

# PEC Project Memorandum

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## Child's Environment: Sanitation, Hygiene and Water Supply Project

PEC SUBMISSION

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## ABBREVIATIONS AND ACRONYMS

AP	Andhra Pradesh
ARWSP	Accelerated Rural Water Supply Programme
BIS	Bureau of Indian Standards
BPL	Below Poverty Line
CAPART	Council for Advancement of People's Action and Rural Technology
CBO	Community-based Organisation
CCA	Convergent Community Action
CDD	Control of Diarrhoeal Diseases
CPM	Capability Poverty Measure
CRSP	Central Rural Sanitation Programme
DCA	District level Coordinating Agency
DFID	(British) Department for International Development
ESA	External Support Agency
GIS	Geographic Information System
Gol	Government of India
GP	Gram Panchayat (village level local government institution)
HFU	Hydro-fracturing Unit
HRD	Human Resources Development
HMS	Hydro-fracturing Monitoring System
ICDS	Integrated Child Development Service
IEC	Information, Education, Communication
KAP	Knowledge, Attitude, Practice
MICS	Multi-Indicator Cluster Survey
MIS	Management Information System
MLL	Minimum levels of Learning
MNP	Minimum Needs Programme
MoRAE	Ministry of Rural Areas & Employment
MP	Madhya Pradesh
MPO	(UNICEF) Master Plan of Operations
MTR	Mid-Term Review
NDDDB	National Dairy Development Board
NCERT	National Council for Educational Research and Training
NGOs	Non-Governmental Organisations
NICD	National Institute of Communicable Diseases
O&M	Operation & Maintenance
OPR	Output to Purpose Review
ORS	Oral Rehydration Solution
ORT	Oral Rehydration Therapy
PBA	Programme Budget Allotment
PCR	Project Completion Report
PEC	Project Evaluation Committee
PHED	Public Health Engineering Department
PIA	Participatory Impact Assessment
PLA	Participatory Learning and Action
PMRY	Prime Minister's Rozgar Yojana
PRIs	Panchayati Raj Institutions (local government)
RDD	Rural Development Department
DRDA	District Rural Development Agency
RGNDWM	Rajiv Gandhi National Drinking Water Mission
RIMS	Rig Information Monitoring System

RSM	Rural Sanitary Mart
RSP	Rural Sanitation Programme
SCERT	State Council for Educational Research and Training
SC/ST	Schedules Castes / Scheduled Tribes
SRS	Sample Registration Scheme
S&P	Supply & Procurement (Section of UNICEF)
TC	(DFID) Technical Cooperation
TMC	Tractor- (or truck-) mounted Compressor
TMS	TMC Monitoring System
ToR	Terms-of-Reference
TFTA	Temporary Fixed-Term Appointment
UNICEF	United Nations Children's Fund
UP	Uttar Pradesh
VLOM	Village-level Operation and Maintenance
WatSan	Water Supply and Sanitation
WB	West Bengal
WES	Water and Environmental Sanitation
WESS	Water Supply and Environmental Sanitation Section (of UNICEF)
WWF	Worldwide Fund for Nature



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## 2 SUMMARY AND RECOMMENDATION

1.1 This submission recommends DFID support for the UNICEF and Government of India "Child's Environment: Sanitation, Hygiene and Water Supply Programme", for 1999-2002. The Programme budget is US\$ 48 million. It is proposed that DFID finance US\$ 22 million (£ 13.75 million, cash terms), to complement UNICEF financing of US\$ 20 million (£ 12.8 million), with the balance of US\$ 6 million financed by SIDA and, possibly, the Government of the Netherlands. DFID funds will support the programme in Orissa, Rajasthan, Madhya Pradesh, Uttar Pradesh, West Bengal and Andhra Pradesh, and at national level. In addition, it is proposed that DFID ensure continuity by agreeing to finance the first year of the subsequent programme (US\$ 4.4 million, £ 2.75 million in cash terms) and provide £ one million (cash terms) in Technical Cooperation (TC) support to strengthen UNICEF's capacity in the sector.

1.2 Unsanitary practices and the use of contaminated water are major causes of child death and disease in India. Collecting water from distant sources is a burden on women and girls. The purpose of the project is to increase the number of households, especially the poor, which adopt improved hygiene behaviour, use safe water supplies and hygienic toilets, in a sustainable manner, especially in the six project States. The project will reach an estimated population of 15 million mostly rural people, about 5 per cent of the 1997 total rural population in these States.

1.3 The project outputs will be delivered by national and state governments and Panchayati Raj Institutions, with technical and financial assistance from UNICEF. National and State Governments respect and value UNICEF as a specialised and reliable partner in the sector. The strong Government-UNICEF partnership, spanning several decades, allows UNICEF an exceptional degree of access to Government at all levels. The continuum of collaboration has made it possible for UNICEF to effectively demonstrate technologies and approaches, which address critical weaknesses in Government programmes. Many of these innovations have since been incorporated in Government water supply and sanitation policies.

1.4 The proposed DFID-UNICEF partnership will involve a new way of working together, going beyond that of funder/fundee, so that each will benefit from the strengths of the other, to the ultimate benefit of project purpose. An additional key project output will be the strengthening of UNICEF capacity in the sector.

1.5 Key project outputs include (i) effective state government IEC programmes developed and institutionalised (ii) replicable models for hygiene education, water supply and sanitation in rural primary and pre-schools demonstrated, (iii) replicable models for integrated water supply and environmental sanitation demonstrated (iv) wide-scale promotion among rural households of a range of affordable, women- and child-friendly home toilet options, (v) replication of alternative, sustainable, community-based options for safe rural drinking water supplies, especially among the poor, (vi) replicable models for hygiene education, water supplies and environmental sanitation in poor urban communities demonstrated and (vii) improved national WES policy environment, including NGO participation.

1.6 At national level, UNICEF will manage the project through the WES section of its New Delhi office. UNICEF Field Offices will support Government to implement the project in the six States, with a few activities undertaken at national level. DFID management of the project will be by the Water and Environmental Sanitation Group in

Delhi. DFID will be involved in major monitoring missions and receive key internal UNICEF reports on the project.

1.7 It is recommended that DFID make available £ 16.5 million (cash prices) for the project, and £ one million in Technical Cooperation support.

## 2. LOGICAL FRAMEWORK ANALYSIS

### Part 1: LFA Goal and Purpose:

DESCRIPTION	MEASURABLE INDICATOR	MEANS OF VERIFICATION	ASSUMPTIONS
<p><b>GOAL:</b> Contribute to GoI/UNICEF goal of the realisation of child rights in India.</p>	<p><b>By end-2003, at national level:</b></p> <ol style="list-style-type: none"> <li>U-5 mortality reduced to below 70/1000, from 96/1000 in 1994-96.</li> <li>Percentage of children under the age of five with severe and moderate malnutrition halved, from the 1990 level.</li> <li>Diarrhoeal mortality among U-5s halved, from the 1997 level.</li> <li>Net enrollment of girls in primary schools increased by 20%, from the 1997 level.</li> <li>No cases of guineaworm reported in three consecutive years.</li> </ol>	<ol style="list-style-type: none"> <li>Sample Registration System. (Registrar General of India)</li> <li>Multi-Indicator Cluster Surveys (UNICEF).</li> <li>National Family Health Survey, IInd round in 1998-99 and IIIrd round in 2003-4 (Ministry of Health).</li> <li>Ministry of Education statistics</li> <li>Report of the International Committee on Eradication of Guineaworm.</li> </ol>	
<p><b>PURPOSE:</b></p> <p>More households (especially the poor) adopt improved hygiene behaviours, use safe water supplies and hygienic toilets, in a sustainable manner, especially in the six project States (Orissa, Rajasthan, Madhya Pradesh, Uttar Pradesh, West Bengal, Andhra Pradesh).</p>	<p><b>By end-2003:</b></p> <p><b>In the Integrated WatSan areas, after five years of implementation:</b></p> <ol style="list-style-type: none"> <li>The peak-season incidence of diarrhoea among children under five reduced by 25 %.</li> <li>The percentage of households using toilets increased to 50%.</li> <li>In households with toilets, the percentage of children above the age of two using toilets increased by 50% points.</li> <li>The percentage of mothers reporting proper disposal of child faeces increased by 50% points.</li> <li>The percentage of mothers washing their hands with soap or ashes after defecation and before handling food increased by 50 % points.</li> <li>The percentage of households storing their drinking water in a clean and covered container increased by 50 % points.</li> <li>Increased satisfaction among SC/ST poor households with their access to a protected water source and their home toilet options.</li> <li>WatSan Committees (50% women) trained, equipped and functional in 90% of the GPs.</li> </ol> <p><b>In the School Sanitation areas, after five years of implementation:</b></p> <ol style="list-style-type: none"> <li>The percentage of primary school students and teachers using toilets/urinals increased to 80%.</li> <li>The percentage of primary school students and teachers daily washing their hands with</li> </ol>	<ol style="list-style-type: none"> <li>Baseline and end-of-project surveys, using observation and focus group discussions.</li> <li>MICS surveys.</li> <li>National census of 2001.</li> <li>Reports from community-based monitoring in 5-6 districts in four of the project States.</li> <li>Participatory appraisals.</li> <li>Govt. school inspection reports.</li> <li>UNICEF monitoring reports</li> <li>UNICEF/DFID field visits</li> </ol>	<p>Other components of the GoI-UNICEF Programme of Cooperation for Women and Children are successfully implemented.</p> <p>Government's social sector programmes are adequately funded and staffed and use strategies, which result in sustained use of facilities and improved practices.</p> <p>UNICEF effectively expands its cooperative network of NGOs.</p> <p>The continuing decline in water levels and quality is effectively addressed.</p>

DESCRIPTION	MEASURABLE INDICATOR	MEANS OF VERIFICATION	ASSUMPTIONS
	<p>soap or ashes in the school, increased by 50% points.</p> <p>11. The percentage of primary schools using water from a protected source increased to 95%.</p> <p><b>In urban poor demo areas, after five years of implementation:</b></p> <p>12. The percentage of households using toilets increased by 50% points.</p> <p>13. The percentage of women satisfied with their water supply and toilet facilities, increased by 25% points.</p> <p>14. The percentage of households properly managing their solid waste increased by 50% points.</p> <p>15. The percentage of mothers washing hands with soap after defecation and before handling food increased by 25% points.</p> <p><b>Indicators of replication:</b></p> <p>16. The IEC strategy replicated by Government throughout four districts in each State.</p> <p>17. The Integrated WatSan strategy replicated by Government to two more districts in each State.</p> <p>18. The school sanitation replicated by Government to one-quarter of all districts in each State.</p> <p>19. Decentralised, community-responsive, O&amp;M systems, with active representation of women, replicated by Government other Gram Panchayats in the demo districts and to parts of two more districts in each State.</p> <p>20. Model for community monitoring of sector information replicated to the rest of the demo districts and to parts of two more districts in each State.</p>		

