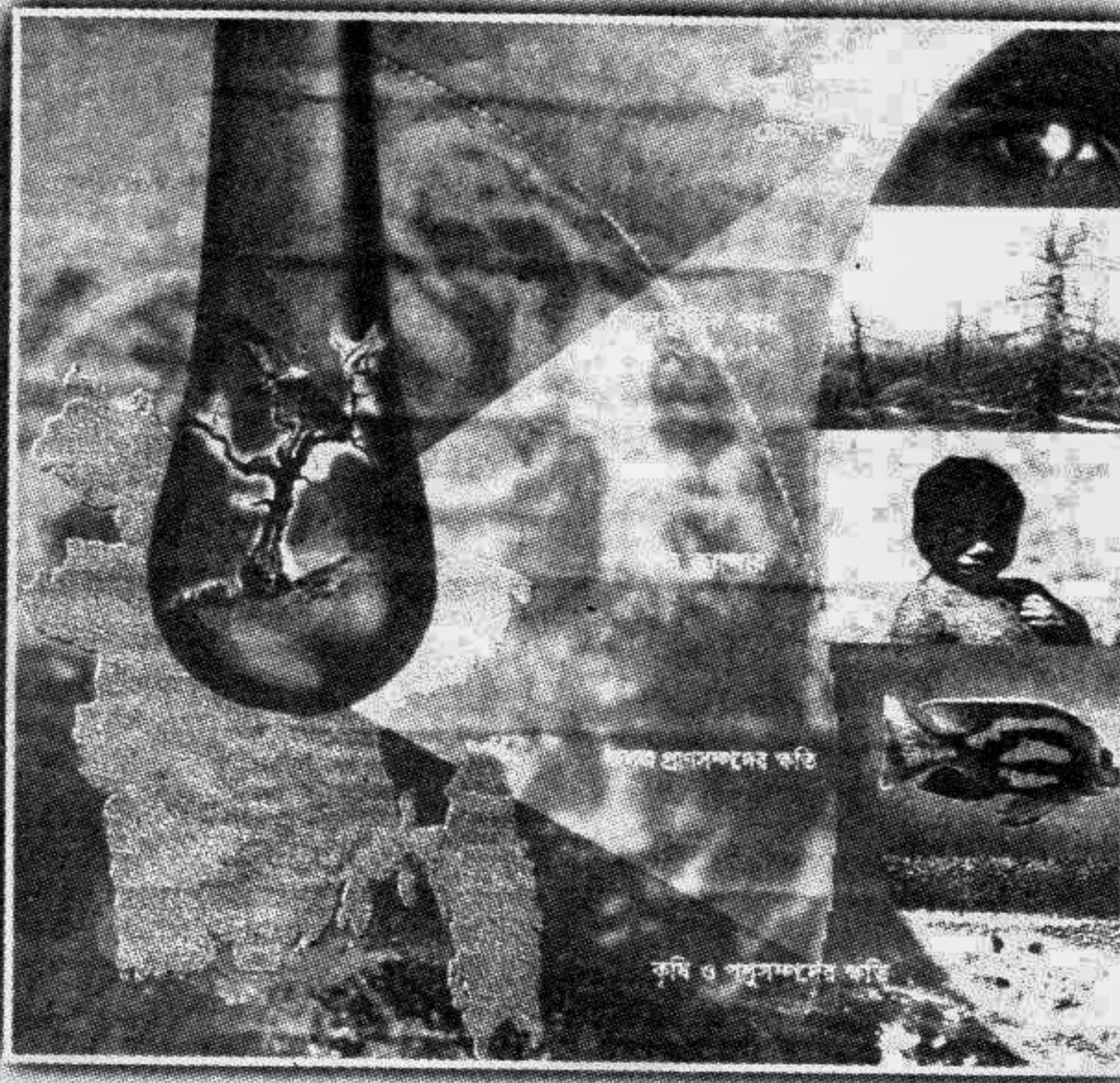


# আন্তর্জাতিক ওজোন দিবস ১৬ সেপ্টেম্বর '৯৯

আকাশ অক্ষত রাখুন : ওজোনসহায়ক দ্রব্যসামগ্রী ব্যবহার করুন  
ওজোনস্তরের ক্ষয় বিশ্বময় বিপর্যয়ের একটি অশনিসংকেত

