each time the document is opened. According to latest estimates, 80% of all viruses today are macro viruses. Once a macro virus gets onto your machine, it can embed itself in all future documents you create with the application.

How they Attack ? : In the old days the prime mode of virus spread was floppy disks. Where the user use to bring the virus infected files on floppies and it would get it transferred to the PC. The virus would replicate itself into the PCs hard disk. This mode of virus spreading was very slow, and not widespread.

Then came networking, it became easier for viruses to spread within institutions. They use to reside on the LAN server and spread whenever a user accessed infected files. This mode of virus spread was still slow and limited within an organization. With the advent of Internet and email it is used today as the most widely used medium of virus spread. You get an email with an attachment from unknown person and you open the attachment and it gets itself active before you realize it. Some viruses are even more smarter they use your email address book to send out copies of themselves. So, as a recipient thinks that the email has come from the known source opens it and the work is done.

Then there are the viruses that spread through the web browsers. Earlier the virus use to enter the systems when a program is downloaded from the website, but now virus can come in the form of Java and Active X components. This mode pose the greatest treat of virus

infection due to its speed.

Active X controls and Java applets are small programs designed for more interactive experience. They are written in native code for a specific platform such as windows, when the user encounters the page that uses the Active X control, the browser can install and run the program dynamically. Whereas Java is a interpreted language that can run on multiple platforms using a virtual machine. When user downloads the applet the browser's Java virtual machine translates it into native code, so that your system can run it. The VBScript and ActiveX combo crasher is even more dangerous. It contains function calls to overwrite system files and thereby crashing them.

Prevention :

- ◆ The Bottom line – Double check before opening attachments in your mail, from whatever source. Ask yourself where you expecting such an attachment in the first place ?. It may be wiser all around if you had a system which could scan all mails and attachments.
- ◆ For the viruses that spread through the web browser is by not allowing Active X content from the unknown website on your PC. The latest version of web browser have security settings to prevent unauthorized Active X content from getting downloaded.
- ◆ User awareness must be imparted to all the users and employees about the do's and don'ts in case or virus attack. If there is a virus attack the user should shut down his machine and he is on network then he should inform all the people about it. Above all he should be having latest antivirus updates.

Final Say: It is a universal saying that prevention is better than cure. Virus attacks are no exception. Guarding your computers and network from all possible viruses is extremely important. Keeping track of latest antivirus updates, latest developments in both virus and antivirus is very important.