

*Mr. Ch... the town is late & lunch has been
I will quote my remarks on the history that the
of English words. BBS was right when he observed*

THE ROLE OF THE PRIVATE SECTOR IN ENVIRONMENTAL ACTION

*In order for a speech to be successful it must
not be eternal*

WILLIAM D. RUCKELSHAUS
WORLD INDUSTRY CONFERENCE
ON ENVIRONMENTAL MANAGEMENT
VERSAILLES, FRANCE
NOVEMBER 14, 1984

*Since I arrived
just out 10 yrs
I have seen
lead.*

PRESIDENT REAGAN HAS ASKED ME TO EXTEND HIS BEST WISHES
FOR A SUCCESSFUL FIRST WORLD INDUSTRY CONFERENCE ON ENVIRONMENTAL
MANAGEMENT. WE IN ^{the U.S. Env Prot Ag.} ~~EPA~~ CERTAINLY ENDORSE ITS GOALS. WE THANK
PRESIDENT MITTERRAND AND THE GOVERNMENT OF FRANCE FOR THEIR
GENEROSITY IN HOSTING THIS CONFERENCE, AND ~~SITUATING IT IN A~~
~~PLACE~~ ^{place} ~~PLIEU OF INCOMPARABLE SPLENDOR.~~

A QUICK LOOK AT THE AGENDA SHOWS THAT CONCERN FOR THE ENVIRONMENT IS NOW BUILT INTO OUR INDUSTRIAL WORLD VIEW.

NATIONS AT ALL STAGES OF DEVELOPMENT HAVE FORMALLY RECOGNIZED

THAT WE DO IN FACT SHARE ONE PLANET--^{and interconnected} A SEAMLESS WEB OF LIFE

AND RESOURCES FOR WHICH WE, AS THE DOMINANT SPECIES, MUST

ACCEPT FINAL RESPONSIBILITY.

EACH NATION HAS EVOLVED ITS OWN SYSTEM TO CONFRONT THIS CHALLENGE. IN THE UNITED STATES WE ADOPTED A STRATEGY OF SETTING NATIONAL STANDARDS FOR CLEAN AIR AND WATER AND THEN COMPELLING COMPLIANCE WITHIN CERTAIN TIMETABLES.

I was the first ^{in my 1st term} dir of the U.S. EPA created in 1970. I stayed for 3 years & returned 10 years later in the Spring, 1983.

Let me tell you a little of what I learned upon returning & how our system worked in terms of environmental improvement. It is not perfect & may not be what other countries do. In the U.S. we have...

in remarkable progress.

not able to enforce them

WE FELT THAT WAS THE RIGHT APPROACH WHEN THE NATURE
OF THE PROBLEM WAS OBVIOUS TO EVERYONE. OUR SMOGGY SKIES,
~~TRASH STREWN HIGHWAYS~~ AND ^{*collected*} SEWAGE LADEN STREAMS COULD HARDLY
BE DENIED. THE PERCEIVED SIMPLICITY OF THE PROBLEM HELPED
PROPEL A GREAT WAVE OF REFORM LEGISLATION UNPRECEDENTED IN
AMERICAN HISTORY.

US EPA
IN 1970, WHEN THE AGENCY CAME INTO BEING, AIR POLLUTION
WAS A RISING THREAT TO PUBLIC HEALTH IN MANY PLACES. SMOG
ALERTS WERE INCREASING. IN SOME CITIES A CLEAR DAY WAS A
SUBJECT OF MUCH COMMENT.

WATER POLLUTION, TOO, WAS PERVASIVE. WE HAD A RIVER IN THE STATE OF OHIO THAT BURST INTO FLAMES IN 1970. SCIENTISTS WERE PREDICTING THE DEATH OF LAKE ERIE, ONE OF THE GREAT LAKES. ~~FISH KILLS IN PENSACOLA BAY IN FLORIDA WERE REPORTED NOT IN TONS BUT IN SQUARE MILES.~~ LONG STRETCHES OF THE ATLANTIC COAST WERE CLOSED TO SWIMMING AND FISHING.

