

Kicking carbon habit and greening our events

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ON Thursday, June 5 World Environment Day (WED) was observed in countries across the globe including Bangladesh.

WED was adopted by the United Nations General Assembly in 1972 to mark the opening of the Stockholm Conference on the Human Environment. Another resolution, adopted by the General Assembly the same day, led to the creation of the United Nations Environment Programme (UNEP). Since then, WED has been observed on June 5 every year. The UNEP puts forward a slogan for the day every year and the main program is celebrated in a specific country. This year the slogan has been "Kick the Habit Towards a Low Carbon Economy" and the venue, Wellington in New Zealand.

Through the above slogan, the UNEP is asking countries, companies and communities to focus on reducing the emission of greenhouse gases, recognizing that climate change is becoming the defining issue of this era.

WED is one of the principal vehicles through which the United Nations stimulates worldwide awareness of the environment and enhances political attention and action. To aware the world people of reducing greenhouse gas emission through reduced use of carbon, the UNEP has developed an eight-step agenda:

Step 1: Commit to a low-carbon, sustainable event

- Commit to running a low-carbon event, and make sustainable choices for the event.
- Consider making the event carbon neutral by calculating emissions and investing in an offset project.

New Zealand, in the host of WED this year, is proud to have the carbonZero programme to assist the political and business leaders, ambassadors and celebrities who have made the commitment to join their "Leaders' Climate Change Challenge". As the challenge progresses, they will also list the leaders who have submitted a personal greenhouse gas inventory and emissions reduction plan that meets the requirements.

New Zealand's initiative is praiseworthy, but such a programme should be launched by the UNEP itself so that leaders of big powers like the USA are encouraged to follow environment-friendly behaviour including carbon reduction.

Step 2: Educate

- Have clear information and signage for event participants about your goal to make your event low-carbon and sustainable.
- Ask participants for help in meeting these goals.
- Encourage sustainable actions and consider rewarding those who take 'low-carbon' actions i.e., prizes for bike riders.

Recognizing environmentally aware service providers and food and beverages with low-carbon footprints seems difficult for the general people. The consumer societies of every country can derive expertise in these rather technical matters and can help people understand this.



- Promote the sustainability aspects of your event and offer your knowledge to other event organizers.
- Recognize event coordinators, caterers and others who have worked to help meet sustainability goals.
- Consider ways you can inspire people to take behaviour change home with them.

All the suggested features of this educative step can be applied to any event all over the world.

Step 3: Transport

- Choose a venue that is near public transport and/or is in a central place where people can walk or bike to it easily. Organize a shuttle service if the event is in a remote area.
- Publicize the transport options available in promotional materials.
- Recognize incentives and/or encourage no-carbon or low-carbon transport to your event.
- Include public transport to an event in the ticket price.

Step 4: Energy

- Turn off lights and appliances when not in use.
- Have energy-efficient light bulbs in place.
- Use meeting rooms that have dimmers on the lights.
- Use heating/heaters efficiently.

This step on efficient use of energy is more applicable to rather carefree nations like us. Bangladesh now produces energy-saving light bulbs but the finishing and longevity of these bulbs are still not good enough. A slight development of the bulbs can attract most people to buy and use these to save energy that is scarce in the country. Other points of behaviour just warrant to be careful.

Step 5: Waste reduce, reuse and recycle

- Minimize waste produced by the event by reducing the amount of paper and packing you use in, for example, conference packs or promotional materials.
- Use biodegradable packaging wherever possible.
- Participate in a recycling programme.
- Provide well-marked recycling bins for event attendees.
- Purchase reusable and durable products.

Going back to durable and reusable products should be the way for all.

The specific problem in Bangladesh is almost no recycling, throwing everything anywhere. Our industrialists are still reluctant to attach a waste treatment plant to their industries; they are killing our rivers with the untreated effluents. Being unable to collect and recycle polythene products, we tried to do away with polybags. The small country Singapore uses polythene almost with everything; collect used ones, recycle and produce coarser products.

Step 6: Procurement (sourcing your materials)

- Purchase products that can be recycled or are biodegradable.
- Give preference to environmentally responsible service providers.
- Provide restroom supplies e.g., hand towels and toilet paper that are made from recycled material.
- Use paper products that are not bleached with chlorine.
- Minimize the use of harmful chemicals e.g., use non-toxic cleaning products.