DESCRIPTION	MEASURABLE INDICATOR	MEANS OF VERIFICATION	ASSUMPTIONS
<p><b>OUTPUTS</b></p> <p>In each of the six project States:</p> <p>1. Effective government IEC programmes developed and institutionalised in the six project States. (Refers to sub-projects 1-1 and 1-5 in tables 3, 13 and 14)</p>	<p><b>Unless otherwise indicated, by end-2003:</b></p> <p>1.1 State IEC-cum-Sanitation Cells actively functioning, by end-1999.</p> <p>In the IEC districts:</p> <p>1.2 IEC Action Plans under implementation in at least two, by end-1999</p> <p>1.3 Adequate government budgets and skills available for the IEC programme at state and district levels, by end-2000.</p> <p>1.4 The percentage of children and women aware of the health benefits of washing hands with soap after defecation and before handling food increased by 50% points.</p> <p>1.5 The percentage of households interested to have a home toilet increased to 75%.</p>	<p>A. Surveys, using observation and focus group discussions, in year one, three and five.</p> <p>B. Reports from community-based monitoring in 5-6 districts in four of the project States.</p> <p>C. Participatory appraisals.</p> <p>D. UNICEF monitoring reports.</p> <p>E. UNICEF/DFID field visits</p>	<p>IEC and HRD cells are adequately funded and staffed.</p> <p>Coordination between relevant government departments, NGOs and CBOs is effective, especially in U.P.</p> <p>Govts find the cost of scaling up IEC activities commensurate with apparent benefits.</p> <p>The IEC programme maintains sufficient focus to have sustained impact on hygiene behaviour</p> <p>Support for demonstration projects is not weakened because of frequent transfers of senior government officials.</p>
<p>2. Replicable models for hygiene education, water supply and environmental sanitation in rural primary schools and Anganwadi centres (pre-schools) developed, tested and successfully demonstrated. (Refers to sub-projects 1-2 and 1-5 in tables 3, 13 and 14)</p>	<p><b>From early 1999 till end-2003:</b></p> <p>2.1 NCERT/SCERTs develop curriculum includes WatSan learning modules, using MLL methodology.</p> <p>2.2 Teacher training modules for pre- and in-service training include WatSan components.</p> <p>2.3 School inspection includes WatSan aspects.</p> <p><b>In the school sanitation areas:</b></p> <p>2.4 The percentage of Anganwadi centres in own building with toilet and bathing place increased by 50% points.</p> <p>2.5 The percentage of primary schools with adequate toilets increased to 90%.</p> <p>2.6 All primary schools have access to a protected water source.</p> <p>2.7 All primary school students and teachers aware of the health benefits of washing their hands with soap or ashes.</p> <p>2.8 All primary schools involve students and teachers in the maintenance of school water supply and sanitation facilities.</p> <p>2.9 All primary schools use a system of monitoring school sanitation practices</p>	<p>A. Baseline and end-of-project surveys, using observation and focus group discussions.</p> <p>B. Reports from community-based monitoring in 5-6 districts in four of the project States.</p> <p>C. Copies of training modules</p> <p>D. ICDS reports</p> <p>E. Participatory appraisals.</p> <p>F. Govt. school inspection reports.</p> <p>G. UNICEF monitoring reports</p> <p>H. UNICEF/DFID field visits</p> <p>I. Use of revised school curriculum</p>	<p>SCERTs introduce curriculum change and teacher training required for new hygiene education model in a timely manner.</p>

DESCRIPTION	MEASURABLE INDICATOR	MEANS OF VERIFICATION	ASSUMPTIONS
3. A range of affordable and women and child-friendly home toilet options widely promoted among rural households, including the poor. (Refers to sub-projects 1-3 and 1-5 in tables 3, 13 and 14)	<p><b>Unless otherwise indicated, by end-2003:</b></p> <p>3.1 One sales point for sanitary ware functional in at least 20% of all blocks.</p> <p>3.2 Sales point sales person giving proper advise on toilet options and construction.</p> <p>3.3 Access to credit available to small manufacturers, women and youth groups in the sanitation sector, by end-2000.</p> <p>3.4 Promotion of a range of toilet designs with a reduced subsidy, by the Governments of the six project States, by end-2000.</p> <p>3.5 Amended RGNDWM manual for toilet design options including designs: suited for use in high-water table areas and for use in areas where water is not used for ablution, suitable for use by small children, available in all districts, by end-2000.</p>	<p>A. Reports from community-based monitoring in 5-6 districts in four of the project States.</p> <p>B. Observations and interviews</p> <p>C. RSM evaluation in 2000</p> <p>D. DRDA reports</p> <p>E. UNICEF monitoring reports</p> <p>F. UNICEF/DFID field visits</p>	<p>State Governments have the political resolve to reduce subsidy levels and promote multiple designs for home toilets.</p> <p>Demand for toilets will be adequate to sustain the non-subsidised approach.</p>
4. Replicable models for integrated water supply, environmental sanitation and hygiene education in rural districts developed, tested and successfully demonstrated. (Refers to sub-projects 1-4 and 1-5 in tables 3, 13 and 14)	<p><b>Unless otherwise indicated, by end-2003:</b></p> <p>In the Integrated WatSan areas:</p> <p>4.1 The percentage of households with access to adequate toilets increased to 60%.</p> <p>4.2 The percentage of mothers aware of proper disposal of child faeces increased to 75%.</p> <p>4.3 All households have access to a protected water source.</p> <p>4.4 The percentage of mothers aware of the health benefits of washing their hands with soap or ashes after defecation increased to 80%.</p> <p>4.5 The percentage of mothers aware of proper drinking water storage increased to 75%.</p> <p>4.6 All mothers aware of the health benefits of practicing exclusive breastfeeding for infants upto 6 months.</p> <p>4.7 All mothers know when and where to get measles immunisation.</p> <p>4.8 All mothers know when and how to use ORT/ORS in child diarrhoea.</p> <p>4.9 At least 90 %of Gram Panchayats have WatSan committees (50% women) set up, within two years from the start of implementation.</p> <p>4.10 At least half of the Gram Panchayats have developed WatSan action plans, within two years from the start of implementation.</p> <p>4.11 District Coordination Committees meet quarterly, with representatives from key departments and NGOs.</p>	<p>A. Baseline and end-of-project studies in year one, three and five.</p> <p>B. Reports from community-based monitoring in 5-6 districts in four of the project States.</p> <p>C. District Coordination Committee meeting records.</p> <p>D. Participatory appraisals.</p> <p>E. UNICEF monitoring reports.</p> <p>F. UNICEF/DFID field visits</p>	<p>Coordination between relevant government departments, NGOs and CBOs is effective, especially in U.P.</p> <p>Support for demonstration projects is not weakened because of frequent transfers of senior government officials.</p>
5. Alternative, sustainable, community-	<b>Unless otherwise indicated, by end-2003:</b>	A. Baseline and end-	Continued

DESCRIPTION	MEASURABLE INDICATOR	MEANS OF VERIFICATION	ASSUMPTIONS
friendly, options for protected rural drinking water supplies successfully demonstrated, especially among the poor. (Refers to sub-projects 2-1, 2-2, 2-3 and 2-5 in tables 3, 13 and 14)	<p>5.1 Child and women-friendly, alternative water supply technology options developed by end-1999 and available in Government, by end-2001.</p> <p>5.2 Alternative water supply technologies demonstrated, with the participation of key village groups, including women and children, in at least two districts, by end-2002.</p> <p>5.3 Proper criteria and procedures for well rejuvenation in effective use by State Water Supply Agencies, by end-2000.</p> <p>5.4 Well drilling success rate increased to 90 %.</p> <p>5.5 District water testing labs can test quantitatively at least for faecal pollution, fluoride, arsenic (W.B. only) and nitrate in all demo districts.</p> <p>In decentralised O&amp;M areas:</p> <p>5.6 Decentralised, community-responsive, O&amp;M systems, with active representation of women, established and operational in at least two districts by end-2000.</p> <p>5.7 All Gram Panchayats have (a) functional WatSan Committee(s)</p> <p>5.8 The SC/ST poor respect Gram Panchayats' WatSan Committees.</p> <p>5.9 All Gram Panchayats meet full cost of water supply O&amp;M.</p> <p>5.10 Percentage of handpumps out of order at any time reduced to 20% or less by end-2000 and to 10% or less by end-2003.</p> <p>In community-based w/q surveillance areas:</p> <p>5.11 Self-supporting system of surveillance operational in 300 villages in project States.</p> <p>In domestic water treatment areas:</p> <p>5.12 Self-supporting system of domestic water treatment operational in 30 villages in each five districts.</p>	<p>of-project studies.</p> <p>B. Reports from community-based monitoring in 5-6 districts in four of the project States.</p> <p>C. Participatory appraisals.</p> <p>D. Special surveys</p> <p>E. State Water Supply Agency reporting.</p> <p>F. HMS/TMS reporting.</p> <p>G. UNICEF monitoring reports.</p> <p>H. UNICEF/DFID field visits</p>	<p>declines in water tables levels and pollution will not result in unmanageable deterioration of quality and quantity of safe drinking water supplies.</p> <p>Powers are sufficiently devolved to PRIs, and there is adequate political will within PRIs (local government) so that their ability to raise revenues and contribute to village water supply O&amp;M costs is not impaired.</p> <p>State and District level officials are willing to embrace change, especially in the Uttar Pradesh State Water Supply Agency.</p>
6. Fresh water resources management at State, district and community levels improved. (Refers to sub-project 2-4 in tables 3, 13 and 14)	<p><b>By end-2003:</b></p> <p>6.1 Community action for the protection of drinking water sources incorporated in watershed management programmes.</p> <p>6.2 State-level forum for policy dialogue on fresh water management active.</p> <p>6.3 The percentage of people aware of ways to protect drinking water sources increased by 25%, in the demo watershed areas.</p>	<p>A. Special surveys, with participatory appraisals.</p> <p>B. State Water Supply Agency reporting.</p> <p>C. Policy documents</p> <p>D. Documentation, records of meetings</p> <p>E. UNICEF monitoring reports.</p> <p>F. UNICEF/DFID field visits</p>	<p>State Governments have the political resolve to opt for more sustainable management of fresh water resources.</p>
7. Replicable models for hygiene education, water supplies and environmental sanitation in urban poor communities developed and successfully	<p><b>Unless otherwise indicated, by end-2003:</b></p> <p>7.1 WatSan situation of the urban poor in Integrated WatSan districts analysed and</p>	<p>A. Situation analysis reports</p> <p>B. KAP baseline and end-of-project studies.</p> <p>C. Special surveys</p>	<p>Coordination between relevant government departments, NGOs and CBOs is effective.</p>