IT IS THUS NOT REMARKABLE THAT MY FIRST SPEECH AS ADMINISTRATOR OF EPA IN 1970 WAS A DEFENSE OF THE ENVIRONMENTAL ETHIC, OF THE NEED TO PRESERVE OUR LIFE SUPPORT SYSTEMS.

in the U.S.
TODAY THAT ETHIC IS TAKEN FOR GRANTED. WE HAVE AGGRESSIVELY PURSUED THE OBJECTIVES LAID OUT IN TEN MAJOR ENVIRONMENTAL LAWS, AND I THINK I CAN SAFELY SAY THAT OUR MAJOR AIR AND WATER PROBLEMS ARE EITHER UNDER CONTROL OR WELL ALONG IN THE PROCESS OF BEING CONTROLLED.

Overhaul air pollution
-5-

DURING THE ^A70s, ALTHOUGH WE ADDED 30 MILLION PEOPLE TO OUR POPULATION AND BOOSTED THE GROSS NATIONAL PRODUCT BY 36 PERCENT, PARTICULATE EMISSIONS ^{or smoke} DROPPED 53 PERCENT, SULFUR OXIDES 26 PERCENT AND CARBON MONOXIDE 20 PERCENT. AMBIENT LEAD PLUMMETED 64 PERCENT BETWEEN 1975 AND 1982, AS THE USE OF LEADED ^{gasoline} PETROL TAILED OFF.

Most important we must remember how much worse it would have been had we done
ANNUAL SULFUR OXIDE EMISSIONS WOULD HAVE REACHED 41 ^{in the US by} MILLION TONS IN 1980 INSTEAD OF 27 MILLION HAD WE NOT CONTROLLED

INDUSTRIAL AND POWER PLANT STACK GASES. ACID RAIN WOULD ^{undoubtedly} PRESUMABLY HAVE BEEN WORSE AS WELL. BUT THESE GAINS ARE NOT ATTRIBUTABLE SOLELY TO REGULATION OF STATIONARY SOURCES.

THANKS TO EXHAUST CONTROLS OUR 1984 MODEL CARS EMIT 95 PERCENT LESS CARBON MONOXIDE AND HYDROCARBONS AND 76 PERCENT FEWER NITROGEN OXIDES THAN THE UNCONTROLLED CARS OF 1970.

INDEED, THE TRENDLINES FOR AMBIENT LEVELS OF VIRTUALLY ALL IMPORTANT AIR POLLUTANTS IN ALMOST ALL CITIES ^{of C.O.S} HAVE BEEN STEADILY DECLINING. A DECADE AGO, FOR EXAMPLE, THE CITY OF PORTLAND, OREGON COULD EXPECT TO EXPERIENCE A HUNDRED OR SO DAYS PER YEAR WHEN THE CO COUNT WAS IN EXCESS OF THE AMBIENT STANDARD. NOW IT'S ONLY TWO OR THREE DAYS.

WE BROUGHT ABOUT THESE IMPROVEMENTS WITH A SYSTEM OF NATIONAL AMBIENT AIR QUALITY STANDARDS DESIGNED ESSENTIALLY TO PROTECT PUBLIC HEALTH CLOSE-^{to the source of pollution} IN. WE IN EPA SET THE STANDARD AND THE STATES IMPLEMENT THE PROGRAM AND TAILOR IT TO FIT EACH LOCAL AIRSHED. THAT PROVIDES THE ADAPTABILITY NEEDED IN A CONTINENTAL SOCIETY WITH SIGNIFICANT VARIATIONS IN POLLUTION COMPONENTS FROM ONE REGION TO THE NEXT.

*This same progress has been made
in water pollution control*

IN ADDITION, WE HAVE PROVIDED MUNICIPAL SEWAGE TREATMENT FOR MORE THAN 80 MILLION AMERICANS BETWEEN 1972-82 AT A COST OF \$56 BILLION OR \$260 PER CAPITA. MOST INDUSTRIES HAVE INSTALLED WATER POLLUTION CONTROLS BASED ON LIMITATIONS PRESCRIBED IN OUR PERMITS, AND AS A RESULT ORGANIC WASTE DISCHARGES HAVE BEEN CUT 38 PERCENT. WHEN THE CONTROLS MANDATED BY OUR NEW EFFLUENT GUIDELINES ARE FINALLY IN PLACE, DISCHARGES OF TOXIC POLLUTANTS WILL HAVE BEEN SLASHED 96 PERCENT FROM 1972 LEVELS.