Using biodegradable products was once the human way of life. After doing much harm to the ecosystem with non-degradable items, we are now again crying for those. What about enhancing our jute production and the industry as a whole?

Step 7: Water

- Minimize water wastage.
- If it is your venue, repair leaking pipes and taps. If not, report leaks to venue owner.
- Like step-4 (energy), efficient use of water is of utmost necessity. To cope with the lean period crisis of fresh water, Bangladeshis need to collect much rain water both in large (lakes) and small scales (household receptacles).

Step 8: Food and beverage

- Give preference to environmentally aware service providers.
- Give preference to locally produced food and beverages with a low-carbon footprint.
- Reduce food packaging by buying in bulk.
- Use reusable serving containers, tablecloths, linen napkins, dishes and silverware.
- Donate left-over food to a local food bank or soup kitchen and compost food scraps.

Recognizing environmentally aware service providers and food and beverages with low-carbon footprints seems difficult for the general people. The consumer societies of every country can derive expertise in these rather technical matters and can help people understand this. Buying a bulk is usually for the rich people, the poor cannot afford; they buy in small amounts and pay more for the same food! This is another dimension of the vicious cycle of poverty "the poor are poor because they are poor!"

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Solar power prospects : Hawaii experience

MD. RASHED CHOWDHURY

THE State of Hawaii, an archipelago in the central Pacific Ocean southwest of the continental United States, southeast of Japan was admitted to the Union on August 21, 1959, making it the 50th state of the USA. Its capital is Honolulu on the island of Oahu. The most recent census (2006) puts the state's population at 1,285,498.

As energy prices increase and the world becomes more aware of the problems of global warming, sea level rise and air pollution, locations such as the islands of Hawaii with a good and free source of solar energy have an excellent solution to reduce the environmental effects of fossil fuels with residential solar panels and solar power systems. Solar panels are mounted on roofs or anywhere on a building or be free standing for any location where a reduction in power bills are needed.

Hawaii solar power incentives are excellent compared with many states with energy efficiency and in reducing Hawaii's dependence on imported oil firmly on the government agenda.

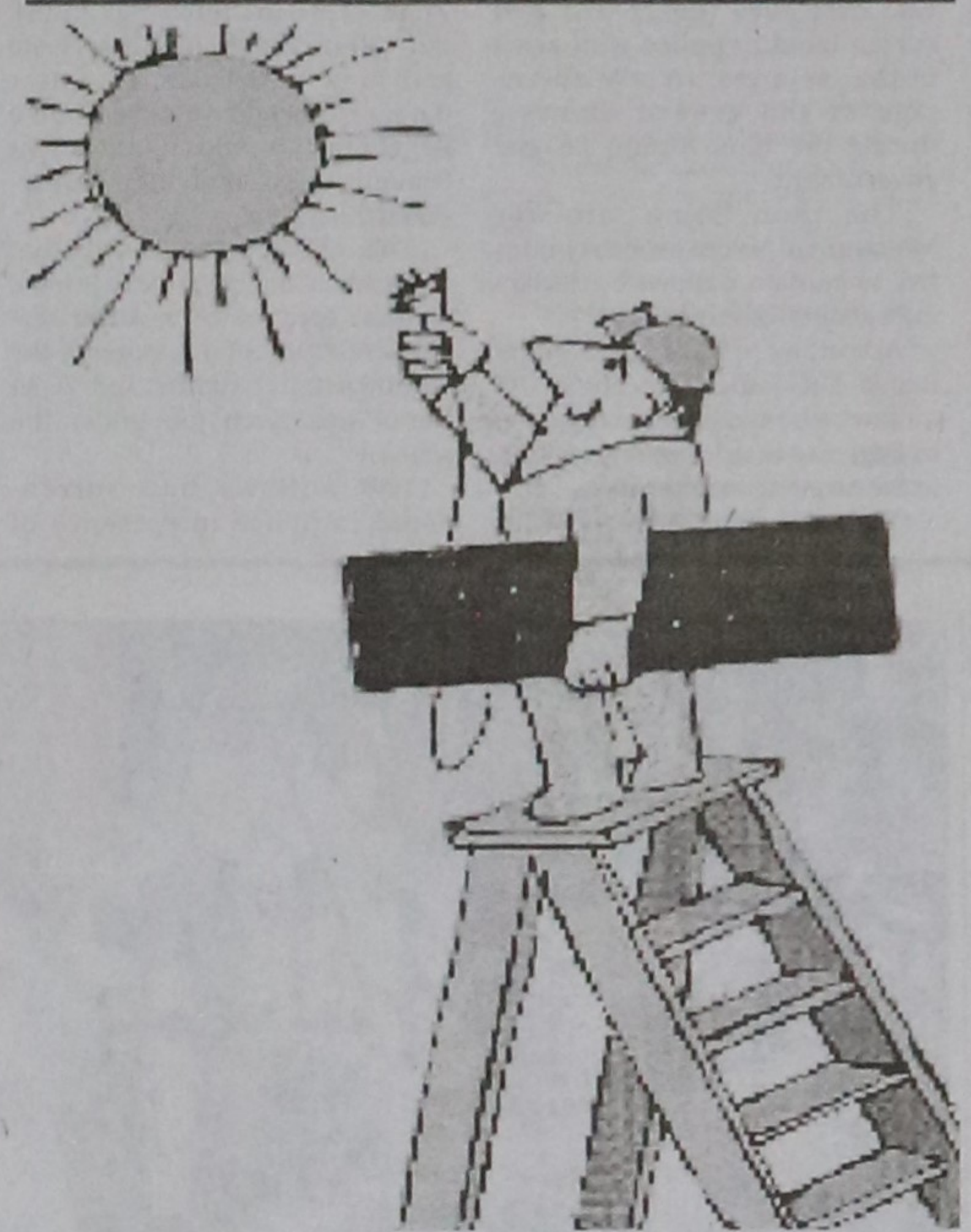
How do solar panels work?