DESCRIPTION	MEASURABLE INDICATOR	MEANS OF VERIFICATION	ASSUMPTIONS
demonstrated. (Refers to sub-projects 3-1, 3-2 in tables 3, 13 and 14)	<p>documented, by end-2000.</p> <p>7.2 Child-friendly city plans of action have water supply and sanitation approaches protecting vulnerable groups incorporated.</p> <p>In the urban poor demo areas:</p> <p>7.3 The percentage of households with access to adequate toilets to 90%.</p> <p>7.4 The percentage of mothers aware of the health benefits of washing their hands with soap or ashes after defecation increased by 50% points.</p> <p>7.5 The percentage of households aware of proper management of their solid waste increased by 50% points.</p>	<p>with participatory appraisals.</p> <p>D. UNICEF monitoring reports.</p> <p>E. UNICEF/DFID field visits</p>	<p>Support for demonstration projects is not weakened because of frequent transfers of senior government officials.</p>
8. Community action oriented MIS systems for the rural WES sector, linked to State-level MIS, improved. (Refers to sub-project 4-1 in tables 3, 13 and 14)	<p>8.1 Model for community monitoring of sector information developed and demonstrated in at least one district, by end-2000.</p> <p>8.2 State MIS systems developed in 1995-97, in use at all levels, by end-1999 in Orissa and M.P.</p>	<p>A. UNICEF monitoring reports; documentation on the model</p> <p>B. Observation in State Water Supply Agencies at State and district levels.</p>	
9. National WES policy environment, including NGO participation, improved. (Refers to all sub-projects in tables 3, 13 and 14)	<p><b>Unless otherwise indicated, by end-2003:</b></p> <p>9.1 Revised CRSP guidelines, reflecting reduced dependence on subsidies.</p> <p>9.2 Revised ARWSP guidelines, reflecting community participation, cost sharing and decentralisation.</p> <p>9.3 Indian Standard for India Mark III (50mm) deepwell handpump issued.</p> <p>9.4 Indian Standard for water quality field test kit developed.</p> <p>9.5 By end-2000, system to share sector information with a wide range of sector NGOs operational in UNICEF WESS and in each of the Field Offices</p> <p>9.6 Formal city-community-NGO partnerships in the urban-poor demo projects, by end-2001.</p>	<p>A. Revised guideline/strategy documents.</p> <p>B. Revised Indian Standards.</p> <p>C. Reports of sales by handpump manufacturers.</p> <p>D. State Water Supply Agency or PRI Department routine reporting.</p> <p>E. Database of NGOs.</p> <p>F. UNICEF reports.</p> <p>G. Field visit reports.</p>	
10. UNICEF WES capacity related urban poor, social aspects, monitoring and convergence improved. (Refers to all sub-projects in tables 3, 13 and 14)	<p>10.1 Effective inter-sectoral convergence in UNICEF demonstration districts, from mid-1999.</p> <p>10.2 Systems in place to ensure effective exchange of programme experiences between states, by mid-1999.</p> <p>10.3 Staff knowledge and skills in WES sector related social development issues improved, by end-2000.</p> <p>10.4 WES strategies developed for urban poor sector, by end-2000.</p>	<p>A. UNICEF monitoring reports.</p> <p>B. UNICEF monitoring reports.</p> <p>C. Self-assessment and supervisor appraisal reports.</p> <p>D. Strategy document</p>	

### **3 PROGRAMME RATIONALE**

#### **3.1. Background**

3.1.1 The Constitution of India requires that the State direct its policy towards ensuring that children are given the opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity.

3.1.2 The Convention on the Rights of the Child requires the State to recognise the right of the child to the enjoyment of the highest attainable standard of health. State Parties are required to pursue the fulfillment of this right by combating disease and malnutrition through the provision of adequate nutritious food and clean drinking water and by ensuring that parents and children are supported in the use of basic knowledge of child health and nutrition, including the advantages of hygiene and environmental sanitation. India ratified the Convention on the Rights of the Child in 1992 and is committed to the goals of the 1990 World Summit for Children.

3.1.3 UNICEF and Gol are building on more than 30 years of effective cooperation in rural water supply and 10 years in rural sanitation. The Gol-UNICEF Programme of Cooperation for 1999-2002 adopts a rights approach to programming, with a focus on sanitation and a move towards participation, quality and sustainability. This project follows key principles in programming for fulfilling the rights of the child in relation to water supply and sanitation, including community participation, demand responsiveness, disparity reduction, and complementing efforts of other partners.

3.1.4 From 1996, DFID is supporting the Gol-UNICEF Control of Diarrhoeal Diseases (CDD)-Water and Sanitation project in Orissa and West Bengal, integrating water supply, sanitation, hygiene promotion and CDD interventions. A mid-term review in November 1997 supported the case for further DFID assistance to UNICEF's water and environmental sanitation programme in India. In May 1998, UNICEF requested DFID funding in support of its Child's Environment: Sanitation, Hygiene and Water Supply Programme. The approved budget for the 1999-2002 programme is US\$ 48 million, of which UNICEF will meet US\$ 20 million from its general resources, with donor contributions funding the balance. The detailed budget of this project is US\$ 26.4 million, of which US\$ 22 million is requested for the period 1999 -2002, and US\$ 4.4 million for the first year of the next programme.

3.1.5 In August/September 1998, a DFID mission, accompanied by UNICEF, visited four of the six States where this project will be implemented. This mission provided substantial inputs for the preparation of this document.

#### **The Problem**

3.1.6 In India, unhygienic practices and the use of contaminated water result in nearly half a million child deaths annually. The lack of hygiene is a significant factor in malnutrition, which impairs the growth of nearly 60 million children. Over 70 per cent of the health problems of primary school students are caused by inadequate hygiene. The lack of toilets in schools deters girls from attending school, denying many the right to basic education. Collecting water from distant sources is a significant burden on women and girls.

3.1.7 While more than 80 per cent of the rural population have access to protected water supplies, actual *use* is much lower. Many use traditional, unprotected sources, when protected supplies are out of order, where such sources are located inconveniently, when access is denied or when water quality is disliked.

3.1.8 Problems of water contamination are increasing, with 10 per cent of sources found with excess levels of fluoride, arsenic, iron or salinity. Faecal pollution of drilled wells is all too common. Overshadowing all these issues is the threat to the sustainability of domestic water supplies by falling water tables, caused mainly by over-exploitation of groundwater for irrigation.

3.1.9 Access to safe means of excreta disposal is very low, with only about 20 per cent of rural households having a toilet, and even fewer using them. Few of the rural population have satisfactory means of solid waste and wastewater disposal. Proper hygiene practice, as distinct from knowledge, is low.

### **Project Purpose**

3.1.10 The project aims to increase the number of households that adopt improved hygiene behaviour, use home toilets and take water from protected sources. Project purpose reflects the continuing shift in the Gol-UNICEF programme towards environmental sanitation and a focus on demand responsiveness, operation and maintenance, quality and capacity building.

### **3.2. Policies**

3.2.1 The project supports Gol, UNICEF and DFID key objectives. Universal access to safe drinking water and sanitary means of excreta disposal, and the eradication of guineaworm, by the year 2000, are goals for children and development agreed at the 1990 World Summit for Children. Gol accords high priority to its Rural Water Supply and Sanitation Programmes, with national goals of full coverage for safe water and 50 per cent coverage for home toilets, by 2002.

3.2.2 UNICEF is supporting Gol programmes towards achieving these goals, through the 'Child's Environment: Sanitation, Hygiene and Water Supply Programme'. The 1997 Development White Paper committed DFID to increasing support for programmes that improve communities' access to clean water and sanitation. Through this project, UNICEF and DFID aim to further strengthen their partnership in the water supply and environmental sanitation sector.

### **3.3. Project Approach**

3.3.1 DFID will support the UNICEF Child's Environment Programme in four of Gol-UNICEF's high priority states (Rajasthan, Madhya Pradesh, Orissa and Uttar Pradesh) and two medium priority states (Andhra Pradesh and West Bengal), as defined by social poverty indicators, shown in table 2.

3.3.2 The DFID draft Country Strategy Paper has identified Orissa, A.P., and W.B. as potential DFID partner States. M.P. and Rajasthan are also identified as possible

'second-wave' partners. The focus of the project will be on rural areas, with a small component for urban slums and for national-level activities.

## Strategy

3.3.3 To increase sustainability and impact, UNICEF and GoI have agreed to give prominence to hygiene promotion, integrated WatSan approaches and increased community participation, including women and children.

3.3.4 The institutional structure of government in the water and sanitation sector is diverse and complex. Through this project, Government and UNICEF will demonstrate **integrated approaches**, bringing together the provision of protected water supply and sanitation with hygiene awareness and elements of Control of Diarrhoeal Diseases (CDD) and nutrition. Geographical convergence with other UNICEF-assisted programmes, e.g. Convergent Community Action (CCA), health, education and nutrition, will be pursued. With decentralisation, the role of district-level authorities and the Panchayati Raj Institutions will become increasingly important. Promoting closer integration among government departments responsible for water, sanitation and hygiene promotion will encourage them to give emphasis to the objective of cutting disease transmission through behavioural and engineering aspects of the project. UNICEF will use its field presence to improve coordination between the wide range of project stakeholders.

3.3.5 Through this project, Government and UNICEF will bring **greater community participation**, by actively promoting technology and design options for water and sanitation, which allow community/user choice, using successful pilot projects for their wider introduction across and between states. Communities and households will contribute towards the capital cost of water supply improvements. While UNICEF will not subsidise home toilet construction, advocacy efforts will be made for reduced government subsidies for toilets in the government Rural Sanitation Programme (RSP). Government and UNICEF will support the development of financially viable, NGO-supported, private sector sanitary ware production units and Rural Sanitary Marts, offering a range of low- to high-cost toilet options. Communities will increasingly participate in the operation and maintenance of water supplies. In the project, skills will be transferred from government to local level. Where water quality poses health hazards, the project will develop and demonstrate domestic and community water treatment technologies and community water quality surveillance.

3.3.6 In the project, Government and UNICEF will give prominence to **hygiene education**, by institutionalising an effective IEC programme to increase awareness in communities, families and schoolchildren of better hygienic practices. The partners will continue to champion successful approaches developed in earlier demonstration projects, to advocate for the introduction of a revised hygiene curriculum in primary schools, and to extend school sanitation to include Anganwadis pre-schools. UNICEF will extend partnerships with NGOs, whose involvement will be crucial in community mobilisation, capacity building and hygiene promotion.

## Project value-added

3.3.7 During the past three decades of collaboration with Government, UNICEF has achieved a remarkable degree of influence over sector policy. In water supply, UNICEF has been instrumental in developing the key elements of the rural water supply programme: borewells in hard rock and deepwell handpumps. In sanitation, UNICEF advocacy has resulted in government policy adopting a range of toilet options and the alternative delivery system. UNICEF efforts have also resulted in appropriate amendments to national guidelines for CRSP and the development of a national government strategy for IEC for WatSan.

Through this project, UNICEF will continue policy dialogue with government in areas where it has a comparative advantage, such as water supply technology, decentralised O&M, school sanitation and alternative delivery systems for sanitation.

3.3.8 UNICEF has a strong presence in New Delhi and in the six project States, and good access to government at Central and State levels. This will allow Government and UNICEF to facilitate effective learning between districts within states, between states, and between states and the centre. In the project more prominence will be given to participatory monitoring, to ensure that lessons of sustainability and replicability can be disseminated with confidence.

3.3.9 DFID will add value to the project by developing skills, both in UNICEF and among key partners, in areas of comparative advantage, including social development, health and hygiene, economic and financial analysis, environmental protection and urban water and environmental sanitation.

#### **Technical Appraisal (see Annex 2)**

##### **Hygiene education and integrated approach**

3.3.10 Hygiene education is much neglected in the government Rural Water Supply and Sanitation Programmes. The project will support a recent government initiative on intensive IEC for WatSan, covering initial staff costs, developing and supplying hygiene promotion materials and audio-visual equipment, providing mobility and funding monitoring and evaluation. Where necessary and acceptable, UNICEF will place specialists in the national and State IEC-cum-Sanitation Cells to support the development and implementation of IEC action plans.

3.3.11 Through the project, UNICEF will fund the completion, evaluation, documentation and dissemination of nine ongoing Integrated WatSan projects. In addition, Integrated WatSan will be taken up in four more districts, where water supply, sanitation and hygiene improvements will be complemented with activities related to CDD and nutrition.

3.3.12 Project implementation will facilitate closer cooperation between the State HRD and IEC-cum-Sanitation Cells. The HRD Cells will be supported to train master trainers and to include hygiene subjects in the curriculum of all personnel trained through the Cells.