IN ALL, WE'VE UPGRADED THE QUALITY OF 390,000 ACRES OF LAKES AND 47,000 MILES OF WATERWAY, AND NATURE HAS RESPONDED WITH COMMENDABLE RESILIENCE. FISHING AND AQUATIC RECREATION ARE NOW ROUTINELY PURSUED ON MAJOR RIVERS THAT PEOPLE THOUGHT WERE LOST FOREVER.

one of the best lakes on the C & A border.

-8-

LAKE ERIE DID NOT DIE, IT'S COME BACK WITH A FLOURISH,
AND COMMERCIAL FISHING IS AGAIN A PROFITABLE ENTERPRISE THERE.
WILDLIFE AND AQUATIC PLANTS HAVE RETURNED TO THE TRINITY
RIVER IN DALLAS, TEXAS, ONCE WRITTEN OFF AS A SEWER. THE
WILLAMETTE, THE CONNECTICUT, THE CHATTAHOOCHEE, THE UPPER
MISSISSIPPI--*Sperry and others* ALL ARE FAR HEALTHIER IN TERMS OF BIOLOGICAL
OXYGEN DEMAND AND FISH LIFE. SALMON ARE *now* OCCASIONALLY SEEN
IN THE HUDSON. MORE THAN 22,000 ACRES OF NEW JERSEY SHORE
HAVE BEEN RE-OPENED FOR SHELLFISHING.

Indeed as one example

AS I FLEW INTO NATIONAL AIRPORT IN WASHINGTON ON MY
RETURN *to EPA & Gov. Strouse* LAST YEAR I WAS STRUCK BY THE NUMBER OF FISHERMEN AND
SAILBOATS ON THE POTOMAC. TEN YEARS AGO MILLIONS OF GALLONS
A DAY OF RAW SEWAGE WOULD HAVE RENDERED SUCH ACTIVITY IMPOSSIBLE.

I SUPPOSE THE LEADING SYMBOL OF THE NEW ENVIRONMENT IS
THE RETURN OF THE BALD EAGLE. ENDANGERED POPULATIONS OF OUR
NATIONAL BIRD HAVE REGENERATED MUCH MORE QUICKLY THAN EXPECTED,
A RESURGENCE STRONGLY CORRELATED WITH OUR BAN ON DDT.

FINALLY, THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1970,
WHICH MANDATES A REVIEW OF THE ENVIRONMENTAL IMPACT OF MAJOR
GOVERNMENTAL ACTIONS, HAS STOPPED MANY UNDESIRABLE PROJECTS.

SOME, I'M SURE, HAVE NEVER LEFT THE DRAFTING TABLES

I COULD GO ON WITH THIS CHAUVINISM ALL DAY LONG BUT MY

POINT IS THAT GIVEN REASONABLE GOALS WE CAN MAKE REASONABLE

PROGRESS. WE REALLY NEED--ALL OF US--A SENSE OF THE

POSSIBILITIES AND PROOF THAT STRENUOUS EFFORT PAYS OFF. WE

MUST NOT BE DISHEARTENED BY OCCASIONAL SETBACKS.

Having made much progress on the first
generation of pollution we should take heart
& hope from that success as we confront
tougher problems.

to be reviewed.
*I say clearly that to suggest no more progress
in this view not a serious, accepted, adaptive
development & developing nations
Other nations will come. We're*

simple
sensible, achievable

if it had not been all success

INDEED, ~~I'LL HAVE TO ADMIT THAT~~ WE IN EPA DID A LOT OF
FLAILING AROUND BACK IN THE EARLY SEVENTIES, TRYING TO PULL
TOGETHER THE CENTRAL GOVERNMENT'S FRAGMENTED, BADLY COORDINATED
ENVIRONMENTAL PROGRAMS AND ATTEMPTING TO ENFORCE BRAND-NEW,
UNPRECEDENTED POLLUTION CONTROL LAWS. WE MADE OUR SHARE OF
MISTAKES.

