INTRODUCTION

THE WORLD BANK FOR WHICH I AM SPEAKING TODAY HAS LONG BEEN INVOLVED IN WATER RESOURCE PROJECTS, AND ON AN INCREASING SCALE, IN ASSISTING COUNTRIES IN EVALUATING NEEDS AND FRAMING PROJECTS TO MEET THOSE NEEDS, WE FREQUENTLY CONFRONT MOST OF THE BROAD WATER RESOURCES PLANNING ISSUES FACING THIS CONFERENCE: RIVER BASIN MANAGEMENT, IRRIGATION, HYDRO POWER GENERATION, NAVIGATION, DRAINAGE, WATER CONSERVATION, INDUSTRIAL WATER NEEDS, AND DOMESTIC WATER USE.

TODAY, HOWEVER, I WANT TO RESTRICT MY REMARKS TO ONLY ONE FACET OF THE BROAD WATER UTILIZATION PICTURE: DRINKING WATER FOR PEOPLE.

THE 1976 HABITAT CONFERENCE, HIGHLIGHTED THIS ISSUE AND WITHIN THE BANK, DOMESTIC WATER SUPPLY HAS BEEN A HIGH PRIORITY AREA FOR MANY YEARS. I WILL FIRST DESCRIBE BRIEFLY THE ROLE OF THE WORLD BANK IN HELPING PROVIDE WATER TO PEOPLE IN DEVELOPING COUNTRIES AND THEN I WILL OUTLINE SOME OF THE KEY STRATEGIES WHICH OUR EXPERIENCE SHOWS MUST BE FOLLOWED IF THE EFFORTS OF ALL CONCERNED ARE TO MEET WITH SUCCESS.
THE BANK'S INVOLVEMENT

THE WORLD BANK STARTED LENDING FOR COMMUNITY WATER SUPPLY AND SANITATION IN 1962. IT HAS SINCE LENT CLOSE TO $1.5 BILLION DOLLARS (TOWARDS TOTAL PROJECT COSTS OF OVER $4.4 BILLION DOLLARS) FOR WATER SUPPLY AND SANITATION PROJECTS IN 39 COUNTRIES: IN ADDITION, SUBSTANTIAL AMOUNTS HAVE BEEN LENT FOR THE SAME PURPOSE AS PART OF MULTI-SECTORAL PROJECTS. LAST YEAR WE LENT MORE THAN $400 MILLION DOLLARS FOR WATER SUPPLY AND SANITATION UNDER PROJECTS OF ALL TYPES. OUR LENDING INCLUDES SEVERAL DIFFERENT APPROACHES REFLECTING COUNTRY PRIORITIES AND THE WAYS IN WHICH THE BANK CAN MOST EFFECTIVELY HELP. THUS WE MAY ASSIST SPECIFIC URBAN WATER SUPPLY PROJECTS, RURAL WATER SUPPLY PROGRAMS, WATER SUPPLY COMPONENTS IN INTEGRATED DEVELOPMENT PROJECTS FOR URBAN OR RURAL AREAS, OR WATER SUPPLY SECTOR PROGRAMS ON A NATIONAL OR REGIONAL BASIS. OF COURSE, SANITATION NEEDS ARE ALSO CONSIDERED AT THE SAME TIME AS THOSE FOR WATER SUPPLY. WITH THIS VARIETY OF APPROACHES THERE ARE NO HARD-AND-FAST RULES ABOUT WHAT CONSTITUTES A "BANKABLE" PROJECT; WE ENDEAVOR TO SUIT THE PARTICULAR CIRCUMSTANCES OF EACH INDIVIDUAL CASE. THIS DOES NOT, HOWEVER, MEAN THAT THERE ARE NOT CERTAIN KEY INGREDIENTS TO PROJECT SUCCESS THAT MUST BE ASSURED. I SHALL
BE RETURNING TO THESE LATER.