Solar panels harvest the sun's energy to produce electricity to power lights and appliances or for any use that requires electrical power. Solar photovoltaic cells are arranged in a grid-like pattern on the surface of the solar panel. These solar voltaic cells collect sunlight during the day and convert it into energy. Energy is created when sunlight strikes the solar panel's crystals and causes some electrons to break loose. The amount of power produced depends largely on the quality of the solar panels and the technology in making it. Panels of special semiconductors like silicon convert the sun's energy directly into electricity.

Solar panels in the past used to be of silicon but as silicon is becoming more expensive, research has turned to other materials. Lately, a whole new type of solar panel is produced. They are made of plastic and the price is comparatively cheap. These plastic panels work just as well to power just about any appliance that is used in a home out in a remote location.

Solar panels are mostly placed on the roof. The power generated is transmitted to a battery for storage and household power needs are drawn from this storage. Solar energy is also most suitable for heating water for household use, swimming pools and hot tubs. The best thing about solar power is that it does not release harmful emissions or effluents leading to global warming, acid rain and smog. The utility of

Every time the cumulative demand for solar energy doubles, the price of a solar panel goes down by about 20 percent, due to increased economies of scale. The more solar panels are purchased, the cheaper they become. As the price lowers and the technology continues to improve, solar energy's prospects become brighter than ever.



The sun is a direct source of energy. Using renewable energy technologies, we can convert that solar energy into electricity

solar panel is great. Having solar panels installed to our home, we can live anywhere even in rural areas without foregoing the conveniences of the city and without having to install expensive electrical line extensions from noisy generators.

Hawaii: the 50th state, 1st in solar energy

Hawaii, with lots of sun but no oil, might soon be a step ahead of other American states in the race toward clean energy. A bill to require all new homes to have solar water heaters has been passed. The bill goes beyond the rebates and tax credits that other states and cities are offering. Some conservatives say that it is a heavy-handed government mandate to go green and will make people save money -- cutting about \$1,000 a year from the electricity bill of an average home in Hawaii. For a state that has the nation's highest

electricity rates and has also been called "the Saudi Arabia of sun," this move seems natural.

Given the environmental and political problems, most people in Hawaii feel it to be encouraging as Hawaii relies more heavily on oil than any other state. There are other reasons for which the Hawaiians are happy -- the use of solar panel minimizes their dependence on fossil fuels coming from other countries. The fossil fuel supplies on which America relies for its energy are dwindling and becoming increasingly expensive and politically costly. According to them, the nation desperately needs to reduce its dependence on oil and other fossil fuels and move toward clean, renewable energy. Hawaii is the best-suited state in the USA to lead the change. The state ranks third in annual sunlight, pays the highest electric rates in

the nation and relies primarily on imported and highly polluting energy sources.