##### **Water supply and sanitation**

3.3.13 The Rural Water Supply Programme is based selectively on handpumps and piped water supply schemes and the State Water Supply Agencies generally do not consult communities in deciding on technology. Similarly, the Rural Sanitation Programme is based mostly on the promotion of a single toilet design. Through this project, UNICEF and Central Government aim to broaden the acceptability of cost-effective technical options in water supply and sanitation.

3.3.14 In rural water supply, the project will demonstrate a range of technical options, which will allow for community choice, participation and contribution. In rural sanitation, the project will promote the use of a range of toilet designs. The project will seek to mainstream these technical options through evaluation, documentation and dissemination of demonstration projects, visits to demonstration projects by Government and UNICEF personnel, across district and State borders, and advocacy in all suitable fora.

3.3.15 Poor supervision often results in poor quality borewells, leading to polluted water and a shortened life span of wells. Similarly, the quality of toilets constructed under the subsidised programme is often substandard. While recognising these shortcomings, UNICEF cannot directly prevent this. UNICEF will monitor the quality of construction of new wells and home toilets in the demonstration areas, and work with district and State level functionaries to address deficiencies. Government and UNICEF will pilot replicable community-based water quality surveillance systems, along with the application of appropriate remedial measures. To complement community surveillance work, project funds will also be used to strengthen the capacity of district water testing laboratories.

3.3.16 UNICEF advocates for the decentralisation of authority and responsibility for maintenance and repair of rural water supplies to the Panchayats. Building on earlier work on community-based O&M, UNICEF will strongly advocate with State Governments to gradually introduce water tariffs, collected and used by the Gram Panchayats. Given the varying pace of empowerment of Panchayats in the six project States, the opportunity to move this agenda forward will vary from State to State.

#### **Institutional Appraisal (see Annex 4)**

3.3.17 The institutional framework for water supply and sanitation is complex and marked by the gradual devolution of powers from State to the Panchayats, as required under the 73<sup>rd</sup> Constitutional Amendment.

3.3.18 The project will be implemented through national and state governments, with technical and financial support from UNICEF. This will ensure consistency with government policies and plans, continuity beyond the end of the project, and a higher probability that technologies, approaches and strategies are replicated and sustained. UNICEF's unique partnership with government allows it to effectively address critical institutional factors.

3.3.19 Project strategy concentrates on skill transfer and capacity building at state, district, and community levels, and on bringing about greater commonality of purpose between stakeholders.

3.3.20 The 1997 WELL evaluation of UNICEF recognised that national and State Governments respect and value UNICEF as a partner in the sector. This long-standing partnership with Government allows UNICEF an exceptional degree of access to Government at all levels. A continuum of collaboration has made it possible for UNICEF to effectively demonstrate technologies and approaches, which address critical weaknesses in Government programmes. UNICEF-Delhi has five WES professionals, who maintain close relations with the Government Rajiv Gandhi National Drinking Water Mission (RGNDWM). In all six project States UNICEF has a Field Office with a team of professionals for water supply, sanitation, health, education, community development and communication.

3.3.21 State and District Coordinating Committees **will strengthen inter-sectoral cooperation**, bringing together the Departments of Health, Education, Rural Development, Public Health Engineering, and Women and Child Development. Integrated water and sanitation demonstration projects will be based on an LFA approach, which will include outputs and indicators related to behavioural change and disease reduction. This will guide implementers to consider ways and means necessary for achievement. UNICEF's overall programme strategy of CCA will support inter-sectoral working. Table 3 in Annex 1 shows the extent of convergence in demonstrating project components.

3.3.22 Taking advantage of its unique working relation with government, UNICEF will support RGNDWM to bring about necessary change in RWSP and RSP policy guidelines, moving away from the traditionally target-driven approaches in water supply and sanitation. Government and UNICEF will implement all components on principles of community participation, decentralisation and cost sharing. The project will help sensitising politicians on the importance of accepting revised sector policies, which will lead to long-term sustainable solutions in water supply and sanitation.

3.3.23 Through the project, the **social development expertise** in major State Government Departments and in UNICEF will be strengthened. UNICEF will work with Governments to enhance the State IEC and HRD Cells and incorporate social development subjects in their programme activities.

3.3.24 The key project strategy of **community participation** will centre on village water and sanitation committees, formally linked to the Village Panchayats, which provide an entry point for participatory planning. The project includes many elements aimed at strengthening local capacity: training of elected members, WatSan committee members, women's/mothers' groups, NGOs, village mechanics and caretakers, masons and motivators.

3.3.25 **Learning from experiences**, both within States and across State borders, will be actively pursued. UNICEF will undertake advocacy initiatives to ensure the utilisation of innovative experiences generated in the WES sector through its demonstration projects.

3.3.26 UNICEF's close working relations with Government at all levels allow for a unique degree of flexibility in implementation, including substantial participation by NGOs. NGOs will play a major role in social mobilisation, community organisation, capacity building and hygiene education in the project. UNICEF will ensure that NGO staff is properly trained before taking on project assignments. UNICEF will further

expand its partnership with NGOs in WatSan, and a wider range of NGOs will be called on to participate in projects.

3.3.27 UNICEF will interact with **sector educational institutions** to improve their curriculum to incorporate low-cost, women and child-friendly technologies, social mobilisation and hygiene education.

3.3.28 To allow for more attention to **quality of work** on the project, the geographical spread of activities will be limited, and the various project components will converge to a large extent. UNICEF field staff will spend substantial time to visit a random selection of toilets and water supply installations funded by the project. From time to time, UNICEF will organise independent reviews of project-funded installations, inspecting the quality of installations and, in participation with users, assessing their degree of satisfaction and participation.

3.3.29 This project will significantly enhance **UNICEF-DFID cooperation** in the WES sector. An effective partnership will help both agencies to advance their agendas for the development of the WES sector more effectively. The partnership will allow DFID to take advantage of UNICEF's presence in the States, and UNICEF's long-standing working relation with, and good access to, all levels of Government. DFID will bring specialised skills in areas where UNICEF has less experience. Through DFID, UNICEF will have easier access to national and international resource centres. UNICEF and DFID will also work closely together in the area of fresh water resources management (see Annex 6).

#### **Social Appraisal (see Annex 5)**

3.3.30 The 1999-2002 GoI-UNICEF Programme of Cooperation has **Convergent Community Action** as a key strategy, common to all programmes. CCA aims to improve decision-making by local communities and increase government responsiveness to community needs. In the project, the CCA strategy will be applied to maximum advantage by locating demonstration projects in areas where this strategy is operational and by incorporating key aspects of the strategy elsewhere.

3.3.31 Improvements in hygiene behaviour are critically dependent on **the active participation of communities** and individual households. In the Integrated WatSan demonstration areas, Government and UNICEF will promote community action for environmental sanitation through Gram Panchayats, schools, Anganwadi Centres and NGOs/CBOs. These will work directly with village groups and individual households, especially mothers, creating awareness of proper hygiene behaviour. The Rural Sanitary Marts and Production Centres, and their networks of masons and motivators will also encourage community action for home sanitation improvements. Community monitoring will trace changes in hygiene behaviour and the incidence of child diarrhoea.

3.3.32 Communities will be closely involved in planning and implementing of alternative water supplies funded by the project. A degree of cost sharing by user communities will be the norm. The decentralisation of maintenance and repair of water supplies will devolve responsibilities onto the Gram Panchayats and their WatSan Committees. Through this project, UNICEF will assist State Governments to take this approach



successfully forward. Community-based water quality monitoring systems will be entirely built on the Gram Panchayats, WatSan committees and other local resource persons. Pilot projects have shown that such systems can operate on a self-sustaining basis.

3.3.33 Although the use of protected water supply facilities among Scheduled Castes is about the same as among the general population, Scheduled Castes are sometimes denied access to water supply facilities. For Scheduled Tribes, coverage lags the country figure to some extent, reflecting the remoteness and inaccessible terrain of the areas where the tribal population lives. UNICEF and State Governments will ensure that SC/ST groups are represented on Village WatSan Committees and that their needs are met in designing village action plans for water supply and sanitation improvements. Mapping of disparities in the use of services in rural water supply, both quantitatively and qualitatively will bring out any inequalities in services for SC/STs. Alternative water supply technology, promoted through this project, will be especially appropriate for use in remote areas often populated by Scheduled Tribes.

3.3.34 The project will have a strong bias towards working with the poor. UNICEF and Government have agreed to prioritise states where the proportion of people living below the poverty line is larger than the national average. In selecting districts for demonstration projects the same criterion, applied in the State context, will be used. The alternative water supply technologies, demonstrated through this project, will provide services to hard-to-reach communities, most often the poor and vulnerable.

3.3.35 Social equity issues are also addressed by offering a range of toilet options. Experience has shown that a reduction or elimination of subsidies for toilets has no adverse effect on the response of the poor. Involving children in promoting hygiene and sanitation will enhance social cohesion.

3.3.36 Survey data, collected to establish baseline values for indicators at purpose and output levels, will be disaggregated by gender and vulnerable groups. The project will be monitored regularly against these indicators at community, village, district and State levels.

3.3.37 UNICEF, working through Government, is acting as a catalyst for improving the position of women in society. The 1999-2002 Programme of Cooperation emphasizes enhanced capabilities of women as a major strategic thrust area.

3.3.38 Project interventions will, where appropriate, specifically target women. These include awareness creation and capacity building for the prevention and management of diarrhoea, where mothers take action and give care. In the promotion of hygiene, mothers will be a focus of attention.

3.3.39 Women will be among the main beneficiaries of this project. Less water and sanitation related disease can help households save considerable expense on treatment. Less disease in the household will reduce the physical and mental burden of mothers. Toilets in or near the home give convenience and protection, especially to women. The water supply technologies demonstrated by the project will result in considerable time and energy savings, especially for girls and women.

3.3.40 Through this project, Government and UNICEF will support improvements in the position of women in the society. The women members of the Gram Panchayats and their WatSan committees will be encouraged to participate in the planning and implementation of sanitation and water schemes. Women working as sanitation motivators, mechanics and masons will increase their economic status.

3.3.41 Through this project, UNICEF and DFID will learn more about ways of involving children in planning and implementing community and household water supply, sanitation and hygiene improvements. Part of the TC support for this project will be used to develop practical models for child participation in the sector.

### **Economic and Financial Appraisal (see Annex 3)**

3.3.42 Even though UNICEF's expenditure on rural water and sanitation in the project States ranges from 1.1 to 5.7 per cent of Government expenditure, UNICEF has a proven track record of successful advocacy with Government, through encouragement of innovation and improved approaches in the sector. This project is expected to make significant contributions to policy and practice in the water and environmental sanitation sector in India, leading to more efficient and effective use of resources by Government.

3.3.43 UNICEF will encourage Government to adopt a wider range of cost-effective technical options and greater cost recovery in rural water supply and sanitation. Impact is expected to be greatest in the six project States, but influence will extend beyond, through national policy dialogue and through the UNICEF Field Offices in other States.

3.3.44 National policy on rural sanitation is expected to change, to include a range of low- to very-low cost toilet designs and demand-responsive approaches, which will lead to increased home toilet construction and use. Experience from West Bengal suggests that there is effective demand for toilets, at full cost, provided that consumers are offered a range of products and prices. The annualised cost of the cheapest option amounts to about one per cent of the annual income of households below the poverty line (US\$ 300 equivalent).

3.3.45 National policy on rural water supply is also expected to change, to include elements of community participation and cost sharing. State Governments and UNICEF will demonstrate the technical feasibility and social acceptability of a number of low-cost options in safe water supply, e.g. spring protection, rooftop rainwater harvesting, and in piloting low-cost water treatment that increase use of safe water, e.g. filtering surface water, removing fluoride and arsenic from ground water. There will be direct benefits to poor households whose water supply is improved by the project. Such benefits should greatly exceed the annualised cost of supply, which for most options amounts to one to two per cent of the per capita annual income of poor households.