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# International Ozone Day 16 September '99

Save O<sub>3</sub>ur Sky : Be Ozone-Friendly.  
Depletion of the Ozone Layer is a Prelude to Global Disaster

**Department of Environment**  
Ministry of Environment and Forest  
Government of the People's Republic of Bangladesh

Design & Planning : Dhara Ad

## Save O<sub>3</sub>ur Sky : Be Ozone-Friendly

**A R Khan**

Director General, Department of Environment

Today - the 16 September is the International Ozone Day. Since 1995, the day is being observed as the International Ozone Day as declared by UNGA in its declaration No. 49/114. The day is being celebrated all over the world with a view to raise global awareness on ozone layer depletion and its negative impact on the biosphere and also for enhancing worldwide use of non-ODS appliances. The government and the people of Bangladesh are also observing this significant day in a befitting manner as elsewhere in the world. The theme of the day for this year has been aptly thought as "Save Our Sky : Be Ozone-Friendly".

The atmosphere surrounding the earth is the blanket of gaseous materials. It consists of a number of segments, one of which is the stratosphere. It is situated at ten to fifty kilometers above the earth's surface. A pungent pale blue poisonous gas called ozone exists in this layer. Ozone is a molecule made up of three oxygen atoms. Though it is distributed over quite a large area, the layer is so thin that if the molecules of ozone were collected together they could have formed a skin around the earth no thicker than that of a thin paper.

**Importance of the Ozone Layer :** The ozone layer protects us from the harmful effects of solar ultraviolet (UV) rays. Any significant decrease of ozone in the stratosphere would result in the intrusion of UV-B radiation. As a result plant and animal life of the earth will be adversely affected. The absorption of UV-B by the ozone layer also creates a source of heat, playing a key role in the temperature regime of the atmosphere. Depletion of ozone layer is associated with developing of skin cancer, eye damage and suppression of immune system in human body. Crop production and aquatic marine foodchain is also affected by ozone layer depletion.

**International Concern for the Protection of Ozone Layer :** In 1974, a scientific research pointed out that ozone layer has been depleted due to the continuous emission of chlorofluorocarbons in the atmosphere. Ozone hole was first detected by British Antarctic Survey Team in 1985. Through the initiation of the United Nations Environment Programme (UNEP), the Montreal Protocol on Substances that Deplete the Ozone Layer was signed for the protection of Ozone layer on 16 September, 1987.

At the heart of the Montreal Protocol, lies the control measures on the production and consumption of ozone depleting substances, e.g., chlorofluorocarbons, halons, carbon tetrachloride, methyl bromide and methylchloroform within a stipulated date line.

Ozone Depleting Substances are largely produced and consumed in developed countries. It has, hence, been agreed that developed nations should be the first to phase-out CFCs, carbon tetrachloride and methylchloroform by 1st January 1996, halons by 1st January 1994 and hydrochlorofluorocarbons by 1st January 2030. For special needs of countries operating under paragraph 1 of article 5 (mainly developing countries) with an annual consumption of less than 0.3 kg per capita, Montreal Protocol allows them a ten-year grace period for total phase-out. Protocol has been amended in London in 1990, Copenhagen in 1992, Vienna in 1995 and again in Montreal in 1997. Bangladesh is among the Parties to the Protocol.

**Promotion of Ozone Layer Protection in Bangladesh :** Bangladesh accessed the Montreal Protocol on 2nd August 1990 and ratified its London and Copenhagen amendments in March 1994 and June 1996, respectively. Bangladesh is operating under paragraph 1 of Article 5 of the Montreal Protocol. According to the Protocol, control measures have to be imposed on the import and consumption of CFCs from 1 July 1999. From that time consumption of CFCs should not exceed the average consumption of CFCs in 1995, 1996 and 1997.