Fossil fuels and global warming

Emissions from the power plants that run on fossil fuels constitute the leading contributor to global warming. Scientists tell us that a failure to respond to the global warming crisis will lead to rising sea levels, more severe weather patterns and increased rates of communicable diseases. The time for debate is over. Investing in renewable energy now will yield big dividends to our world's well-being in the future. The sooner our transition toward renewable energy happens, the better off we'll all be. Solar energy is a particularly promising technology. Clean, quiet, reliable and requiring virtually no maintenance, solar energy produces electricity during the time of day when it is most needed. And unlike most energy technologies, it has the advantage of producing power in the same place where it's consumed.

Until recently, solar electricity was too expensive for mass use. As a mature technology in an immature industry, however, solar energy is now at a critical stage of growth. Every time the cumulative demand for solar energy doubles, the price of a solar panel goes down by about 20 percent, due to increased economies of scale. The more solar panels are purchased, the cheaper they become. As the price lowers and the technology continues to improve, solar energy's prospects become brighter than ever. As a result, states like Hawaii can benefit from solar investments and play an important role in bringing the cost of solar energy down nationwide.

Solar power in Bangladesh -- a bright idea!

I read an article on this issue last week (May 31, 2008, published in the 'Daily Ittefaq'). This is a good brainstorming discussion and we should take this solar power system seriously. Bangladesh is a perfect environment for solar water heating. As the sun shines most of the time, we don't have to worry about freezing, and our local utility supports the purchase and installation of solar systems with generous rebates and solar tax credit, if possible. Bangladesh can therefore benefit from the experience of Hawaii solar systems -- where a solar system has been proved to be the environmentally and economically sound choice for heating water in residential complexes.

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On death and survival of tigers

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THE Daily Star published my article about the death of two tigers during research in the Sundarbans on 22nd February 2008. In response to my article Adam Barlow of STP wrote a long article and Indian tiger expert Dr. Ullas Karanth a letter to The Daily Star. Wildlife researcher Dr. Raghu Chundawat commented in a BBC interview and the producer of the BBC film 'The Ganges' Dan Rees also wrote letters to The Daily Star. I thank all for their interest and comments and I will try to discuss about the responses which are relevant to many of my comments and quotes.

Somehow the expert community who are closely connected to Mr. Adam got an impression that in Bangladesh there is 'media hysteria' against radio collaring, that some people do not understand the necessity of research and are against collaring of tigers. Also there is an effort to give this discussion a political colour that some people are against any foreign involvement in Bangladesh and they are doing propaganda against foreign scientists and their work. As a response I want to say, which was also reflected in my previous article, that I am not against research and not against collaring of tigers if it really helps conservation and is done with a safe and up-to-date procedure and transparency. I also want to say that, Bangladesh is a backward country in science and technology and without the assistance of foreign expertise and support our conservation cannot succeed. But those supports should come with a complete plan ensuring that nobody can use it for their personal or group interest other than the main agenda.

We all should acknowledge that we are discussing here standing on the dead bodies of two tigers who were the subject of invasive research. Until there is a proper investigation to find the cause of their death, any peer leaning will not help the research or conservation.

The initial questions after the death of both the tigers were very simple, if the drug had any effect or if the drug was administered properly and in right dose. The second thing was to find the reasons of apparently abnormal behaviour of the tigers from collaring to their death and the reason of re-darting the second tiger when she was already very weak due to starvation. But Mr. Adam not answering these basic questions tried to

prove from many angles why radio collaring was important, why conservation was necessary and how collaring was so successful in other countries, etc.

Observing the events and by communicating with many vets and experts now it can be understood that, in developed countries like USA, Russia etc. where many tigers live in the wild or in captivity, strong regulations are followed while applying drugs to animal. They only allow certified vets to execute the process and they preserve all the necessary records. Investigations are mandatory by independent authorities in case of any incident like death or severe injury. Experts there use Ketamine/Xylazine protocol to immobilize (or Zoletil, Tiletamine/Zolazepam) is not recommended except in an emergency to save life.