IN MOST COUNTRIES THERE ARE NUMEROUS INSTITUTIONS WITH CONFUSED OR OVERLAPPING SECTOR RESPONSIBILITIES, AND THIS HAS LED TO A LACK OF ANY CLEAR DIRECTION FOR SECTOR DEVELOPMENT. BESIDES ADDRESSING THIS PROBLEM THROUGH A HEAVY EMPHASIS ON INSTITUTION-BUILDING IN ITS OWN PROJECTS, THE BANK ALSO PARTICIPATES IN A COOPERATIVE PROGRAM WITH THE WORLD HEALTH ORGANIZATION. THROUGH THIS PROGRAM WE BENEFIT FROM THE EXPERIENCE OF THE WORLD HEALTH ORGANIZATION IN PROMOTING COMMUNITY WATER SUPPLIES, AND WE ARE BETTER ABLE TO ASSURE THAT WE MAKE THE BEST USE OF OUR RESOURCES IN MINIMIZING WATER-RELATED HEALTH PROBLEMS WORLD-WIDE. SO FAR THE COOPERATIVE PROGRAM HAS UNDERTAKEN SECTOR STUDIES IN ABOUT 40 COUNTRIES, TO ASSIST GOVERNMENTS IN SETTING SECTOR PRIORITIES AND INITIATING NECESSARY INSTITUTIONAL OR OTHER REFORMS TO PROMOTE EFFICIENT SECTOR DEVELOPMENT.
URBAN PROJECTS

Most of our lending is still in urban areas. The aim of our
urban water supply projects is not only to provide water supply authorities
with funds which help to finance the production, transmission, and distribution
components of supplies, but also to strengthen the institutions in the sector
and to see that access to service is provided in all sections of cities,
including the lowest income areas where the residents in many cases cannot
afford to pay the full costs of supply. For example, a recent water supply
project in Zaire, covering six cities, will increase access to service from
the current 30 percent of the population to almost 100 percent. This was
done when local authorities reallocated a significant proportion of the
investment funds from the provision of house connections for a limited few,
to public standposts which ensured a minimum level of service to all.

The bank also lends for projects which concentrate
exclusively on the urban poor. These projects include a variety of components
such as services and basic infrastructure; serviced lots on which poor people
in construct their own homes; loans to homeowners to help complete their
houses; loans to small-scale enterprises to foster employment; and social
SERVICES SUCH AS SCHOOLS, COMMUNITY CENTRES, AND HEALTH CLINICS. IN ALL OF THESE PROJECTS A SIGNIFICANT PROPORTION OF THE INVESTMENT IS FOR WATER SUPPLY AND SANITATION SERVICES, DESIGNED TO STANDARDS THAT MAKE THE COSTS AFFORDABLE EVEN BY THE POOREST MEMBERS OF SOCIETY.

