Kyoto Protocol and the deep seabed regime of UNCLOS III

The 2 December 2003 refusal by Russia to ratify the 1997 Kyoto Protocol and a similar stand adopted by the US since March 2001 compare with the non-ratification of UNCLOS III (Third United Nations Convention on the Law of the Sea) by the US and other industrialized countries in protest against its provisions on the deep seabed regime. The multilateral treaties like UNCLOS and Kyoto Protocol are consensus-driven agreements to address the current and future concerns, and adopt a regulatory framework for improvements in their respective jurisdiction. The non-ratification of the Protocol by the US, Russia and Australia will weaken the attempts at implementation resulting in delays and uncertainty of such treaties. While the European Union and Japan are backing the Kyoto Protocol, the UNCLOS suffered for lack of support from the industrialized countries with deep seabed mining interests, particularly the US, UK, Germany, Japan, Russia, France, Italy and the Netherlands, until the implementation agreement of 1994 intervened to restore the confidence of these countries in the deep seabed mining component of the treaty. The UNCLOS has since come into being from 16 November 1994, with major industrialized countries accepting the changes, while the US has publicly stated its intention on becoming a state party as soon as possible. India ratified UNCLOS on 29 June 1995. The Kyoto Protocol, an environment agreement, requires industrialized countries to scale back emissions of carbon dioxide and other greenhouse gases by an average of 5% from their 1990 levels by 2012. The US has, in March 2001, decided to abandon the treaty and draw up its own action plan. The US and Russia are the first and fourth of the world’s largest emitters of heat-trapping greenhouse gases. In the absence of the US, the only way to reach a threshold for enactment under the protocol’s terms is with Russian participation.

All the 165 participating countries had, in a meeting in Morocco during early November 2001, smoothed over differences and approved the full set of rules to enforce the protocol. Among the participant countries were smallest islands to the biggest states, except the US. The non-ratification is sometimes used as a negotiating ploy to extract concessions and make self-serving interests dominate the outcome of unacceptable components of the treaty. The Kyoto Protocol, like UNCLOS, must find acceptance with major polluters and thus provide a cleaner environment and motivation for others to follow beyond 2012.


B. VIJAY KUMAR

Geological Oceanography Division,
National Institute of Oceanography,
Dona Paula,
 Goa 403 004, India
e-mail: bvkumar@darya.nio.org

Antioxidants

In response to my correspondence on the adverse effects of antioxidants, Tiwari has not appreciated their beneficial effects, though I made no conscious attempt to disparage the benefits we can obtain from them. My own article, published earlier (cited in ref. 2 of my bibliography) elaborates cardioprotective effects found in them. However, the message delivered in my letter (which Tiwari has chosen to ignore) is too important to wink at. There is ample evidence in the literature to suggest that random intake of some antioxidants (specially vitamin A, E and β-carotene) with the hope of preventing various ailments, is not advisable. Recently, in order to assess the efficacy of antioxidants to prevent cardiovascular diseases, some meta-analyses were performed on seven randomized trials of vitamin-E treatment and eight trials of β-carotene treatment. These trials were conducted earlier involving a large number of subjects from different parts of the US, Canada, Europe and Australia. The meta-analysis did not show any beneficial effect of vitamin E and a small, but significant increase in mortality was observed in the β-carotene group compared to the control. On the basis of these results, the analysts suggested that the use of supplements containing β-carotene and vitamin A should be discouraged. They also did not support continued use of vitamin-E treatment and recommended discontinuation of clinical studies involving β-carotene. A recent report reveals an association between a diet rich in fruits and vegetables and a 25% reduction in the incidence of lung cancer, but no protective effect associated with supplements containing vitamin A, C, E and β-carotene. On the contrary, two major randomized intervention studies showed that β-carotene supplementation was associated with increased mortality due to lung cancer.

Notwithstanding the beneficial effects of antioxidants, reported from time to time, the problems associated with their use remain unknown by and large to the common people. When taken in excessive amounts, some antioxidants are found to have adverse effects. Under some circumstances, they may even behave as pro-oxidants. The amount of antioxidants in plant products varies depending on various factors (e.g. type of plants, environmental condition). Efficacy of an antioxidant also depends on several factors like the particular form of an antioxidant used (e.g. α and γ-tocopherol) and genetic make-up of a person. Moreover, many people take antioxidants on self-prescription while continuing the conventional therapy. It has been known that the antioxidants may
interfere with simvastatin–niacin used in cardiotherapy and also with radiotherapy or chemotherapy of cancer. The overall scenario makes it evident that like that of herbal medicines, the health-giving potential of antioxidants requires thorough standardization and rigorous in-depth studies to ensure safety of the users. Until we reach that stage, we must refrain from making over-enthusiastic propaganda in favour of these so-called panaceas.


M. K. CHATTOPADHYAY

Centre for Celluar and Molecular Biology,
Hyderabad 500 007, India
e-mail: mkc@ccmb.res.in

Can Bakhira Bird Sanctuary safeguard the Purple moorhens?

The Indian Purple moorhen (Porphyrio porphyrio, Linnaeus, 1758) is one of the beautiful common resident water-bird species of India. A handsome but clumsy purplish-blue bird with long red legs and toes, bald red forehead, and size resembling a village hen is found in the tropics and subtropics. It is a sedentary and shy species that inhabits the wetlands (marshes, lagoons, swamps, lakeshores and reservoirs) at altitudes ranging from 0 to 1700 m a msl. The birds are omnivorous, although they prefer shoots, leaves and roots of Phragmites sp. (Figure 1) and Typha sp., and hence live where the vegetation cover and water depth are appropriate. Territories must have areas of high vegetation density (mainly Typha sp. and Phragmites sp.) where the species spends much of the time in hiding. It prefers calm water or slowly running water with dense vegetation on which it can walk. The Bakhira Bird Sanctuary is the largest natural flood plain wetland in Uttar Pradesh (UP), situated 44 km east of Gorakhpur city. It is a vast stretch of water body expanding over an area of 29 km². The landscape and terrain of the wetland is almost flat having an average height of 100 m a msl, representing a typical ‘terai’ landscape. This is an important lake of eastern UP, which provides a wintering and staging ground for a number of migratory waterfowls and a breeding ground for resident birds. The sanctuary is named after the village Bakhira located adjacent to the lake along with as many as hundred and eight villages surrounding the lake within the 5 km radius. The villagers from the surrounding villages depend on the wetland for their livelihood in the form of fishing, agricultural activities and fuelwood collection from it. Statistics shows that though the wetland supports more than 21 species of waterfowls in winter, the striking fact is that the abundance of purple moorhens is more than 5000, and this is almost twofold the total number of individuals summed up for all the species. In the present scenario its abundance and wide distribution may not be a cause for concern, but does this assure that the future of the moorhens is safe in this sanctuary? The presence of Phragmites sp. patches inside the wetland makes it a unique habitat for the purple moorhens. The patches look like small islands and serve as breeding, nesting and roosting ground for the moorhens. Keeping in view the anthropogenic pressures on the sanctuary for fuelwood and fodder, it is felt that the future of the Phragmites sp. and Typha sp. grass species may not be that productive as they are used extensively as fuelwood and for thatching purposes. Agricultural activities around the sanctuary led to habitat loss and degradation, as some parts of the wetland have been drained and transformed into rice fields and used for growing other crops. The loss of emergent marshy vegetation used by Purple Gallinule for nest building, shelter and feeding is still a growing problem in this wetland. Marshy vegetation is usually cut out in an uncontrolled way, as a result of human requirement and management. Due to habitat loss and

Figure 1. Phragmites patches: The nesting and breeding ground for the birds.