~~But~~
ADMITTEDLY, ~~TOO~~, TODAY'S CHALLENGES ARE MUCH MORE
I will let tough to solve.
COMPLEX. OFTEN THEY DO NOT SUGGEST EASY ANSWERS AND ARE NOT
AMENABLE TO INSTANT SOLUTIONS.

WHEN THE LOVE CANAL EPISODE EXPLODED INTO THE HEADLINES
IN AMERICA IN THE LATE 70s, PEOPLE BEGAN TO FEAR THAT ABANDONED
HAZARDOUS WASTE DUMPS WOULD BECOME POTENTIALLY SERIOUS THREATS
TO THEIR HEALTH AND PROPERTY VALUES. IN SOME CASES, WHOLE
COMMUNITIES PANICKED. THEY DEMANDED PROTECTION, AND IN
DECEMBER, 1980, ^{the Congress} CONGRESS RESPONDED WITH A LAW CALLED SUPERFUND
TO CLEAN UP THE DUMPSITES.

THIS IS A PROBLEM THAT HAS BEEN IN THE MAKING FOR
DECADES, IN FACT, IN ONE FORM OR ANOTHER, SINCE THE BEGINNING
OF THE INDUSTRIAL REVOLUTION. FOR A HUNDRED YEARS, INFLUENCED
BY THE NOTION OF AN INFINITE FRONTIER AND STRONG ECONOMIC
INCENTIVES, WE JUST DUMPED EVERYTHING ANYWHERE WE WANTED.
WE ARE NOW PAYING THE PRICE OF PAST NEGLECT. *we should*

learn from this.

WE ARE PUSHING AHEAD AGGRESSIVELY TO LOCATE ABANDONED
WASTE DUMPS IN ALL 50 STATES. WE HAVE TRIPLED OUR SUPERFUND
BUDGET IN A TWO-YEAR PERIOD ^{from 210} TO \$620 MILLION. WE HAVE ALREADY
↑
UNDERTAKEN MORE THAN 400 EMERGENCY CLEANUPS TO SAFEGUARD THE
PUBLIC. WE DON'T WAIT TO FIND OUT WHO SHOULD BE RESPONSIBLE
FOR THE CLEANUP ^{costs} WE MOVE IN AT ONCE WHENEVER CHEMICAL ANALYSIS
REVEALS AN IMMINENT THREAT TO PUBLIC HEALTH.

LONG-TERM PERMANENT CLEANUPS WILL BE CONTINUING AT
HUNDREDS OF SITES NEXT YEAR AND THE PROGRAM IS RAPIDLY
ACCELERATING. ALTOGETHER, FROM 1400 TO 2200 LOCATIONS MAY
NEED COMPREHENSIVE DECONTAMINATION.

THIS IS THE MOST MASSIVE EFFORT OF ENVIRONMENTAL RENOVATION THE UNITED STATES HAS EVER ATTEMPTED. ANALYSIS, ENGINEERING DESIGN AND RECONSTRUCTION ARE COMPLICATED BECAUSE NO TWO SITES ARE THE SAME. WHERE GROUNDWATER IS AFFECTED, PUMP-OUT AND PURIFICATION COULD TAKE 30 YEARS OR MORE.

INDEED, GROUNDWATER IN GENERAL MAY BE ~~THE SLEEPER ISSUE~~ *one of the most different issues* OF THE LATE 80s. APPROXIMATELY ONE-HALF OF ALL AMERICAN COMMUNITIES DEPEND UPON IT FOR DOMESTIC USES, AND SOME OF IT IS POTENTIALLY AT RISK. MOST OF THE PROBLEM IS STRICTLY LOCAL BECAUSE CONTAMINANTS RARELY SPREAD VERY FAR AND THEY DON'T MOVE RAPIDLY. IN RECENT YEARS WE HAVE MADE GOOD PROGRESS IN DETERMINING THE MAJOR THREATS TO GROUNDWATER AND PLANNING HOW TO COME TO GRIPS WITH THEM. WE ARE NOW ACTIVATING OUR OVERALL GROUNDWATER PROTECTION STRATEGY.