3.3.46 Endemic diarrhoeal diseases in poor communities are not primarily water borne. UNICEF has been instrumental in helping to bring about national policy change i.e. the "package" approach to sanitation, and through its demonstration of success in the CDD-WatSan projects. The project integrated WatSan approach, similar to CDD-WatSan, is cost-effective, bringing direct benefits in the form of fewer cases of diarrhoea.

3.3.47 In this project, UNICEF's recent focus on full cost recovery in the construction of home toilets and in O&M of village water supplies will continue. UNICEF will advocate for minimum subsidies for home toilets in RSP, resulting in greater use of toilets. Rural Sanitary Marts should become financially sustainable within one year from the time of establishment. Water supply improvement supported by the project will require a degree of cost sharing by communities and households.

#### **Environmental Appraisal (see Annex 6)**

3.3.48 In India, open defecation by 700 million people creates substantial environmental risks. Proliferating use and pollution of groundwater is increasingly threatening the sustainability of the main source of domestic water supply for more than 850 million people.

3.3.49 The project is expected to have a net positive impact on the environment, by promoting behavioural change for reduced environmental pollution and the protection of water sources.

3.3.50 UNICEF will work with a range of partners to conduct studies on the overall fresh water situation, building on work done jointly in this area by UNICEF, Worldwide Fund for Nature (WWF) and NGOs. It will also support selected districts to map water availability and quality, to help in planning the use of available resources.

3.3.51 The degree to which individual external support agencies can influence national freshwater policy and practice is limited. Through this project DFID will effectively join the UNICEF-WWF partnership to follow up at national and local levels on the recommendations of the national consultation on fresh water.

3.3.52 Deteriorating quality of construction of drilled wells is resulting in increasing pollution of well water. Project funds will support community action for environmental protection of handpumps. UNICEF will also work with the State Water Supply Agencies to survey of newly constructed wells, which will encourage the State Water Supply Agencies to improve supervision during site selection, drilling and platform construction.

3.3.53 Rapidly falling water tables are resulting in deteriorating chemical quality of groundwater throughout the six project States, posing health hazards. Many borewells in the project areas have excess fluoride, while in West Bengal excess arsenic is a problem.

UNICEF will support State Governments to promote alternative water supply technologies and water treatment in the affected areas, combined with community-based water quality surveillance and awareness generation on the cause and effect of chemical pollution of water sources.

3.3.54 The environmentally unsound practice of abandoning low yield wells and drilling new wells is widespread. UNICEF will continue the promotion of well rejuvenation, through the provision of hardware and training, and will further refine operational procedures.

3.3.55 The construction of unlined toilet pits in permeable soils with the pit bottom touching the water table poses a risk of pollution to nearby shallow wells. In alluvial areas of the project, water tables often rise to near ground level during the monsoon. UNICEF and State Governments will revise and apply guidelines for the siting of water sources and home toilets, based on recent local research and will raise community awareness of the health risks.

#### **3.4. Evaluation**

3.4.1 Project design draws on DFID's and UNICEF's experience in water and environmental sanitation in India and worldwide. The 1997 WELL evaluation of UNICEF recognised that national and State Governments respect and value UNICEF as a partner in the sector, which allows UNICEF an exceptional degree of access to Government at all levels. A continuum of collaboration has made it possible for UNICEF to effectively demonstrate technologies and approaches, which address critical weaknesses in Government programmes. A major evaluation of the UNICEF WES programme in India, supported by DFID, will take place in 1999 and provide further guidance to the Child's Environment programme, to the benefit of this project.

3.4.2 DFID and UNICEF will undertake a mid-term Output to Purpose (OPR) review in early 2001. UNICEF, DFID and Central Government will commission a tri-partite evaluation of the project in late 2003, to determine final project achievements. All reviews and the evaluation will include participation from RGNDWM.

### **4 IMPLEMENTATION**

#### **4.1. Management Arrangements**

4.1.1 The Water and Environmental Sanitation Section (WESS) of UNICEF-Delhi will have the overall responsibility for project management.

4.1.2 A range of Government agencies at national and State levels will implement main project components. UNICEF will implement project activities related to operational research, advocacy, monitoring and evaluation.

4.1.3 Over the years, UNICEF has refined its methodologies for planning, implementing and managing the programmes it supports. Within the framework of the Plan of Operations, Plans of Action are developed, in consultation with implementing agencies and communities. For each State and national-level project, UNICEF and Government agree on an annual workplan, including activities, tasks, outputs and budgets. The process of monitoring, review and reporting is described in section 4.6.

4.1.4 In the UNICEF Field Offices, the State Representative is primarily responsible for ensuring inter-sectoral cooperation. In the States the responsibility for ensuring inter-departmental coordination is with the State Coordination Committee, headed by the Secretary (Rural Development), with members as detailed in para 3.3.20. For the demonstration projects, a District Coordination Committee, chaired by the District Collector/Chief Executive Officer, will direct implementation and ensure inter-sectoral participation and coordination. In cities selected for demonstration projects for

improving the environment of the urban poor, a similar coordination committee will operate.

4.1.5 The proposed £ 16.5 million DFID contribution will be channeled through UNICEF, which will be accountable to DFID for its proper utilisation. DFID's Water and Environmental Sanitation Group will manage the £ one million in Technical Cooperation (TC) support, sought to strengthen the capacity of UNICEF for implementing this project. UNICEF and DFID will jointly develop terms-of-references for the use of this resource.

#### 4.2. Timing

4.2.1 The project will begin on 1 January 1999. Funding will continue for one year after the end of the UNICEF-Gol Programme of Cooperation for the period 1999 – 2002.

#### 4.3. Inputs

4.3.1 Details of the project budget and Government contributions are given in Annex 9. An annual breakdown of the project and TC budget is shown below.

**Table 1: Project and TC budget, by year**

	(£ million)					
	1999	2000	2001	2002	2003	Total
Project budget	2.2	3.5	4.0	4.0	2.8	16.5
TC budget	0.3	0.3	0.2	0.1	0.1	1.0
<b>Total</b>	<b>2.5</b>	<b>3.8</b>	<b>4.2</b>	<b>4.1</b>	<b>2.9</b>	<b>17.5</b>

4.3.2 The DFID grant for the project will be primarily used for training, social mobilisation, setting up Rural Sanitary Marts, Production Centres, Rural Sanitary Parks, water supply and sanitation improvements, quality assurance services, IEC and training materials, NGO support, study trips, well rejuvenation equipment, geo-physical equipment, water testing and treatment kits, operational research, VLOM handpumps and tools, vehicles, surveys, studies, evaluation, documentation, dissemination, workshops, seminars, staff and programme support.

4.3.3 State Governments are generally well funded and equipped to extend standard rural water supply services, including the construction of wells on which VLOM handpumps supplied through this project will be installed. Government staff and representatives at State, district, block and village levels are usually readily available for meetings to discuss project design and implementation.

#### 4.4. Contracting and Procurement

4.4.1 UNICEF will procure all hardware and printed materials funded by this project, based on written requests from the concerned Government agencies. UNICEF has

elaborate internal procedures, rules and regulations, which apply to all procurement, irrespective the source of funding. Procurement is normally done through a process of competitive bidding, involving three or more short-listed suppliers. All supplies are inspected by recognised quality assurance agencies, prior to dispatch to the consignee. The Supply & Procurement (S&P) Section of UNICEF New Delhi handles all major local procurement.

4.4.2 For consultancy services, UNICEF follows a system of bidding, involving at least three qualified agencies or consultants. UNICEF-Delhi issues all major contracts. Each contract has a UNICEF Project Officer designated to be responsible for monitoring performance.

#### **4.5. Accounting**

4.5.1 The procedures for the release and accounting of the DFID funds for this project will be in accordance with the standard agreement for DFID financial support to UNICEF programmes.

4.5.2 Audits conducted by UNICEF's Office of Internal Audit will also cover the utilisation of the DFID project funds, which become an integral part of UNICEF's resources. Working through UNICEF, DFID can scrutinize Government accounts for project cash advances.

#### **4.6. Monitoring**

4.6.1 State and District level coordination committees will monitor implementation of the project using the project Logical Framework Analysis. At state level, reviews will take place annually, while at district level reviews will be held quarterly. Similar reviews will take place at municipal level, for cities selected for demonstration projects on improving the environment of the urban poor.

4.6.2 UNICEF Field Offices will review progress quarterly, against their annual workplans, based on information provided by the implementing agencies, verified through field visits. UNICEF Field Office professional staff spend about 25 per cent of their time on field travel, monitoring qualitative and quantitative progress in villages. At national level, UNICEF and RGNDWM will review project implementation annually.

4.6.3 Each of the UNICEF Field Offices will prepare quarterly summary progress reports and provide inputs for the annual progress report, using the State-specific LFAs. UNICEF-Delhi will provide DFID with annual progress reports, based on the project LFA. Using the LFAs will encourage a more analytical approach to reporting, including more qualitative information. This will also address the concern raised in the 1997 WELL evaluation, which noted that monitoring focused mostly on quantitative achievements against annual targets, with little review of progress against objectives.

4.6.4 The project has a component related to the development and introduction of community monitoring of WatSan indicators. The structure for this monitoring will be suitable for participatory monitoring of project inputs, processes and impact. In all studies and evaluations related to components of this project care will be taken to incorporate participatory approaches in the survey methodology.

4.6.5 DFID and UNICEF will field an annual mission to review project progress in Uttar Pradesh, where risks are considered higher, and to some or all of the other five project States. DFID will participate in workshops where State-specific LFAs will be finalised. DFID and UNICEF will undertake a mid-term Output to Purpose (OPR) review in early 2001 and, together with Central Government, an evaluation in late 2003. All monitoring missions will invite participation by RGNDWM.

4.6.6 The LFA in chapter 2 presents the design of the project. The paragraphs above outline key aspects of project monitoring, while section 3.4 covers main evaluation aspects of the project. During the first half of 1999, DFID and UNICEF will finalise a comprehensive project monitoring and evaluation plan. This plan will be prepared with international expert inputs obtained through the Technical Cooperation (TC) budget of this project. The monitoring and evaluation plan for this project will be closely linked to the integrated monitoring and evaluation plan, which UNICEF plans to develop for the Plan of Operations for the period 1999-2002.

## 5 RISKS AND UNDERTAKINGS

5.1 The project is medium risk. Most of the risks are well known and have been managed in past Gol-UNICEF WES programmes.

5.2 Major risks at **purpose to goal** level are:

- Falling water tables, due to overexploitation of groundwater resources for irrigation, result in decreasing quality and quantity of drinking water. Through this project, UNICEF will support policy dialogue on freshwater resources management at state level and community protection of drinking water sources.
- Government policy remains less conducive to the long-term sustainability of water supplies by not taking community preferences into account, aggravated by insufficient funds for O&M, resulting in a high percentage of water supply points out of order at any time. In this project, UNICEF will strongly support moves to decentralise O&M.
- Expected changes in Gol policies on sanitation are supportive of project purpose. The risk is that inadequate government funding is made available to develop hygiene education capacity, which is the weakest link in the "package" approach to sanitation. Project response will be to focus attention on developing IEC delivery capacity.

