

## **PREVENTIVE APPROACHES**

Quarantines are legislative tools that may be used to mitigate the effect of weeds. Quarantine is defined as the restriction imposed by duly constituted authorities whereby the production, movement or existence of plants, plant products, animals, animal products, any other article or material or the normal activity of persons is brought under regulation in order that introduction or spread of a pest may be prevented or restricted. If a pest has already been introduced and established in a small area, a quarantine is necessary so that it may be controlled or eradicated or dissemination stopped in newer areas, thereby reducing the losses that would otherwise occur through damage done by pest (Sand, 1987). The success of preventive weed management programs varies with weed species, its biology, means of dissemination and the amount of effort needed to be applied. Preventive weed programs usually require community action through enactment and enforcement of appropriate laws and regulations (Day, 1972).

It was found that the irrigation water in Nebraska was the significant source of weed seeds (Aldrich, 1984). In India, irrigation canals appear to be a potential source for spreading water hyacinth (Sushil Kumar and Bhan, 1994). Recently preventive weed management approach has been reviewed and discussed by Walker (1995). When prevention and eradication fail to give desired results under aquatic environment, the only alternative left is to keep aquatic weeds under manageable limits so that water use efficiency with respect of water storage in reservoirs and transportation through canals is not reduced. Management of aquatic weeds in water reservoirs, canals, drainage systems, ponds etc. consists of following systems approach of aquatic weed management i.e., following prevention, eradication and control techniques based on the habitat and type of weed flora present in a given situation. These situations may result in serious reduction in water flow in irrigation and drainage systems which may result in flooding, salinity and alkalinity. Under specific situations it may adversely influence navigation and operation of turbines in hydro electric projects.