RURAL PROJECTS

THE PROBLEM OF PROVIDING A SAFE AND CONVENIENT WATER SUPPLY TO RESIDENTS OF RURAL AREAS OF DEVELOPING COUNTRIES IS IN MANY CASES MORE COMPLEX THAN ITS URBAN COUNTERPART -- THE COSTS OF SUPPLY ARE SOMETIMES HIGHER, THE PEOPLE ARE POORER, TRAINED PERSONNEL DO NOT WANT TO LIVE IN RURAL AREAS, INSTITUTIONAL AND LOGISTIC PROBLEMS IMPEDE THE EFFICIENT OPERATION AND MAINTENANCE OF SYSTEMS, AND SO ON. WHEN WE FIRST CONSIDERED INCREASING OUR EMPHASIS ON LENDING FOR WATER SUPPLIES IN RURAL AREAS WE PERCEIVED MANY OF THE PROBLEMS, BUT WE SAW FEW SOLUTIONS. AS A RESULT, WE UNDERTOOK AN EXTENSIVE SURVEY OF ALL ASPECTS OF EXISTING RURAL WATER SUPPLY PROGRAMS AND ATTEMPTED TO REVIEW THE COLLECTIVE WORLD-WIDE EXPERIENCE IN THE RURAL WATER SUPPLY SECTOR. OUR FINDINGS HAVE SINCE BEEN PUBLISHED IN A SUMMARY BANK PAPER ON "VILLAGE WATER SUPPLY" - AND IN A COMPREHENSIVE BOOK BY SAUNDERS
AND WARPORD ON "VILLAGE WATER SUPPLY: ECONOMICS AND POLICY IN THE DEVELOPING WORLD". THUS WE HAVE REACHED THE STAGE WHERE THE NEXT STEP IS TO LEND FOR PROJECTS OF THIS TYPE AND THAT IS EXACTLY WHAT WE ARE BEGINNING TO DO. WE ARE ALREADY LENDING FOR WATER SUPPLY AND SANITATION AS COMPONENTS OF INTEGRATED RURAL DEVELOPMENT PROJECTS, AND WE ARE NOW HELPING COUNTRIES PREPARE NATIONAL OR REGIONAL RURAL WATER SUPPLY AND SANITATION PROGRAMS WHICH WILL BE SUITABLE FOR BANK FINANCING.

\[\text{National or Regional Sector Loans}\]

ANOTHER MEANS BY WHICH THE BANK HAS RECENTLY BEGUN PARTICIPATING IN WATER SUPPLY LENDING IN DEVELOPING COUNTRIES IS THROUGH LOANS WHICH ASSIST IN THE IMPLEMENTATION OF REGION-WIDE OR COUNTRY-WIDE WATER SUPPLY PROGRAMS, RATHER THAN LENDING FOR INDIVIDUAL PROJECTS WITHIN THE SECTOR ON A ONE-AT-A-TIME BASIS. WE HAVE CONSIDERED SUCH SECTOR-WIDE LOANS IN CASES WHERE THERE ARE ESTABLISHED AND STABLE INSTITUTIONS, SKILLED MANPOWER CAPABLE OF DETAILED PROJECT SELECTION AND APPRAISAL ON A LARGE SCALE, AND SECTOR POLICIES WHICH PROMOTE EFFICIENT RESOURCE ALLOCATION, UNIVERSAL SERVICE TO ALL INCOME GROUPS,
AND THE FINANCIAL VIABILITY OF INSTITUTIONS IN THE SECTOR. SO FAR AS IT HAS
MADE SEVERAL SUCH LOANS, NOTABLY FOR THE STATE OF MINAS GERAIS IN BRASIL AND
THE STATE OF UTTAR PRADESH IN INDIA.

\[ \text{Sanitation Projects} \]

THROUGH THE YEARS, WE HAVE BECOME INCREASINGLY INVOLVED IN
FINANCING SEWERAGE AND SEWAGE DISPOSAL SYSTEMS. TO DATE WE HAVE HELPED
FINANCE 37 URBAN OR REGIONAL SEWERAGE PROJECTS, INDEPENDENTLY OR AS PART OF
WATER SUPPLY AND OTHER TYPES OF PROJECTS.

THE MAJOR PROBLEM WITH CONVENTIONAL WATERBORNE SEWERAGE IS
THAT IT USUALLY COSTS AT LEAST TWICE AS MUCH PER CAPITA AS A WATER SUPPLY
SYSTEM. AND GIVEN THE DIFFICULTIES ASSOCIATED WITH PROVIDING WATER
FOR EVERYONE, IT IS CLEARLY NOT FEASIBLE IN THE FORESEEABLE FUTURE
TO SOLVE THE HUMAN WASTE DISPOSAL PROBLEM THROUGH CONVENTIONAL WATERBORNE
SYSTEMS.