5.3 There is a cluster of risks at **output to purpose** level, around the establishment of effective government IEC programmes, underlining that this is the riskiest project component. The most problematic is the weak coordination between all stakeholders, because project success depends on a more integrated and correctly sequenced approach. There is a risk that if IEC activities are slow to achieve significant awareness of improved hygiene, State Governments will consider benefits not to be commensurate with costs, and do not scale up activities. There is also a risk that the IEC and HRD Cells will not have trained and skilled staff to carry the programme forward. UNICEF will manage these risks by supporting the IEC and HRD Cells and by giving prominence to hygiene education in the IEC and the Integrated WatSan districts.

5.4 Support for U.P. is judged to be a higher risk. However, UNICEF considers that by increased in-house capacity, strong advocacy at State level and by working more

closely with other State Government agencies, the perceived risks can be managed and community based WatSan approaches can be effectively demonstrated and replicated. If at the time of the mid-term review purpose is not likely to be achieved in this State, then funds will be reallocated to the other States.

5.5 The minimum level of success for the project is defined as being able to show, by end-2003, a measurable improvement in hygiene behaviour, including the use of sustainable safe water supplies and hygienic toilets in all Integrated WatSan project areas after at least three years of implementation, and demonstrate that effective government IEC and school sanitation programmes are in place in at least four of the six project States.



## **ANNEX 1: PROJECT DESCRIPTION**

### **1 Background**

1.1 Article 39, Directive Principles of State Policy, of the Constitution of India states that: 'The State shall, in particular, direct its policy towards securing that children are given the opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity and that childhood and youth are protected against exploitation and against moral and material abandonment.'

1.2 The Government of India acceded to the Convention on the Rights of the Child on 11 December 1992. Article 24 of the Convention reads: 'State Parties recognise the right of the child to the enjoyment of the highest attainable standard of health...

State Parties shall pursue the full implementation of this right, and shall take measures:

- to combat disease and malnutrition, ... through the provision of adequate nutritious food and clean drinking water ....
- to ensure that parents and children are informed and are supported in the use of basic knowledge of child health and nutrition, the advantages of .... hygiene and environmental sanitation ....'

1.3 The India ratified the Convention on the Rights of the Child in 1992 and is committed to the goals of the 1990 World Summit for Children, including universal access to safe drinking water and sanitary means of excreta disposal and eradication of guineaworm disease, by the year 2000.

### **National Achievements and Objectives**

1.4 Providing safe water to all is high on the agenda of all political parties. During the last three decades rural water supply coverage has improved markedly. The Government has adopted a rural coverage norm of one safe source supplying 40 litres per capita per day, for a population of 250, within a distance of 1,600 metres in the plains or 100 metres elevation in the hills. In 1996, about 83 per cent (85 % urban and 82 % rural) of the population had access to safe water. However, the mere physical creation of a safe water source in or near a habitation does not always result in the use of safe water by all households living in that habitation. Surveys indicate that about 72 per cent of the rural population take their water from a protected source.

1.5 After nearly 15 years of intensive efforts, India is on the verge of eradicating guineaworm disease. No case was reported since 1997, the first year of zero incidences.

1.6 The Rural Sanitation Programme is now gaining momentum, with political commitment in several states. Starting from a low base, progress in household toilet coverage has accelerated over the last five years. In 1996, about 17-20 per cent of rural households had a toilet – up from 9 per cent in 1989. Private construction of home toilets significantly exceeds subsidised construction through Government programmes.

1.7 Slowly sanitation is accepted as more than just the construction of toilets. The Government has now adopted a 'Package Approach' to sanitation, which includes seven components: safe handling of drinking water, disposal of waste water, safe

disposal of human excreta including that of children, disposal of solid waste including cow dung, home sanitation and food hygiene, personal hygiene and village sanitation.

1.8 Fulfillment of the right to safe water and a clean environment has been uneven. Whereas 70 per cent of urban households has access to proper sanitation, it is only 17 to 20 per cent among rural households. The urban figure, however, disguises the fact that millions of families in the poorest urban settlements, many of which are unauthorised, face appalling sanitary conditions, which are life-threatening to children.

1.9 The 8th Five-Year Plan of Gol (1992-97) had the following principles related to water supply and sanitation:

- Protection of the environment and safeguarding health through the integrated management of water resources and liquid and solid wastes.
- Organisational reforms and changes in procedures, attitudes and behaviour and the full participation of women at all levels.
- Community management of services, backed by measures to strengthen local institutions in implementing and sustaining water and sanitation programmes.
- Sound financial practices, achieved through better management of existing assets and extensive use of appropriate technologies.

Although these are highly appropriate principles, actual implementation of the rural water supply and sanitation programmes showed a conspicuous lack of integration, women's involvement and community management.

1.10 Drafts of the 9th Plan suggest that Government aims to provide access to safe water to all households and to emphasize the importance of prudently using fresh water. Gol's goal for rural sanitation is an ambitious 50 per cent (though more modest and realistic for India than the Summit goal of full coverage).

## **2 UNICEF Cooperation in Water Supply and Sanitation**

2.1 In 1996, UNICEF completed 30 years of cooperation with Gol in rural water supply and 10 years in environmental sanitation. UNICEF has supported Central and State Governments efforts to (i) expand physical coverage of water supply and sanitation; (ii) address water quality problems; (iii) make handpump designs more suitable for community maintenance and repair; (iv) develop alternative delivery systems for sanitation; (v) promote a range of toilet designs; (vi) eradicate guineaworm disease; (vii) demonstrate approaches bringing together safe drinking water and sanitation with hygiene awareness and proper case management of diarrhoea; (viii) build capacity; (ix) develop IEC and MIS.

2.2 Over the past years, UNICEF has also strongly advocated for community convergent action (CCA), as an overall strategy to improve decision-making by local communities and greater responsiveness of the social development sector to community needs. CCA seeks to foster a team approach for assessing, analysing and initiating action to meet the rights of children at community level, promote effective social communication between team members and develop a system of community level monitoring to track progress made towards the goals for children.

2.3 UNICEF's involvement in the water and sanitation sector should be seen as a continuum of activities with successful experiences gained over time and consolidated in line with key tenets of affordability (cost effective and appropriate), replicability (potential to go to scale), sustainability (achieving lasting results), capacity building (through community participation, ownership and empowerment) and assessment, analysis and action (responding to communities' changing needs).

### **The new Country Programme**

2.4 In May 1998, UNICEF and Gol have agreed in principle on their Programme of Cooperation for the period 1999-2002. Gol-UNICEF collaboration in the national Rural Water Supply and Sanitation Programmes of the Government is covered by the Child's Environment: Sanitation, Hygiene and Water Supply Programme. Details of this Programme are given in Chapter 5 of the Plan of Operations.

### **Objectives of the National Rural Water Supply and Sanitation Programmes:**

- ❖ Universal access to safe drinking water, by the year 2002;
- ❖ Improve access to toilets from the present level of 17-20% to 50% by the year 2002.

### **Objectives of the Gol-UNICEF Programme of Cooperation for 1999-2002:**

- ❖ Accelerate the realisation of universal child rights by ensuring that society will respect, protect and find ways to fulfill obligations to children and so achieve the World Summit Goals.
- ❖ Ensure that women's rights are progressively met with resulting improvements in the position of girls and women in society.
- ❖ Strengthen the capacities of communities to analyse their situation, set priorities, and monitor activities and outcomes at the local level.

### **Objectives of the Child's Environment Programme of the Gol-UNICEF Programme of Cooperation for 1999-2002:**

- ❖ Increased awareness of families and communities on hygienic practices and the importance of safeguarding their immediate environment.
- ❖ Improved hygiene behaviour in and through schools and increased attendance of young girls, realising their right to basic education.
- ❖ Increased use of sanitary means of excreta disposal and a safer environment for children.
- ❖ Strengthened community participation and active involvement of women in the water supply and sanitation programmes.
- ❖ Increased use of safe water.
- ❖ A more sustainable water environment in the country.

UNICEF and Gol have agreed to have four projects in the Child's Environment Programme:

1. Environmental Sanitation project, with five sub-projects.
2. Rural Water Supply project, with five sub-projects.
3. Urban Environment project, with two sub-projects.

4. MIS and Surveillance project, with three sub-projects.

### 3 The UNICEF-DFID project

3.1 The DFID-funded project has been designed to be consistent with the priorities, strategies, objectives, outputs and activities detailed in the Child's Environment Programme of the Gol-UNICEF Programme of Cooperation for 1999-2002.

#### Goal and Purpose

3.2 The **goal** of the project is to contribute to Gol/UNICEF goal of the realisation of child rights in India.

3.3 The **purpose** of the project is to have more households, especially the poor, adopt improved hygiene behaviours and use sustainable safe water supplies, hygienic toilets, and means of liquid and solid waste disposal in the six project States (Orissa, West Bengal, Andhra Pradesh, Uttar Pradesh, Madhya Pradesh and Rajasthan).

#### Project Strategy

4.1 Consistent with the Gol-UNICEF Plan of Operations, the following strategies will be used in the implementation of this project:

4.2 Intensive IEC for awareness creation: Assuring the right to safe water and a clean environment depends critically upon the practices adopted by households. In this project, Government and UNICEF will therefore focus attention on intensive IEC that will generate awareness and knowledge of the health benefits of hygiene, increase demand for environmental sanitation at home, and advocate for hygienic practices.

4.3 Improve quality and sustainability: Government and UNICEF will ensure that communities and households are involved in the selection of technologies for their domestic water supplies, which suit their needs, preferences and budgets best. Where communities lack safe sources of water, community or household water treatment will be introduced and promoted. Project resources will support action to improve water resource management, at national, state, district and community levels.

4.4 Enhance community participation: Support will entail a shift in strategy from a supply-driven to a demand-driven strategy, calling for a greater degree of community participation. Through the project, Government and UNICEF will contribute to progressively fulfill women's rights, with resulting improvements in the position of girls and women in society, and to strengthen the capacities of communities to analyse their situation, set priorities, and monitor activities and outcomes at the local level.

4.5 Encourage innovation: Completing the unfinished agenda of ensuring universal access to safe drinking water remains a top priority. Groups that are left out reside mostly in regions that are difficult to reach, or belong to socially backward communities. Large sections of the urban poor similarly lack adequate access. In the project, Government and UNICEF will promote and demonstrate a range of technological design options, both in water supply and in sanitation.

4.6 Promote inter-sectoral convergence: Improved hygiene is essential for improved nutrition and health. Schools and Anganwadis can be effective channels for promoting hygiene among children. Health sub-centres too are potential channels for the promotion of hygienic practices. Inter-sectoral convergence should be most visible at the Gram Panchayat level.