In order to implement the Montreal Protocol and consequent commitment to phase-out the use of ODSs, the Government of Bangladesh undertook a reconnaissance study on import and consumption of ODSs in 1993 and, based on the study, a detailed Country Programme was drawn in 1994. In accordance with the Country Programme, four project proposals were prepared and submitted to the Montreal Protocol Multilateral Fund (MLF) for financial assistance. Projects were : Institutional Strengthening for the Phase-out of Ozone Depleting Substances; Aerosol Sector Phase-out; ODS Phase-out in Large Refrigeration Units; and Training for Technicians engaged in Refrigeration and Air-conditioning Service Sector. Out of four aforesaid projects only the first two were approved by MLF. In pursuance of commitment to phase-out ODSs within the stipulated period, Ozone Cell was constituted within the Department of Environment in 1995.

The project "Institutional Strengthening for the Phase-out of Ozone Depleting Substances" became operational on 1 March, 1996 and was successfully completed on 28 February, 1999.

The following activities were undertaken during the period from March 1996 to February 1999, under "Institutional Strengthening for the Phase-out of ODS" project.

Data update survey on import and consumption of ODS for the year 1994, 1995, 1996 and 1997; Reporting of Data on ODS import and uses to the Montreal Protocol Secretariat; Publication of information brochures, both in Bangla and in English; Organization of Seminars in 1996 and 1997 on the eve of observance of International Ozone Day. Holding the seminar in 1998 was dropped due to the unprecedented and devastating floods that affected the entire country during the year; A local Economic Consultant was engaged to analyze the economic implications of ODS phase-out in Bangladesh with a view to evolving a policy and institutional framework for implementation and monitoring of the Country Programme; A local Legal Consultant was also engaged by the government for formulating a legal framework for phase-out of ozone depleting substances in Bangladesh; The consultants submitted the reports after necessary improvements and updations through holding consultative workshops. These workshops were widely participated by relevant policy and decision levels of the Government, the judiciary, member of the legal professions, NGOs, mass-media, various professional bodies related to academic pursuits in the field of ozone depletion and trade associations. The reports have been under active considerations of the government.

Co-ordination with ACI Ltd. for phase-out of ODS in Aerosol sector. A project entitled "Conversion to CFC-free technology at ACI Ltd" to this end is under implementation; Launching of awareness campaign targeting importers, users and technicians engaged in repair and service shop of refrigerators and airconditioners; Launching of an awareness campaign among the importers and users of ODSs about the negative impacts of ozone layer depletion throughout the country; Observance of International Ozone Day in 1997 coincided with 10th Anniversary of the Signing of Montreal Protocol. The Department of Environment, Ministry of Environment and Forest, Government of Bangladesh undertook various programs on the day which include, inter alia, holding a seminar, publication of a poster and a brochure and bring out special supplements in various national dailies. The Bangladesh Betar had broadcast a

special programme highlighting the significance of the day. Launching of awareness campaign on World Environment Day 1996, 1997, 1998 and 1999 about the importance of ozone layer conservation. Brochures were distributed in the Environmental Fair organized by DOE on these occasions; Organization of a nationwide painting competition in August, 1998 at Bangladesh Shishu Academy premises on the theme "Protection of the Ozone Layer". About eight hundred children belonging to the age group of 16 years and below had participated in the competition; Observance of International Ozone Day on 16th September 1998. The programme of the day included publication of messages of the Hon'ble President, the Hon'ble Prime Minister, the Hon'ble Minister for Environment and Forest, the Secretary, Ministry of Environment and Forest and Resident Representative of UNDP in Bangladesh in the several national dailies through bringing out special supplements. Printed posters and stickers were distributed for mass awareness. Besides, the Bangladesh Betar had broadcast special programme; Organization of Training workshops on "Promotion of Ozone Layer Protection in Bangladesh" for motivating various tiers of policy and decision makers and "Good Practices in Refrigeration and Air-conditioning Servicing Sectors" for technicians and personnel engaged in servicing of various ODS-based equipment. The Department of Environment undertook an extensive programme for general masses about the harmful consequences of ozone layer depletion and the means to protect it.