UNDER PRESENT CIRCUMSTANCES, WE AT THE BANK DEAL WITH THIS

\[ \text{Problem on a Case by Case Basis Searching for the Least Cost Solution} \]

TO MEET THE MOST URGENT WASTE DISPOSAL AND DRAINAGE PROBLEMS OF CITIES, WHERE
PIT PRIVIES OR HOLDING TANKS ARE CHEAPER AND FEASIBLE, WE RECOMMEND SERVING
A MAXIMUM NUMBER OF PEOPLE IN THIS WAY, RATHER THAN SERVING JUST A FEW BY
THE MORE COSTLY WATERBORNE SEWERAGE. WE ALSO, OF COURSE, ARE NOT UNAWARE
THAT SINCE INCREASING PER CAPITA WATER USE GENERATES INCREASING WASTE DISPOSAL
PROBLEMS, ONE ALTERNATIVE MIGHT BE TO ENCOURAGE THE CONSUMPTION OF
LESS WATER ON A PER CAPITA BASIS.

BASICALLY, HOWEVER, WE NEED TO KNOW MORE ABOUT COSTS AND ABOUT THE
SOCIAL, ECONOMIC AND HEALTH IMPLICATIONS OF EACH OF THE ALTERNATIVE MEANS OF
DEALING WITH WASTE DISPOSAL AND DRAINAGE PROBLEMS. WE HAVE, THEREFORE, EMBARKED
ON AN EXTENSIVE WORLD-WIDE SURVEY OF WASTE DISPOSAL ALTERNATIVES. WE HOPE
THAT AS A RESULT OF THIS EFFORT WE WILL IN THE NEAR FUTURE BE BETTER ABLE TO
ADVISE DEVELOPING COUNTRIES ON MORE APPROPRIATE AND AFFORDABLE TECHNOLOGIES
WHICH WILL HELP TO REACH THEIR SERVICE GOALS SOONER.

MEETING THIS BASIC NEED OF PEOPLE FOR WATER SUPPLY AND
SANITATION IS PART OF THE BANK'S FUNDAMENTAL OBJECTIVE OF IMPROVING THE
PRODUCTIVITY AND LIVING STANDARDS OF THE POOR. AS SUCH, I ANTICIPATE THAT
THIS PART OF BANK LENDING WILL INCREASE. HOW MUCH THIS INCREASE WILL BE,

DEPENDS ON MANY FACTORS WHICH CANNOT YET BE EVALUATED; FACTORS SUCH AS THE TOTAL
RESOURCES OF THE BANK AND IDA, COUNTRIES' OWN PRIORITIES, AND THE AVAILABILITY
OF PROJECTS THAT CAN BE PROPERLY PREPARED.

SINCE ONE OF THE BANK'S MOST IMPORTANT ROLES WILL CONTINUE TO
BE ASSISTING ITS MEMBER COUNTRIES IN REACHING SOUND JUDGEMENTS ON THE MAJOR
ISSUES WHICH MUST BE FACED, IT IS THESE WHICH I WISH TO DISCUSS NEXT.

STRATEGIES FOR MORE RAPID PROGRESS

THE GOALS ARE CLEAR – SAFE DRINKING WATER FOR 100 PERCENT OF
THE WORLD'S POPULATION. THE 1976 HABITAT CONFERENCE SET 1990 AS THE TARGET
DATE FOR THIS TO BE ACHIEVED. SUCH A TASK, HOWEVER, IS ENORMOUS. AT THIS TIME,
OVER A BILLION PEOPLE -- OR SOME 60 PERCENT OF THE POPULATION OF DEVELOPING
COUNTRIES -- LACK ACCESS TO SAFE WATER. NEARLY 70 PERCENT ARE WITHOUT ADEQUATE
SANITATION. GIVEN EXISTING POPULATION TRENDS, IF PRESENT REAL LEVELS OF
INVESTMENT ARE MAINTAINED FOR THE NEXT 13 YEARS, ONLY ABOUT HALF OF THE PEOPLE
IN DEVELOPING COUNTRIES WILL HAVE CLEAN WATER, AND ONLY 40 PERCENT WILL BE
PROVIDED WITH ADEQUATE SANITATION. THUS, THE ACHIEVEMENT OF THE 100 PERCENT
WATER SUPPLY SERVICE GOAL WILL REQUIRE A MASSIVE EFFORT. AND WHILE THE RATE
AT WHICH PROGRESS CAN TAKE PLACE DEPENDS PARTLY ON THE AVAILABILITY OF
ADDITIONAL INVESTMENT FUNDS, IT MOSTLY DEPENDS ON THE EXTENT TO WHICH WE ARE
SUCCESSFUL IN DEALING WITH THE FOLLOWING CRUCIAL ISSUES.