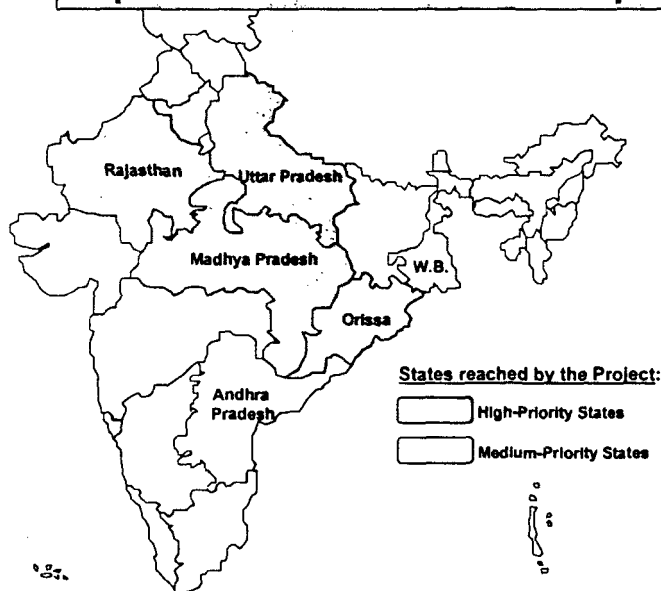
### Selection of States for the project

4.7 The GoI-UNICEF Programme of Cooperation for 1999-2002 has identified six major States, which have the poorest indicators on child survival and development, as the focus of the programme. The UNICEF-DFID project will support the programme in four of these States: Orissa, Rajasthan, Madhya Pradesh and Uttar Pradesh. These States share very poor indicators of childhood mortality, female literacy, poverty and a high Capability Poverty Measure (CPM) indicator, which is based on the female literacy rate, the infant mortality rate and the proportion of births attended by a trained birth attendant.

**Table 2: Key indicators for high-priority States**

High-Priority States	Pop < 18 in million (1996)	Est. urban poor pop in million (1990)	Total Fertility Rate (1992)	% Pop below poverty line (1987-88)	Infant Mortality Rate (1996)	U5MR (1992-93)	Female Literacy Rate (1991)	CPM (1991-93)
MP	32.4	3.4	4.4	43.4	97	130.3	28.8	66.2
ORISSA	14.4	1.1	3.1	55.6	95	131.0	34.7	66.0
RAJ	21.9	2.3	4.5	34.6	86	102.6	20.4	66.5
UP	70.8	6.5	5.2	42.0	85	141.3	25.3	72.2
INDIA	399.1	51.2	3.6	39.3	72	109.3	39.3	60.0

**Sanitation, Hygiene and Water Supply Project**  
UNICEF; with funding from  
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4.8 The project will also support the Child's Environment programme in two of the seven medium priority States, Andhra Pradesh and West Bengal, which have somewhat better levels of child survival and development indicators, greater ownership and responsibility of the State Governments for social development programmes and mid-range CPM.

### Selection of districts in the project States

4.9 In each of the States, the project will be implemented through a number of district-level demonstration projects. Integrated

WatSan demo projects will be the focus of the project. School sanitation, community-based water quality surveillance and community monitoring will also be part of these integrated projects. Project funds will meet the cost of completing ongoing demonstration projects.

4.10 Table 3 and 4 present the various components of the project and the districts where demonstration activities will be taken up. The project will fund the completion of ongoing demonstration schemes and take up new projects related to various aspects of this project. Table 4 estimates the number of people, who will directly gain from project interventions. As explained elsewhere the main benefits of this project will be through replication of the demonstrated technologies and strategies through the government programmes for water supply and sanitation.

**Table 3: Project demonstration districts, by State.**

	Orissa	Raj.	M.P.	U.P.	W.B.	A.P.
Integrated WatSan	Phulbani Ganjam Puri	Alwar Tonk one new	Sehore one new	Allahabad Tehri	Medinipur one new	one new
School sanitation	In two districts per State, mostly in the Integrated WatSan districts, plus completion of ongoing projects in Haridwar (U.P.) and Jhabua (M.P.)					
Intensive IEC	Malkangiri Kendrapara Sundergarh	Ajmer Alwar Banswara Jodhpur	Bastar Khargaoon Betul Rajgarh	Agra Phatehpur Kanpur Almora	Four districts	E.Godavari Krishna W.Godavari Guntur
Alternative water supply technologies	Mostly in the Integrated WatSan districts, plus optional one CCA district in each State.					
Community-based water quality surveillance	In 300 villages, mostly in the Integrated WatSan and/or CCA districts in each State.					
Domestic water treatment	None	Dungerpur	Shivpuri, Jhabua	Kanpur	One of the arsenic-affected districts	Ananthapur, plus the Integrated WatSan district
Community iron removal	Phulbani	None				
Decentralised O&M of water supplies	In the districts selected by State Government for piloting decentralised O&M for water supplies. Project support limited to three districts per State, with priority to Integrated WatSan districts.					
Protection of drinking water sources in water depleted areas	One micro watershed in one district in each State, as far as possible in the Integrated WatSan districts.					
Child-friendly technologies for urban poor	2-3 urban poor settlements in the Integrated WatSan districts or in the intensive IEC districts.					
Community-level monitoring	In one of the Integrated WatSan districts in each State.					

**Table 4: Project target population, by component**

<b>Project component</b>	<b>Component scope</b>	<b>Approx. directly reached population</b>	<b>Approx. indirectly reached population</b>	<b>Remarks and assumptions</b>
Integrated WatSan	13 districts	10 million	14 million rural people	Replication to two more districts in each State
School Sanitation	In 6,000 schools in 14 districts, mostly in Integrated WatSan areas	750,000 school children	8,000,000 school children	Replication to 64,000 additional schools
Intensive IEC	In 24 districts	3.3 million rural people	6.6 million rural people	Replication throughout four districts in each State
Alternative water supply technologies	2,100 structures, mostly in Integrated WatSan or CCA districts	125,000 rural people	1,250,000 rural people	Ten-fold replication to other areas in the project states
Community-based water quality surveillance	In 300 villages, mostly in the Integrated WatSan or CCA districts	360,000 rural people	3,600,000 rural people	Ten-fold replication to other areas in the project States
Domestic water treatment	4,000 households in 30 villages in seven districts	20,000 rural people	400,000	Twenty-fold replication to other areas in the project states
Community water treatment	500 iron removal plants in one district	50,000 rural people	500,000 rural people	Ten-fold replication to other areas in the project States
Decentralised O&M of water supplies	In 2,000 Gram Panchayats in 15 districts, some in Integrated WatSan or CCA districts.	5 million rural people	15 million rural people	Three-fold replication to other Gram Panchayats in the demo districts and to parts of two more districts in each State
Protection of drinking water sources in water depleted areas	Six micro watersheds, mostly in the Integrated WatSan districts	20,000 rural people	200,000 rural people	Ten-fold replication to other watersheds
Child-friendly technologies for urban poor	In 15 urban poor settlements, mostly in the Integrated WatSan or urban CCA districts	40,000 urban poor people	400,000 urban poor people	Ten-fold replication to other urban slums

Project component	Component scope	Approx. directly reached population	Approx. indirectly reached population	Remarks and assumptions
Community level monitoring	In 500 Gram Panchayats in 5-6 Integrated WatSan districts	1.2 million rural people		Replication to the rest of the demo districts and to parts of two more districts in each State

4.11 Government and UNICEF plan to concentrate many of the project activities in the Integrated WatSan districts. Thus, there will be a considerable degree of convergence among the numbers of people, which the project will reach as shown under various project components in table 4. UNICEF estimates that the project will directly reach a total of about 15 million people, mostly in rural areas.

4.12 Where new districts are to be selected, the project will apply the following criteria:

- ◆ Districts where the CCA strategy is effectively in use.
- ◆ IEC focus districts.
- ◆ Unreached populations.
- ◆ Convergence with other UNICEF supported projects, intra- and inter-sectoral.
- ◆ Accessibility, with the aim of making most efficient use of limited UNICEF staff for support and monitoring.
- ◆ Government priorities.

4.13 The selection of districts for piloting decentralised approaches for the operation and maintenance of water supplies is primarily done by the Departments for Rural Development, Panchayati Raj and the State Water Supply Agency, with limited UNICEF influence.

### Project Outputs

4.14 In each of the six project States, Governments and UNICEF will work towards the following outputs, as defined in the Logical Framework Analysis:

**Output 1:** Effective government IEC programmes developed and institutionalised.

**Output 2:** Replicable models for hygiene education, water supply and environmental sanitation in rural primary schools and Anganwadi centres (pre-schools) developed, tested and successfully demonstrated.

**Output 3:** A range of affordable and women and child-friendly home toilet options widely promoted among rural households, including the poor.

**Output 4:** Replicable models for integrated water supply, environmental sanitation and hygiene education in rural districts developed, tested and successfully demonstrated.

**Output 5:** Alternative, sustainable, community-friendly, options for protected rural drinking water supplies successfully introduced, especially among the poor.

**Output 6:** Fresh water resources management at State, district and community levels improved.

**Output 7:** Replicable models for hygiene education, water supplies and environmental sanitation in urban poor communities successfully developed and demonstrated.

**Output 8:** Community action oriented MIS systems for the rural WES sector, linked to State-level MIS, improved.



**Output 9:** National WES policy environment, including NGO participation, improved.

**Output10:** UNICEF WES capacity related urban poor, social aspects, monitoring and convergence, improved.

### **Activities**

4.15 Table 5 shows the broad categories of activities, which will be taken up in each of the sub-projects, at national, state and district levels, in the course of the project. The table also provides details of the activities planned for 1999. The four high-priority States, Orissa, Rajasthan, Madhya Pradesh and Uttar Pradesh will take up all sub-projects, except guineaworm eradication, which is limited to Rajasthan. In West Bengal and Andhra Pradesh, the project will also support all sub-projects, but with a lower allocation of funds, to reflect better State capabilities in these States.

**Table 5: Outline of project activities, in general and for year one (1999)**

Broad categories of activities		Activities for 1999
<b>Project 1: ENVIRONMENTAL SANITATION</b>		
<b>Sub-project 1-1: INTENSIVE IEC FOR WATSAN (linked to LFA output 1)</b>		
<b>National level</b>	Develop and evaluate intensive IEC in pilot districts Develop, replicate and distribute IEC materials. Documentation of successful models.	Support the development of a complementary national multi-media campaign. Adapt, reproduce and distribute IEC materials. Supply of models to demonstrate toilet upgrading. Arrange for documentation.
<b>State level</b>	Support/strengthen the IEC/School Sanitation Cells at State and district levels. Support SCA and DCAs in designing the IEC campaign. Develop, replicate and distribute IEC material. Advocate for low-cost no-subsidy approaches in the promotion of home toilets.	Staff support for IEC Cell, where needed. Training for IEC Cell staff Mobility support for IEC Cell staff Professional support to IEC-cum-Sanitation Cells, SCA and DCAs Adapt, reproduce and distribute IEC materials
<b>District level</b>	Support and monitor intensive IEC campaigns in the pilot districts. Support IEC campaigns to create community awareness. Promote low-cost no-subsidy approaches in the promotion of home toilets.	Orientation and training for stakeholders. Workshops for implementers. Training of media professionals.
<b>Sub-project 1-2: DEVELOPMENT OF ALTERNATIVE DELIVERY SYSTEM(linked to LFA output 3)</b>		

Broad categories of activities		Activities for 1999
<b>National level</b>	Advocacy/dissemination for the replication of alternate delivery systems. Operational research on low cost sanitation. Advocate for replication of alternative technologies through the Govt. rural sanitation programme. Advocacy with national Ministries to include sanitation as a major programme area. Monitoring and evaluation.	Organise visits between States. Develop child-friendly toilet design options. Follow up on the outcome of the national workshop on ecologically balanced approaches in WatSan. Translate guidelines and disseminate. Supply tabletop design models. Start a national evaluation of all RSMs older than 3 yrs.
<b>State level</b>	Advocate for replication of alternative technologies through the Govt. rural sanitation programme. Train masons on home toilet construction. Develop credit mechanisms/revolving funds. Monitor the existing network of RSMs. Support operational research on low cost sanitation. Develop strategy to identify and support private sector potential.	Translate guidelines and disseminate. Negotiate with banks credit mechanisms for women/ youth groups. Facilitate the use of PMRY funds for credit. Disseminate the outcome of the national workshop on ecologically balanced approaches in WatSan. Maintain system to monitor quarterly RSM/PC sales.
<b>District level</b>	Set up new Production centres / Rural Sanitary Marts; support through revolving fund Operationalise credit mechanisms. Train masons on home toilet construction. Train motivators. Build capacity for RSM management. Identify and support private sector potential.	Support NGOs and private entrepreneurs to start up new RSMs and production centres. (Re-)train masons and motivators. Train RSM managers.
<b>Sub-project 1-3: SCHOOL SANITATION (linked to LFA output 2)</b>		