I'M SURE ~~IT IS LONG SINCE OBVIOUS EVEN IN THE MOST~~
~~CONSERVATIVE QUARTERS THAT LAISSEZ-FAIRE IN ENVIRONMENTAL~~
~~MATTERS WOULD BE SELF-DESTRUCTIVE.~~ ^{all} ^S GOVERNMENT MUST DO WHAT
IT CAN TO PROTECT THE BIOLOGICAL AND GEOPHYSICAL BASES OF
HUMAN EXISTENCE. ^{they} YET ~~IT~~ CANNOT DO EVERYTHING.

^{an American Reagan's}
IT IS ~~THE~~ PRESIDENT'S CONVICTION, AS IT IS MINE, THAT
SOCIETY IS NOTHING IF NOT A VAST RESERVOIR OF UNTAPPED CREATIVE
TALENT, AND THAT WE SHOULD DRAW UPON IT IN TACKLING THE NEW
AND SEEMINGLY INTRACTABLE PROBLEMS OF LONG-TERM ENVIRONMENTAL
MANAGEMENT.

We are trying to take the principle
of cooperation between the government
& the private sector, including industry &
the environmentalists & turn it into an
operating reality.

WE ARE TRYING TO STIMULATE, SUPPORT AND ENLARGE
COMMUNICATION AMONG VARIOUS ELEMENTS OF OUR OWN PRIVATE
SECTOR--THIS IS WHERE, PARTICULARLY IN A TIME OF TIGHT BUDGET
CONSTRAINTS, MANY SOLUTIONS WILL BE GENERATED. THE SIGNS
are VERY POSITIVE.

WE ARE BEGINNING TO SEE THE EMERGENCE OF ^{*what we call*} "BRIDGING
INSTITUTIONS" BETWEEN INDUSTRY AND GOVERNMENT AND EVEN BETWEEN
INDUSTRY AND THE ENVIRONMENTALISTS. THE OLD HOSTILITIES ARE
BREAKING DOWN, AND OLD GRIEVANCES ARE GIVING WAY TO A SPIRIT OF
COOPERATION, A NEW WILLINGNESS TO LISTEN.

THE HEALTH EFFECTS INSTITUTE IS A PERFECT EXAMPLE OF
a heredity institution
~~THIS POTENTIAL.~~ HEI IS A COOPERATIVE EFFORT PAID FOR JOINTLY

BY EPA AND *our* THE AUTOMOBILE INDUSTRY TO EVALUATE THE *health* ~~MEDICAL~~

CONSEQUENCES OF CAR AND TRUCK EXHAUST GASES. OUR GOAL IS

SIMPLY TO GAIN ACCEPTANCE BY ALL PARTIES OF THE DATA THAT
the facts

MAY BE NECESSARY FOR FUTURE REGULATIONS. *We can disagree*
on what should be done. We should agree on what
is the problem.

AN INDEPENDENT BOARD CONTRACTS OUT THE KIND OF RESEARCH
THAT MUST BE DONE, AND THEN MAKES ITS FINDINGS AVAILABLE TO

EPA AND INDUSTRY ALIKE. WE ARE IMPRESSED BY THE WORK OF THE

HEI; IT HAS PROVEN A HIGHLY COST-EFFECTIVE WAY TO TARGET

RESEARCH OPPORTUNITIES.

*Bell really serious
committed ?*

*David Porter
already
mentioned
w/ release*

THEN THERE IS CLEAN SITES, INC., A NONPROFIT CORPORATION
 SET UP BY A MAJOR ENVIRONMENTAL GROUP AND LEADERS OF INDUSTRY
 TO FACILITATE THE CLEANUP OF ABANDONED HAZARDOUS WASTE DUMPS.
 WE HOPE THAT CLEAN SITES WILL BECOME A MODEL FOR PUBLIC AND
 PRIVATE COLLABORATION ELSEWHERE. THIS EFFORT IS NOT A SUBSTITUTE
 FOR THE CENTRAL GOVERNMENT EFFORT TO CLEAN UP HAZARDOUS WASTES
 CARELESSLY DISCARDED IN THE PAST, BUT A USEFUL ADJUNCT THAT MAY
 COME UP WITH NEW ANSWERS.

WHAT, THEN, IS THE BASIC ROLE OF AMERICA'S EPA?