FIRSTLY, IT IS CLEAR THAT COUNTRIES HAVE MANY PRIORITIES
BESIDES WATER SUPPLY -- AGRICULTURAL AND INDUSTRIAL PRODUCTION, HEALTH AND
NUTRITION SERVICES, EDUCATION, TRANSPORT, AND SO ON. WATER SUPPLY MUST
COMPETE FOR FUNDS WITH THESE OTHER PRIORITIES AND MUST USE THE SCARCE
RESOURCES AVAILABLE AS EFFICIENTLY AS POSSIBLE. THIS IMPLIES THAT COUNTRIES
MUST DEVELOP CLEAR SECTOR STRATEGIES STRESSING BASIC NEEDS, AND PINPOINTING
SPECIFIC PRIORITIES FOR INVESTMENT. PROJECT COSTS MUST BE CLOSELY MONITORED
TO ENSURE THAT MAXIMUM IMPACT IS ACHIEVED WITH THE FUNDS AVAILABLE.
FREQUENTLY THIS WILL REQUIRE A RE-EXAMINATION OF TECHNICAL APPROACHES WHICH HAVE BECOME
ACCEPTED WITHOUT QUESTION OVER TIME; IN PARTICULAR, STANDARDS OF SERVICE
MUST BE AFFORDABLE AND THE TECHNOLOGY USED MUST BE APPROPRIATE TO THE SPECIFIC
SITUATION. IN MANY CASES IN ORDER TO DO THIS THE MAJOR OBSTACLE WHICH MUST
BE OVERCOME IS THE RELUCTANCE ON THE PART OF MANY DEVELOPING COUNTRIES TO
ACCEPT TECHNOLOGIES WHICH DIFFER FROM THOSE USED IN THE DEVELOPED WORLD, EVEN
THOUGH THE ENORMOUS COSTS AND PROBLEMS ASSOCIATED WITH THE LATTER ARE
BECOMING INCREASINGLY APPARENT.

SECONDLY, TO ENSURE ORDERLY SECTOR DEVELOPMENT AND TO AVOID
DEPENDENCE ON UNRELIABLE ALLOCATIONS FROM CENTRAL GOVERNMENT BUDGETS, EVERY
ATTEMPT MUST BE MADE TO ACHIEVE FINANCIAL VIABILITY IN THE SECTOR. MOBILIZATION
OF FINANCIAL RESOURCES, PARTICULARLY IN DEVELOPING COUNTRIES WHERE PUBLIC
FUNDS ARE AT A PREMIUM, IS ABSOLUTELY CENTRAL TO THE MAINTENANCE AND EXPANSION
OF WATER SUPPLY SYSTEMS. WHILE THIS IS GENERALLY RECOGNIZED, MANY WATER
SUPPLY AUTHORITIES ARE DETERRED FROM CHARGING THE FULL FINANCIAL AND
ECONOMIC COSTS OF WATER SUPPLY SERVICES FOR FEAR OF POLITICAL REPERCUSSIONS.
OUR EXPERIENCE, HOWEVER, INDICATES THAT SOCIAL AND POLITICAL OBJECTIONS
CAN BE ACCOMMODATED THROUGH SUITABLE TARIFF DESIGN: "LIFELINE" RATES FOR
SMALL CONSUMERS, AND SUBSIDIES FOR STANDPOST SUPPLIES ENSURE THAT THE POOREST
MEMBERS OF THE COMMUNITY RECEIVE THEIR BASIC NEEDS AT A PRICE THEY CAN AFFORD,
WHILE CHARGES FOR LARGER QUANTITIES SHOULD APPROACH THE LONG RUN MARGINAL.
COSTS OF SUPPLY. SUCH A WATER SUPPLY TARIFF STRUCTURE CAN ALLOW ALL SEGMENTS OF SOCIETY TO BENEFIT FROM THE INVESTMENT, WILL DISCOURAGE WASTEFUL USE OF THE SERVICE, AND CAN PERMIT THE WATER UNDERTAKING TO ACHIEVE FULL FINANCIAL INDEPENDENCE.