For continuation of the activities of Ozone Cell in Bangladesh, a Tripartite Review Meeting held in the Ministry of Environment and Forest in December 1998, decided to extend the project "Institutional Strengthening for the Phase-out of Ozone Depleting Substances" as Phase-II from March 1999 for two years in line with the decisions of the 19th meeting of the Executive Committee of MLF. Government of Bangladesh has requested renewal of Institutional Strengthening Project as Phase-II under MLF grant through UNDP. MLF assistance to the tune of US\$ 1,00,000 is requested for the project.

**ODS Consumption during 1995-1997 :** Surveys were conducted on the ODS consumption patterns in Bangladesh corresponding to the years 1995, 1996 and 1997. The following table represents the findings of the above surveys.

ODS	Consumption in MT (metric tons)		
	1995	1996	1997
CFC-11	82.6	264.2	285.0
CFC-12	178.9	342.7	543.88
HCFC-22	35.2	72.5	67.7
Methyl chloroform	2.1		
CCL	7.0	1.83	6.3
R-502			2.0
Freons		4.1	
CFC-115		5.0	5.1
<b>Total</b>	<b>305.8</b>	<b>687.6</b>	<b>914.3</b>

The largest ODS consuming sector in Bangladesh has been the aerosol sector. As per 1997 survey, there is only one aerosol producing company, ACI Ltd., consuming about 60% of total ODS used in the country. For the phase-out of this important sector, a project entitled "Conversion to CFC-free technology in the manufacture of Aerosol Products" is being implemented by the Department of Environment and is expected to be completed by the first quarter of 2000. At the end of the project 60% of ODS uses is expected to be phased out.

The next largest ODS consuming sector has been the refrigeration and air-conditioning servicing sector. As per survey report of 1997, it is observed that about 2.3 million commercial and domestic refrigerators containing CFCs are in use throughout the country. A developing country like Bangladesh can hardly afford to discard such a large number of refrigerators. Therefore, facilities for recycling of ODS need to be provided with support from MLF to prevent their leakage to the atmosphere. Recycling will reduce demand for new production / import and meet the domestic need.

The Government is now at the stage of examining the existing laws to determine the nature of legislation and regulation required to phase-out ODS in Bangladesh. In the interim period, till such legislation is in place, existing laws are being used to prohibit any new industry from being set up using ODS as raw materials. Thus, Bangladesh is expected to remain in full compliance of the Montreal Protocol.

**Export of ODS-based Appliances from Non-Article 5 Countries :** Quite a significant volume of trade between non-Article 5 (having more than 0.3 kg per capita annual ODS consumption) and Article 5 (having 0.3 kg or less per capita annual ODS consumption) countries involves export of new and second-hand appliances from the former to the latter. Continued operation of most of these appliances relies on Annex A (CFC-11, CFC-12, CFC-113, CFC-114, CFC-115, Halon-1211, Halon-1301 and Halon-2402) and Annex B (fully halogenated CFCs, carbon tetrachloride and methylchloroform) substances. Bangladesh fully endorses the Decision IX/9 of the Ninth Meeting of the Parties which recommends that non-Article 5 countries should adopt legal and administrative measures including labeling of such products, equipment, components and technologies for export to article 5 countries and also that the non-Article 5 countries should adopt appropriate measures to control the export of such products, equipment, components and technologies in cooperation with the importing Article 5 countries.

In order to control the practice at source, the non-Article 5 countries should ensure that new or second hand appliances meant for export to and use in Article 5 countries do not involve any substances listed under Annexes A and B.