ESSENTIALLY, WHAT WE DO IS TO ASSESS, MANAGE AND REDUCE RISK.

We cannot
~~OUR JOB IS NOT~~, EXCEPT UNDER SPECIAL CIRCUMSTANCES, ~~TO~~ ELIMINATE
risk
~~it~~. THAT IS USUALLY IMPOSSIBLE. THE ASSESSMENT OF RISK AND
ITS MANAGEMENT HAVE ABSORBED A LOT OF MY TIME OVER THE LAST
FIFTEEN YEARS.

RISK ASSESSMENT IS THE SCIENTIFIC PROCESS OF DEFINING
THE PROBLEM--THE HEALTH OR ENVIRONMENTAL EFFECTS OF THE
SUBSTANCE WE MAY CHOOSE TO REGULATE. IT IS NOT PURE SCIENCE
BY ANY MEANS, BUT PUBLIC POLICY CONCERNS SHOULD NOT INVADE
IT IF THE RISK-MANAGEMENT AGENCY IS TO MAINTAIN PUBLIC
TRUST AND CREDIBILITY.

ONCE A RISK IS UNDERSTOOD THEN ONE HAS TO DECIDE HOW TO
MANAGE IT. THIS IS A ~~SMALL "P"~~ POLITICAL PROCESS--SOCIETY
TRYING TO DEFINE FOR ITSELF WHAT RISKS IT IS WILLING TO ACCEPT
IN RETURN FOR WHAT BENEFITS. IT'S A PROCESS THAT STIRS UP
PROFOUND QUESTIONS WE'VE ONLY BEGUN TO THINK ABOUT AS A
PEOPLE.

FOR EXAMPLE, WHAT ARE THE SOCIAL BENEFITS OF THE USE OF
A SUBSTANCE, ARE THERE ANY SUBSTITUTES, AND WHAT DOES IT COST
TO MINIMIZE OR ELIMINATE THE RISK OF EXPOSURE? THESE POLICY
QUESTIONS ARE NOT JUST ECONOMIC; THEY HAVE A GREAT DEAL TO
DO WITH VALUES AND ~~TRADE-OFFS~~.

away or controlling risks in different ways

AND IF WE CANNOT CREATE A RISK-FREE SOCIETY HOW DO WE DEFINE AN ACCEPTABLE RISK? WE HAVE A LOT OF LAWS ON THE BOOKS IN WHICH THE NOTION IS IMPLICIT THAT THERE IS NO ACCEPTABLE LEVEL FOR CERTAIN RISKS, AND THAT WE MUST FIND THE LEVEL AT WHICH ALL RISK IS PRECLUDED.

A SECTION OF OUR CLEAN AIR ACT DEALING WITH TOXIC AIR POLLUTANTS ASSUMES OUR ABILITY TO ESTABLISH HEALTH EFFECTS THRESHOLDS. BUT SUCH THRESHOLDS ARE OFTEN DIFFICULT IF NOT IMPOSSIBLE TO LOCATE. IN FACT, SOME SUBSTANCES--LIKE ASBESTOS-- ARE SO CARCINOGENIC THAT SOME BELIEVE THEY MAY CAUSE CANCER RIGHT DOWN TO A SINGLE EXPOSURE TO A SINGLE MOLECULE. SO WE NEED TO ADJUST OUR LAWS TO REFLECT SCIENTIFIC REALITY.

BUT SUPPOSE THE PUBLIC PERCEIVES A RISK TO BE MUCH GREATER THAN THE EXPERTS SAY IT IS--NUCLEAR POWER, FOR EXAMPLE. THE EXPERTS SAY THAT IF YOU TAKE SOME TYPICAL RISKS, RANGING FROM SMOKING TO RIDING A MOTORCYCLE, TO DRINKING, TO DRIVING WITHOUT A SEATBELT, ETC., AND THEN RANK THEM FROM ONE TO THIRTY, NUCLEAR POWER WILL BE WAY DOWN AT THE BOTTOM OF THE LIST.

IF YOU ASK THE AMERICAN PUBLIC THAT SAME QUESTION ^{nuclear power} ~~IT~~ WILL BE RIGHT UP AT THE TOP OF THE LIST. SO WHAT IMPORTANCE SHOULD WE GIVE TO PUBLIC PERCEPTION OF A RISK IN DECIDING WHAT TO DO ABOUT IT?