THIRDLY, EFFECTIVE AND STABLE WATER SUPPLY INSTITUTIONS MUST BE CREATED AND GIVEN A DEGREE OF AUTONOMY BY GOVERNMENTS, SO THAT SECTOR RESPONSIBILITIES ARE CLEAR, AND SO THAT DETAILED FINANCIAL AND ENGINEERING PLANS CAN BE PREPARED AND IMPLEMENTED IN A SMOOTH AND CONTINUOUS WAY THROUGH TIME.

FOURTHLY, THE VERY REAL PROBLEMS OF RECRUITING AND RETAINING SKILLED MANPOWER WITHIN THE SECTOR -- AT ALL LEVELS FROM MANAGERS TO OPERATORS -- MUST BE SOLVED. FEW COUNTRIES HAVE ADEQUATE MANPOWER DEVELOPMENT PROGRAMS, AND THERE IS OFTEN A HIGH RATE OF TRANSFER TO THE PRIVATE SECTOR BECAUSE SALARIES AND SERVICE CONDITIONS WITHIN THE GOVERNMENT ARE NON-COMPETITIVE.

TAKEN SEPARATELY, ALL OF THESE ITEMS ARE FEASIBLE -- CREATE SECTOR STRATEGY; REASSESS TECHNICAL APPROACHES; IMPLEMENT TARIFFS WHICH ENSURE FINANCIAL VIABILITY AND ENCOURAGE EFFICIENCY AND EQUITY; CREATE
STABLE AUTONOMOUS INSTITUTIONS WITH CLEAR RESPONSIBILITIES AND GOVERNMENT SUPPORT; AND CARRY OUT MANPOWER DEVELOPMENT PROGRAMS AND ENSURE THAT THE SECTOR OFFERS A WORTHWHILE CAREER TO QUALIFIED STAFF. THESE ITEMS, HOWEVER, ARE LIKE INDIVIDUAL LINKS IN A CHAIN; IF ANYONE OF THEM FAILS THE CHAIN BREAKS AND SCARCE DEVELOPMENT FUNDS ARE WASTED.

CONCLUSION

I SEEM TO HAVE THE UNEASY FEELING THAT ALL I HAVE DONE HERE DAY IS ESSENTIALLY TO RESTATE THE OBVIOUS. WE ALL KNOW WHAT OUR GOAL IS. WE KNOW THAT IT MUST BE ACHIEVED AS QUICKLY AS POSSIBLE. AND WE KNOW THAT THE TASKS AHEAD OF US ARE DIFFICULT. IN FACT, TAKEN AS A WHOLE THESE TASKS APPEAR FOREBODING. BUT TAKEN ONE BY ONE THEY CAN BE DEALT WITH AND OUR GOAL CAN BE ACHIEVED. IT IS AN EXCITING CHALLENGE FOR GOVERNMENTS AND FOR PEOPLE AT ALL LEVELS. WE AT THE BANK ASSOCIATE OURSELVES WITH THIS CHALLENGE AND WE LOOK FORWARD TO DOING OUR SHARE.