**ODS Use and Green House Effect :** The CFCs, among major ozone depleting substances, are greenhouse gases. Bangladesh will be the worst sufferer due to climate change and sea level rise caused by greenhouse gases (GHG). It has been estimated that 17.5 % of low-lying coastal area of Bangladesh will be inundated with a one meter rise in the sea level. Rainfall may increase due to climate change caused by rise in temperature. Water levels of rivers will rise during rainy seasons. As a result, flood situation will deteriorate. Unprecedented floods of 1987 and 1988, devastating cyclone along with tidal waves in 1991, drought in 1992 and century's most prolonged and devastating flood situation of 1998 can each be considered as a small but significant message for us. We can contribute considerably by avoiding use of CFC-based equipment and products and, thus, identify ourselves in the global efforts significantly towards controlling and minimizing release of CFCs to the atmosphere and offsetting the greenhouse effect.

**Conclusion :** People's participation along with Government's efforts is necessary for the protection of Ozone Layer. As individuals, we can contribute considerably to minimize the Ozone layer depletion. CFC-free refrigerators and aerosol products are now available in the market. We can help safe guarding the Ozone Layer through buying CFC-free refrigerators and aerosols products.



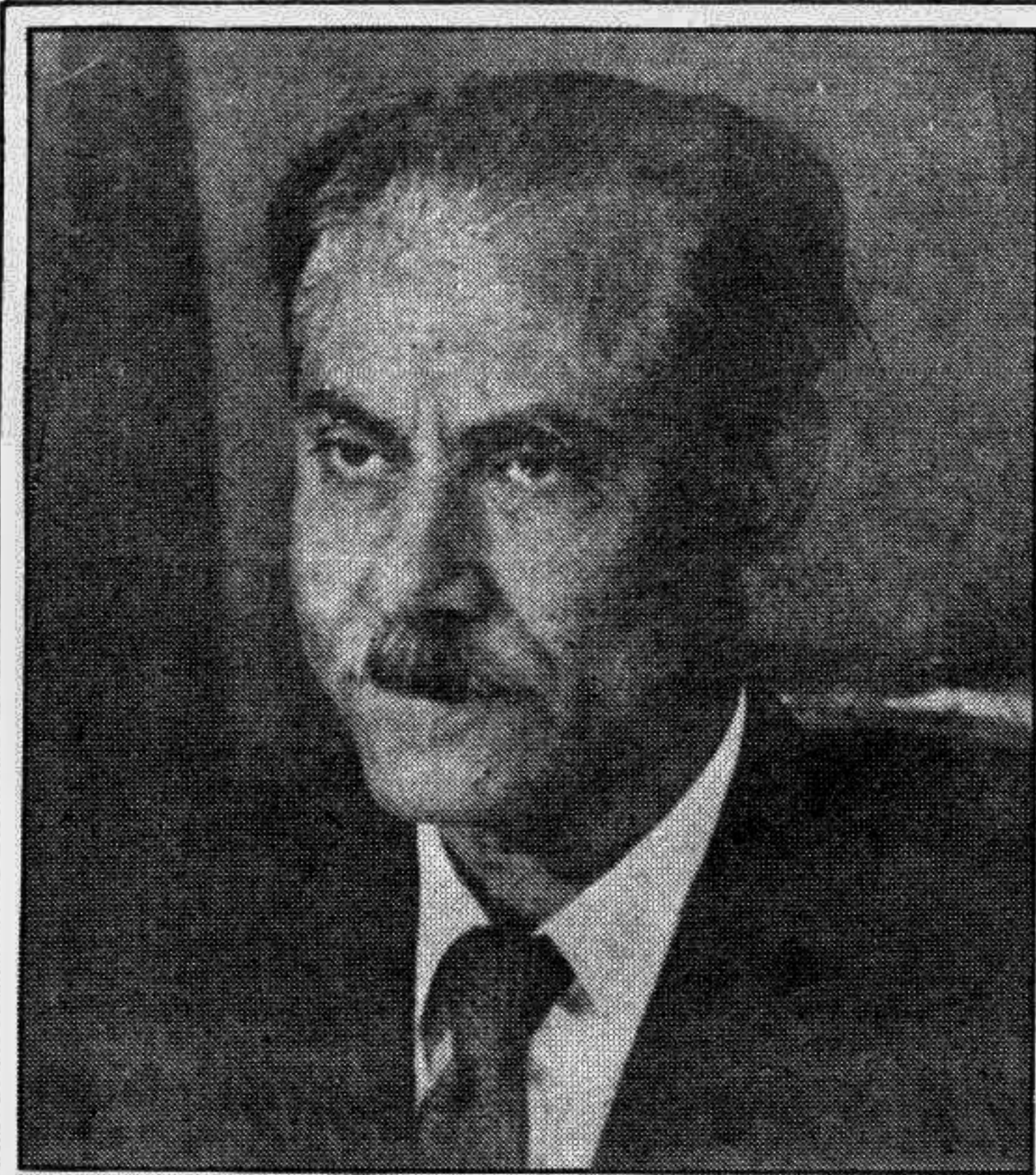
### MESSAGE

I welcome the initiative to observe the International Ozone Day in Bangladesh. The government is firm to protect environment. A number of protocols and conventions including the Montreal Protocol have been signed in achieving this goal. The 'Ozone Cell' and the 'National Technical Committee on Ozone Depleting Substances' (NTCODS) under the umbrella of the Ministry of Environment and Forest are actively engaged in implementing the Montreal Protocol. I hope country's scientists and technologists will help innovate, apply and utilize indigenous technologies as substitutes to ozone depleting substances through their wisdom. I believe, we would be able to review the progress of implementation of our commitment to preserve environment and be able to formulate future programmes in this regard during the observance of the day. I wish all success of the programmes of the day.

Joy Bangla, Joy Bangabandhu  
May Bangladesh Live Forever

Sheikh Hasina  
Prime Minister

Government of the people's Republic of Bangladesh