But a small group of scientists mostly from India is still using the drug like Telazol which is not methodically tested for Bengal tigers and even is not recommended for tigers by the manufacturer itself. A spokesman for Fort Dodge, the company which makes Telazol, said "It had not performed any safety studies on its use on tigers, and does not market or recommend Telazol for this (tiger immobilization) purpose." (BBC News: Tiger collaring project suspended, bbc.co.uk). In the subcontinent in many cases like tiger collaring no proper procedure is being followed, not adequate record is maintained and no independent investigation follows after an incident like tiger's death or missing. That might help continuing an unsafe procedure for long. All of Mr. Adam's tigers die of old age soon after collaring, most of Mr. Raghu Chundawat's tigers go missing (Four of six collared tigers missing, Down to Earth, Vol. 13, No. 22, April 05, 2005).

The project's primary objective was collaring normal tigers to find their territory and behaviour to build conservation strategy management but now Mr. Adam is trying to sell the importance of the project by emphasizing the necessity of working with problem tigers. The data collected by collaring the problem tigers will not satisfy the primary research objective. It is also very strange that he is working with problem tigers at the eastern coastal forests when 99 percent of the tiger-human conflict occurs or people die in the western Sundarbans area. Mr. Adam also commented in his

An independent multi government enquiry should succeed, having the best veterinary and wildlife experts from around the world, to find out what actually happened to all the collared tigers in this subcontinent. Stopping research is not an option and unmonitored field research and research for 'other agenda' without true and complete conservation plan also will not help survival of the rest about 2000 tigers in the subcontinent.

article that many of the references I cited in my article do not have 'actual data' showing the adverse effects of Telazol. It is true that there is not enough actual data because there was no actual research done about the application of this drug on wild tigers. This also means that there is no actual data ensuring the safety of the drug as well. Mr. Adam argued with the help of Dr. Terry J. Kreeger that both the tigers did not die by the effect of the drug just because they didn't die immediately after immobilization. Their prediction may be true for zoo and captive tigers. But anybody who has the basic knowledge about wild animal knows wild tigers are predators and has territorial conflict with other animals. The physical and psychological effects for the drug can make them weak and may make them unable to hunt efficiently. They eventually can die of hunger and weakness or may be killed by other tigers or poachers easily. The BBC footage shows such a thin and weak tiger after immobilization by Telazol which can prove this argument.

Dr. Kreeger also didn't find any scientific data that proves that Telazol can have neurological effects like CNS signs in tiger. The answer is the same, field researchers reported from many places of such event but nobody did systematic research that the reference data can be available. Normally it is the drug manufacturer's responsibility to do such research, but in case of Telazol, the manufacturer says: they produce this drug for domestic cats and dogs only and not for tigers (BBC News, as above).

A very new and well acclaimed recent publication on anaesthesia of wild animal says "Anecdotally, tigers do not appear to recover well after Telazol; therefore, its use is generally contraindicated" (Zoo Animal and Wildlife Immobilization and Anesthesia, West et al, First edition, October 2007, pp.12). Another important book writes, "There is evidence of behavioural problems associated with the use of Telazol in tigers" (Chemical Immobilization of Wild and Exotic Animals, Nielson, L, 1999 Ed. pp. 246). Mr. Adam's claim of

formula changes of Telazol does not coincide with these very up-to-date references and most of Mr. Adam's references.

Mr. Adam many times refers to the other collaring projects all over the world. Many times he cites about the success of the project with Siberian tigers in Russia but he never tells that those tigers were tranquillized mostly by using Ketamine/Xylazine protocol. Also he comments about my points of the danger of snare and bait for wild tigers. My reason to bring up these topics was to show that we put enough other risk on wild animals. So if this whole process of collaring does not give something very important to



Re-darting of the collared tiger: the tranquilizer dart on right rear leg and the collar on the neck are visible.

conservation, it puts unnecessary risk on this already near extinct animal.

Mr. Adam portrayed the success story of collaring in Nepal but last month (May 08) a Nepal national daily reported a tiger's death in the Bardiy National Park (BNP) after 12 days of radio collaring. The tiger was found dead empty stomach and there were evidence of a fight with another tiger. The report claims with its 'reliable source' in the park that the tiger was not behaving normally after it was darted and was starving for days. The report also says, about two years ago another tiger was darted and she completely lost her senses after darting and died eating poisoned food. Several cubs of

that tigress also died along with her. There no third party investigation followed but independent sources and locals claim that almost all of Nepal's collared tigers behaved abnormally after darting and there are direct or indirect connection in most of their deaths to darting and collaring (Research, not poaching, killing tigers in Bardiy, The Rising Nepal, 3rd May 08).