WE NEED TO ANSWER SUCH QUESTIONS IF WE ARE TO CONSTRUCT A RISK MANAGEMENT SYSTEM THAT BALANCES COMPETING SOCIAL VALUES AND OBJECTIVES.

IN ALL SUCH MATTERS WE CAN LEARN FROM EACH OTHER, FROM
OUR VARIOUS NATIONAL EXPERIENCES AND PERSPECTIVES. THEN WE
CAN EMULATE EACH OTHER'S SUCCESSES AND AVOID REPEATING ^{one another's} ~~OUR~~
MISTAKES.

ONE THING WE HAVE LEARNED IN MY COUNTRY IS THAT ADVANCES
IN POLLUTION CONTROL DO NOT ALWAYS UNDERMINE THE COMPETITIVE
STRENGTH OF INDUSTRY. OFTEN THEY MAKE IT MORE PRODUCTIVE
AS OLD EQUIPMENT IS PHASED OUT. THE RESULTING GENERAL
PRODUCTIVITY GAINS ARE THEN REFLECTED IN RISING PERSONAL
INCOMES, BROADER CONSUMER CHOICES AND HIGHER LIVING STANDARDS.

PERHAPS THE ULTIMATE QUESTION IS WHETHER THE WORLD CAN
successfully
COPE WITH COMPLEX POLICY QUESTIONS EMBRACING UNCERTAIN SCIENCE,
UNDENIABLE SOCIAL COSTS AND PROFOUND DIFFERENCES OF OPINION
ABOUT WHAT IS VITAL AND WHAT IS MERELY DESIRABLE. OUR RESOURCES,
AFTER ALL, ARE LIMITED.

IN 1970, THE CLUB OF ROME TOOK A CRITICAL LOOK AT
POLLUTION, RESOURCE DEPLETION, RAPID POPULATION INCREASE,
CLIMATE, URBANIZATION AND EVEN GROWTH ITSELF, AND POSTULATED
THAT THE CARRYING CAPACITY OF THE PLANET WAS THREATENED,
THAT WITHIN FIFTY YEARS VARIOUS NATURAL AND MAN-MADE SYSTEMS
WOULD COLLAPSE FROM THERMODYNAMIC OVERLOAD.

I BELIEVE THE CLUB WAS WRONG. I THINK THE EARTH AND
But the study did raise profound questions
ITS PEOPLE WILL SURVIVE. THE CENTRAL UNANSWERED QUESTION IS

WHETHER WE CAN ORGANIZE OUR SURVIVAL AND STILL MAINTAIN

INSTITUTIONAL AND PERSONAL FREEDOM. WHEN THE CHRONIC BECOMES

ACUTE, THE CAPACITY OF FREE INSTITUTIONS TO RESPOND IS GREATLY

STRAINED.

*This course argues for prevention of
rather than reaction to problems*

I DON'T THINK OUR LIBERTIES ARE THREATENED IN THE NEXT

90 DAYS, BUT IF WE FAIL TO IMPROVE OUR RECORD IN THE REALM OF

RISK MANAGEMENT, BOTH WITHIN OUR OWN SOCIETIES AND IN THE

WORLD AS A WHOLE, WE WILL AT LEAST WASTE PRECIOUS TIME AND

RESOURCES AND AT WORST THREATEN ALL WE HOLD DEAR.

THE PEOPLE OF THIS EARTH WANT A CLEAN AND SAFE ENVIRONMENT, BUT WE MUST RECONCILE THOSE OBJECTIVES WITH THE DEMAND FOR PRODUCTION, EMPLOYMENT AND RESOURCE DEVELOPMENT, AND DO SO WITHIN THE CONTEXT OF CONSTITUTIONAL AND ENTREPRENEURIAL FREEDOM. TO BALANCE THESE GOALS WE WILL NEED TO APPLY RATIONAL INTELLIGENCE SYSTEMATICALLY ON A PLANETARY SCALE.

IT IS MY SINCERE HOPE THAT THIS CONFERENCE WILL GREATLY ASSIST US ON OUR JOURNEY.