### MESSAGE

Today is the International Ozone Day. According to the decision of the United Nations General Assembly, this day is being observed on 16th September with a view to creating public awareness about the negative impact of ozone layer depletion throughout the world. I am very happy to learn that the day is going to be observed in Bangladesh in a befitting manner.

Scientists engaged in environmental research have indicated that increased incidence of UV-B rays on the earth's surface deplete the atmospheric ozone layer and have harmful consequences on human health, animals, plants, micro-organisms, materials and air quality. Protection of the ozone layer is, hence, of utmost necessity in ensuring the existence of plants and animals throughout the world. Bangladesh, with her limited resources, and in solidarity with the world community, has been progressively striving towards protecting the ozone layer.

Let the combined efforts of the scientists and the general masses of Bangladesh in close co-operation and co-ordination with the international initiatives bear fruits towards conserving the environment specially that of the atmospheric ozone layer.

I wish observance of the International Ozone Day a success.

Justice Shahabuddin Ahmed  
President  
People's Republic of Bangladesh



### MESSAGE

Today is September 16, 1999. This is being observed in Bangladesh as well as in every other country of the world, as the International Ozone Day. The theme for this year "Save Our Sky : Be Ozone-Friendly" is a timely appeal for protecting the world from environmental degradation.

The signing of the Montreal Protocol towards conserving the ozone layer from gradual depletion and restoring it to its original state is a shining example of the determination of peoples and governments to solve global environmental problems. Bangladesh is also a signatory to the protocol and committed to phasing-out ozone depleting substances within the period as stipulated by the Protocol.

The CFCs occupy a significant portion of the ozone depleting substances. These gases, on the one hand, are ozone depleting and, on the other, play their roles in increasing global warming and in adverse changes in the climatic conditions. Moreover, the global absorption of carbon dioxide may also be hampered by the increased incidence of harmful ultraviolet rays on the earth's surface due to ozone layer depletion. As a consequence, there is an enhanced apprehension of the process of climate change attaining greater pace.