Tiger sales! Any wildlife documentary which contains some tiger footage from the wild is a hotcake in the international media market. Filming in the forests with wild tigers is very expensive and difficult. It needs expertise on the species and long time to get good tiger footage. Only they



Re-darting of the collared tiger: the tranquilizer dart on right rear leg and the collar on the neck are visible.

can shoot tiger from close by baiting which needs special permission from the government and involves additional arrangement and cost. It is the easiest with collared tigers. There are direct beneficiaries of such project inside the country and abroad. Big film companies support and motivate collaring of tiger for their own benefit. The locals who provide support to the filmmakers get financially benefited. The acquired data from the collared tiger is very 'valuable' for publishing articles and books. Other agenda may become more lucrative than conservation! But for these other agendas any of the wild tiger's life should not be put at risk.

There can be two explanations

cannot be attributed to the research work" He also says "The radio-collar does not bestow immortality on its wearer." But application of inappropriate drug or improper application of a safe drug can make a wild tiger unhealthy. That can reduce its hunting capacity and can make it weak and eventually the tiger may die weeks or months later. Shall we consider it a normal death?

Mr. Chundawat started his radio collaring project in Panna Tiger Reserve in Madhya Pradesh India around 1995. At that time Panna was considered one of the best tiger reserves in India and the whole world supported Mr. Chundawat's project. BBC made films on his work (Tigers of the Emerald Forest) and many books and articles were published based on the experience of his field research. For nine years he made Panna his home and collared at least eleven tigers. But soon after he suddenly declares four of the six tigers, on which his team had put radio collars, were missing. He said "at least 13 tigers with radio devices attached to collars in the park and being monitored by his team had gone missing recently" (News, BBC.co.uk, 5th May, 2005). He claimed that all of them were killed by poachers. The authority, which gave permission of doing invasive research with Panna tigers became very upset and cancelled his research permission.

Mr. Chundawat says about his own "Tiger research project in Panna: After the death of radio-collared tigers due to poaching, death of prey species in snares and complaints made to chief wildlife warden regarding the lax protection measures and destructive management practices, the forest department started harassing the researcher and curtailing research activities in this case. ... It included acts like cancelling research permission, refusing to renew the permission to monitor the radio-collared tigers, retrospective charges for using elephants as transport and legal notices to recover the revenue through forfeiting the researcher's property and asking him to vacate his field camp, seizing the research vehicle and equipment etc." (Tiger Task Force Report, MoEF India, May 2005).

Now it seems that Panna, which was famous as the reserve of the Emerald Tigers possibly going to be the next Sariska. In Sariska suddenly they found in one fine morning that there was no tiger at all. Could these nine years of research and so much

radio collaring data do anything to save the tigers in Panna? The wildlife department of India does not believe in Dr. Chundawat's poaching claims that much. Even if we accept Dr. Chundawat's claim about poaching, why in Panna poaching rate went so high for a very short time? Were the drugs used made the tigers unable to hunt which weakened them and eventually were easily killed by the poachers? Or the drugs made them abnormal in their behaviour and they lost the fear of human and went close to human habitations to have easy food that made them vulnerable? Or poachers used simple radio receivers to track the collared tigers? Who is going to answer these questions in a country in South Asia, where a neutral and independent investigation never follows through?

George Schaller, the world's preeminent field biologist, and known as one of the greatest naturalists of the 20th century, sums up the issue beautifully. "Field biologists, such as Karanth and Chundawat, can use technology in the form of satellite radio-collars, camera-traps, DNA analysis of cats and other techniques to determine population size, movement patterns, and other aspects. That provides extremely valuable information. Such knowledge is essential for conservation but it is not conservation. Conservation, in the final analysis, is culture, economics and politics." (Dataquest, October 10, 2007). Seems Mr. Adam is also walking through the same way that Dr. Karanth and Dr. Chundawat walked before in India. Bangladesh forest department should motivate and integrate the whole nation to participate in the difficult task like tiger conservation in Sundarban, rather than depending on a small group of 'experts' who may have their own agenda.

An independent multi government enquiry should succeed having the best veterinary and wildlife experts from around the world to find out what actually happened to all the collared tigers in this subcontinent. Stopping research is not an option and unmonitored field research and research for 'other agenda' without true and complete conservation plan also will not help survival of the rest about 2000 tigers in the subcontinent.

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