INTERSUN
The Global UV Project

To reduce the burden of disease resulting from exposure to UV radiation

Protection of the Human Environment
World Health Organization
Geneva
Mandate

  "Undertake as a matter of urgency, research on the effects on human health of increasing UV reaching the earth’s surface as a consequence of depletion of the stratospheric ozone layer;

  On the basis of the outcome of this research, consider taking appropriate remedial measures to mitigate the above mentioned effects on human beings."

- Mission Statement:
  To reduce the global burden of disease resulting from exposure to UV radiation.
Ozone Depletion

- Recovery of ozone layer not predicted to occur until the middle of the 21st century

- Predicted increase in UV-related health effects with 10% decrease in total stratospheric ozone:
  - additional 300,000 non-melanoma and 4500 melanoma skin cancers worldwide
  - between 1.6 and 1.75 million additional cases of cataract

- Darker skin provides no protection against UV effects on the eye and immune system!
Global Burden of UV-Induced Disease

- **Skin**
  - Between 2 and 3 million non-melanoma and 132,000 melanoma skin cancers occur globally each year.

- **Eye**
  - Cataracts account for some 16 million cases of blindness worldwide.
  - >3 million of these probably caused by excessive UV exposure.

- **Immune system**
  - UV alters immune responses in cell and animal studies.
  - Environmental UV levels can suppress both rodent and human immune responses.
Health care costs

- US Government spends US$ 3.4 billion per year for 1.35 million cataract operations
- India borrowed US$ 120 million from World Bank to reduce cataract surgery backlog
- Deaths and disfigurement from skin cancer pose a large burden on health care systems
Conceptual Framework for Action

- Industrial activities
- Driving forces
- Pressures
- State
- Exposure
- Damage to skin, eye and immune system
- Effect
- Actions

Ozone depletion
UV levels
Human UV exposure
Preventive Measures to Reduce UV Radiation Exposure

- Personal sun protection
- Information
- Education
- Policy and environmental change
Personal Sun Protection

- Limit your time in the midday sun.
- Seek shade.
- Cover up with protective clothing, a hat and sunglasses.
- Apply broad-spectrum sunscreen of SPF 15+.
- Avoid sunlamps and tanning parlours.
Provisioning Information: Global Solar UV Index

- What is the UV Index?
  - developed and published in 1995 by WHO
  - in partnership with WMO, UNEP, ICNIRP
  - a measure of UV levels at the Earth`s surface
  - an essential vehicle to raise public awareness

- Promoting sun protection through
  - drawing attention to the hazards of sun exposure
  - educating the public about how UV levels vary
  - encouraging protective sun exposure behaviour
Education makes a difference

- Children are more vulnerable and more exposed than adults.
- Decrease in frequency of skin cancer by more than 70% with regular use of sunscreen of SPF 15+ up to age 18.
- Twenty SunSmart school years in Australia
  - increase in sun protective behaviours
  - 50% reduction in sunburn rates
  - decreased incidence of non-melanoma skin cancers in the under 50 age group
- Effective prevention campaigns pay off
  - US$ 0.08 for education per head per year
  - US$ 5.70 for cancer treatment per head per year
Policy and Environmental Change

- Sun protection is relevant in all settings!
  - Recreation facilities
  - Parks and gardens
  - Community and recreation programmes
  - Streetscapes
  - Outdoor workers
  - Sunbeds
  - Schools

- Policy and environmental management
- Urban planning
Example: Recreation Facility

- **Information**
  - Erect sun protection behaviour prompt signage
  - Conduct information sessions for employees
  - Display information about today’s UV index

- **Clothing and sunscreen**
  - Encourage employees to act as sunsmart role models
  - Sell sun protective clothing and sunscreen at kiosks

- **Shade**
  - Encourage development of shade structures
  - Make available portable shade structures

- **Schedules and policy guidelines**
  - Allow users to leave pools in the middle of the day
  - Develop UV control policies for outdoor activities
  - Discourage facilities from operating sunbeds
Intersun’s Priority Activities

- Filling gaps in scientific knowledge
e.g. effect of sun exposure on vaccinations

- Assessing and quantifying health risks
  e.g. assessing the burden of disease attributable to UV radiation

- Promoting sun protection
  e.g. developing and implementing a framework for children’s sun protection education

- Promoting the UV Index
  e.g. improving the use of the UV Index as a tool in educational programmes