Climatic conditions of Bangladesh have witnessed such an alarming process during the contemporary years. Recurrence of natural calamities such as flood, tornado, draught, etc., have become common in the fate of Bangladesh. The flood of 1998, in particular may be cited as a glaring example of such adverse natural calamities in respect of its duration, dimension and devastation. According to experts the situation may undergo further deterioration if this rate of environmental degradation goes on unabated. We can overcome, although even to a limited way, such an alarming situation if we can phase-out the use of ozone depleting substances.

Let us hope with our combined and coordinated efforts, the use of ozone depleting substances will be phased out.

I wish all success to the observance of this year's International Ozone Day.

Joy Bangla, Joy Bangabandhu  
May Bangladesh Live Forever

Syeda Sajeda Chowdhury  
Minister

Ministry of Environment and Forest  
Government of the People's Republic of Bangladesh.

## Use CFC-free fridge refrigerator airconditioner.

Courtesy:

BETS

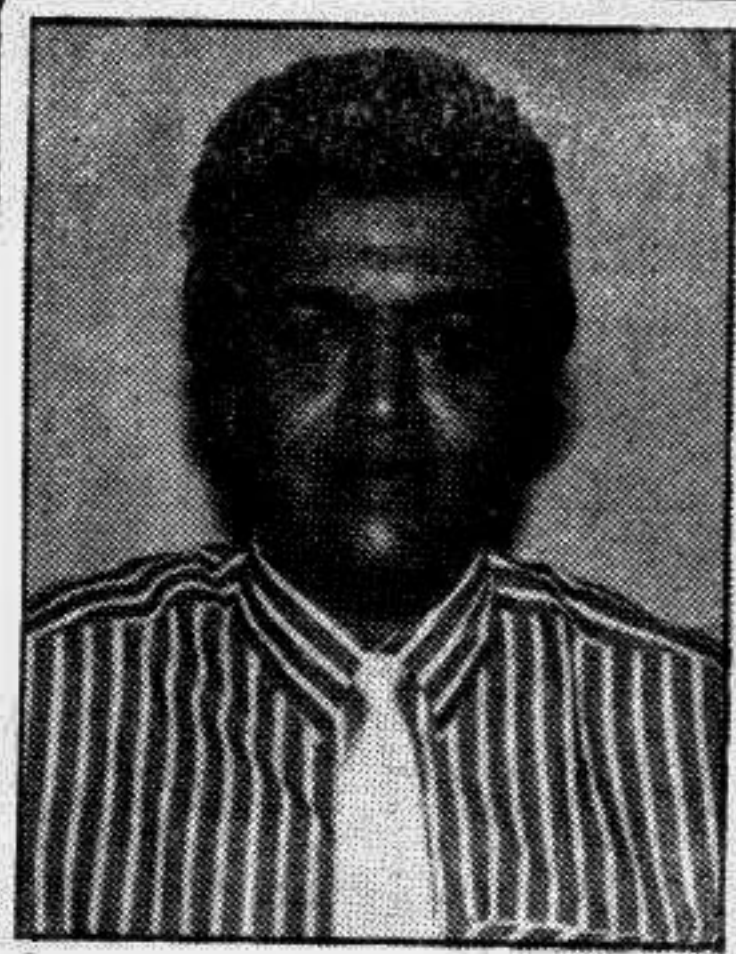
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### MESSAGE

After Bangladesh signed the Montreal Protocol, September 16 has been observed, in Bangladesh, along with many other countries of the World, as the International Ozone Day.

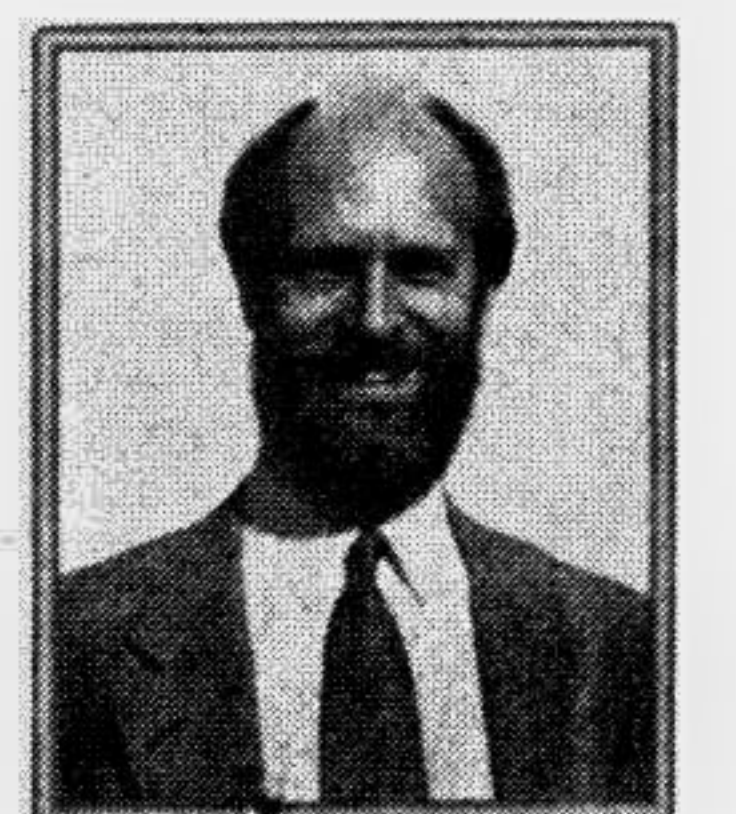
"Save our Sky : Be Ozone Friendly" is theme for this year's International Ozone Day. The theme, I think, is very appropriate in the context of the present Environmental condition of our planet. Saving the Ozone layer from further depletion is among the most important environmental concerns of planet earth.

Bangladesh, as a party of the Montreal Protocol, is pledge bound to phase-out 50% of the CFCs used in the country by 2005 and completely by 2010. We, in Bangladesh, have taken measures to approximate these objectives as signatories to the Montreal Protocol with in the stipulated time table.

Since September 16, 1998 we have taken steps to introduce CFC free technologies in Bangladesh for the manufacture of Aerosol products. We have initiated a process which will lead to the imposition of restrictions (and eventually ban) on the import of air conditioners, cold storage, plants and refrigerators that emit Ozone Depleting Substances.

Today, on September 16, we in Bangladesh, once again, renew our pledge to protect the ozone layer. We shall, in accordance with the theme of day formulate and implement policies that will be ozone-friendly and help to "Save Our Sky".

Syed Marghub Murshed  
Secretary  
Ministry of Environment & Forest  
Government of the People's Republic of Bangladesh



### MESSAGE

Today's observance of International Day for the Preservation of the Ozone Layer bears special significance as it deals with a great danger to the health and well-being of peoples and ecosystems around the world. As we enter the new millennium, our continued efforts will be needed to ensure concrete steps to protect the Earth's protective ozone layer. The theme for this year's International Ozone Day, "Save Our Sky : Be Ozone-Friendly" is an urgent appeal to each and every one of us to renew our commitments to act quickly to halt further depletion of the earth's ozone layer.

Bangladesh was a signatory in 1990 to the global treaty for protection of the ozone layer known as the Montreal Protocol, which was intended to activate the nations to take quick actions to protect the Earth from harmful solar radiation.

After joining the protocol, Bangladesh has successfully completed a three year national programme in 1999 to phase out Ozone Depleting Substances through an institutional strengthening project supported by UNDP under Montreal Protocol Funding. Another project that is under implementation, supported by the Montreal Protocol's initiative is to assist the private sector industries to convert to CFC-free technology. It is encouraging that Bangladesh is on the way to eliminate ozone depleting substances from the country within a year and thereby, build its image in the global context of commitments to make the earth a safer place.

The United Nations system is happy to assist the Montreal Protocol in working with the Government and people of Bangladesh in meeting their commitments to the global community for protection of Ozone layer of the world.

David E. Lockwood  
UN Resident Coordinator in Bangladesh