Broad categories of activities		Activities for 1999
<p><b>National</b></p> <ul style="list-style-type: none"> <li>Develop/update project guidelines</li> <li>Advocacy/dissemination for the replication of school sanitation.</li> <li>Cooperation with NCERT</li> <li>Exchange visits to model schools</li> <li>Curriculum development.</li> <li>Development of communication materials for hygiene education in schools.</li> <li>Support and monitor school sanitation in pilot districts in non-represented States.</li> </ul>	<ul style="list-style-type: none"> <li>Revise, translate and disseminate school sanitation demo project guidelines.</li> <li>Document S.S. projects nearing completion.</li> <li>Finalise training modules for AWWs and teachers.</li> <li>Replicate training modules to the States.</li> <li>Revise content of textbooks on environment of Classes I through V.</li> <li>Revise Minimum Levels of Learning (MLL).</li> <li>Integrate school sanitation in WB DPEP project.</li> <li>Organise visits between States.</li> </ul>	
<p><b>State</b></p> <ul style="list-style-type: none"> <li>Project design.</li> <li>Advocate for the replication of school sanitation in other districts.</li> <li>Cooperation with SCERT to refine/adapt school curriculum.</li> <li>Exchange visits to model schools</li> <li>Develop/replicate communication materials for hygiene education in schools.</li> </ul>	<ul style="list-style-type: none"> <li>Design/baseline, for new projects.</li> <li>Document projects nearing completion.</li> <li>Adaptation/translation of materials developed at national level.</li> <li>Organise visits between districts.</li> </ul>	
<p><b>District</b></p> <ul style="list-style-type: none"> <li>Support the provision of safe water and sanitation facilities in pry schools.</li> <li>Awareness creation in schools.</li> <li>School health check-ups.</li> <li>Create awareness through schools to communities.</li> <li>Train teachers, AWWs, PTA members and administrators.</li> <li>Support to NGOs.</li> <li>Support to District Administration.</li> </ul>	<ul style="list-style-type: none"> <li>Development of school WatSan action plan.</li> <li>Construction of toilets/urinals/water supply, sharing costs with Government.</li> <li>O&amp;M of WatSan facilities by teachers and students.</li> <li>Formation of school sanitation clubs.</li> <li>Train/orient teachers, PTA members, Panchayat members, AWWs, district officials, students.</li> <li>Provide sanitation/hygiene essentials.</li> <li>Wall paintings/school competitions/etc.</li> <li>School-community environment surveys.</li> <li>Annual health check-up, with adequate follow up.</li> <li>Train/orient NGO staff.</li> <li>Mobility and other support to District Administration.</li> </ul>	
<p><b>Sub-project 1-4: INTEGRATED WatSan, WITH CDD/Nutrition (linked to LFA output 4)</b></p>		

Broad categories of activities		Activities for 1999
<b>National level</b>	<p>Guidelines for project design.  Advocacy/dissemination for the replication of integrated WatSan strategies.  Evaluation and documentation.</p>	<p>Study/analyse State legislation on decentralisation.  Revise guidelines for Integrated WatSan project design.  Evaluation of CDD-WatSan in selected districts/States.  Organise visits between States.</p>
<b>State level</b>	<p>Project design.  Advocate for the replication of CDD-WatSan strategies in other districts.  Advocate for low-cost no-subsidy approaches in the promotion of home toilets.  Build capacity among senior administrators.  Advocate for capital and O&amp;M cost recovery in water supply.</p>	<p>Set up State Coordination Committee.  Design/baseline, for new projects.  Support evaluation of CDD-WatSan by WESS.  Organise visits between districts.  Document, disseminate, successes.  Training/orientation of State-level functionaries.  Review by State Coordination Committee.</p>
<b>District level</b>	<p>Community organisation.  Community awareness campaign.  Support mothers' meetings in AWCs.  Orientation of District-level officials.  Orientation of Panchayat members.  Orientation of field level functionaries.  Operationalising ORS supply points.  Support nutrition interventions: kitchen gardening, deworming, etc.  Create additional safe water supply points, esp. for the poor/vulnerable.  Support decentralised O&amp;M of water supply systems.  Set up RSMS/production centres.  Train masons and motivators.  Provide revolving fund, establish credit mechanism.</p>	<p>Set up District Coordination Committee.  Form WatSan Committees  Prepare WatSan Action plans  PRA exercises, community meetings.  Monthly mothers' meetings.  (Re-)orientation on strategy/LFA.  Training of NGO workers, masons and motivators.  Village Contact Drives.  Increase water supply points  Develop decentralised O&amp;M system  All activities related to alternative delivery system.  Limited school sanitation activities.  Distribute IEC materials.  Mobility/computer support for district administration.  Review meetings of DCC.</p>
<b>Sub-project 1-5: HUMAN RESOURCES DEVELOPMENT(linked to LFA output 1,2,3,4)</b>		

Broad categories of activities		Activities for 1999
National level	Curriculum development of technical institutions; entry-level and in-service training programmes for Health, ICDS, PHED staff.	Develop database of technical institutions. Interact with national-level institutions to incorporate community-participatory, appropriate, low-cost, design options in training curriculum.
State level	Develop/improve curriculum for schools and colleges/polytechnics. Support the HRD Cells to impart training, technical and non-technical.	Develop State database of technical institutions. Interact with State-level institutions to incorporate community-participatory, appropriate, low-cost, design options in training curriculum. Project/curriculum design support to HRD Cell. Mobility/computer support to HRD Cell.
<b>Project 2: RURAL WATER SUPPLY</b>		
<b>Sub-project 2-1: WATER SUPPLIES FOR THE MOST DIFFICULT TO REACH (linked to LFA output 5)</b>		
National level	Develop/revise project design guidelines. Advocacy/dissemination for the replication of alternative technologies. Monitoring and evaluation.	Develop a menu of child and women-friendly, alternative water supply technologies. Evaluate rainwater-harvesting experiences. Document, disseminate, successes. Organise visits between States.

Broad categories of activities		Activities for 1999
<b>S</b> <b>t</b> <b>a</b> <b>t</b> <b>e</b> <b>-</b> <b>i</b> <b>e</b> <b>v</b> <b>e</b> <b>i</b>	Assist States to design projects, conduct baseline surveys. Advocate for the replication of alternative technologies through the Govt. RWS programme. Supply specialised drilling equipment not available in India. Build capacity, through the HRD cells, NGOs and training institutions. Create awareness on the water supply situation of the unreached. Supply geophysical equipment and spares for use in difficult areas.	Design plans for community-participatory surveys of the under- and un-reached. Training on alternative water supply technologies for HRD Cells, NGOs, and training institutions. Supply of imported spares for HFUs less than 10 yrs old. Supply of geophysical equipment and imported spares.
<b>D</b> <b>i</b> <b>s</b> <b>t</b> <b>r</b> <b>i</b> <b>c</b> <b>t</b>  <b>i</b> <b>e</b> <b>v</b> <b>e</b> <b>i</b>	Conduct community participatory surveys to identify the under- and unreached. Advocate for priority attention to their water supply needs; and monitor the status of community water supplies. Demonstrate alternative technologies to serve those who cannot be reached with conventional technologies, focusing on protected wells, rooftop rainwater harvesting, HRF/SSFs, etc. Build capacity on alternative technologies and community participatory survey methodologies. Support awareness creation.	Survey one integrated WatSan district and map the unreached, through PRA methods. Review survey report with district secondary stakeholders. Demonstrate alternative technologies for water supply, with community sharing capital and O&M costs. Strengthen district to conduct PRA, focusing on water supply and sanitation.
<b>Sub-project 2-2 WATER QUALITY (linked to LFA output 5)</b>		
<b>N</b> <b>a</b> <b>t</b> <b>i</b> <b>o</b> <b>n</b> <b>a</b> <b>l</b> <b>e</b> <b>v</b> <b>e</b> <b>i</b>	Develop/revise project design guidelines. Advocacy/dissemination for the replication of community-based water quality surveillance and related corrective action. Monitoring and operational research on pollution of drinking water supplies. Development of effective, user-friendly, water quality field test kits. Operational research on domestic and community water treatment. Conduct surveys, studies and operational research on pollution of drinking water supplies. Development of manuals and training modules.	Develop/revise guideline for demo projects on community-based water quality and domestic water treatment. Document, disseminate, successes. Improve field test kit, for reliable 'yes/no' qualitative tests for faecal pollution, excess arsenic, fluoride and nitrate. Conduct operational research on domestic water treatment.

<b>Broad categories of activities</b>		<b>Activities for 1999</b>
<b>St at e le ve l</b>	Assist States to design projects, conduct baseline surveys. Advocate for the replication of community-based water quality surveillance and related corrective action. Build capacity and create awareness among senior administrators. Develop manuals and training modules.	Develop demo projects for community-based water quality surveillance and for domestic water treatment. Strengthen district water quality laboratories.
<b>Di str ict le ve l</b>	Support community action for water quality surveillance and related corrective action. Develop and demonstrate domestic and community water treatment technologies. Strengthen water quality monitoring systems. Build capacity and create awareness.	Implement demo projects on community-based water quality surveillance and for domestic water treatment. Supply basic testing equipment to district labs and provide training on use and maintenance.
<b>Sub-project 2-3 SUSTAINABILITY OF WATER SUPPLIES (linked to LFA output 5)</b>		
<b>Na tio na l le ve l</b>	Advocacy/dissemination for the replication of decentralised O&M systems. Development of manual and training modules. Improve the availability of BIS marked pump spares outside the government system. Operational research on India Mark III (50 mm) pump, universal cylinder, plastic risers and fibre rods. Advocate for Government resource allocation for well rejuvenation.	Develop/revise module for the training of handpump mechanic and caretaker. Conduct field trials in at least three States using plastic risers and connecting rods. Organise a national workshop on well rejuvenation. Commence work on guidelines for well rejuvenation.
<b>St at e le ve l</b>	Conduct workshops to sensitise elected representatives on the need for resource mobilisation. Support the training-of-trainers. Develop/adapt/translate training modules. Study the effectiveness/impact/sustainability of decentralised O&M systems Improve the availability of BIS marked pump spares outside the government system. Promote the India Mark III (50 mm) and TARA pumps. Supply of hydro-fracturing and air-flushing equipment. Supply of spares for rigs and HFUs less than ten years old, not available in the country. Advocate for Government resource allocation for well rejuvenation. Monitor well rejuvenation by HFU and TMC. Capacity building and awareness creation.	Adapt, translate, and replicate training modules. Organise training of trainers. Support field trials on the use of plastic risers and connecting rods. Train staff on well rejuvenation procedures. Organise meetings of buyers and sellers of pump spares, by BIS and State Governments.
<b>Di str ict le ve l</b>	Conduct workshops to sensitise elected representatives on the need for resource mobilisation. Demonstrate community awareness creation, social mobilisation, selection of mechanics. Support training of village caretakers/mechanics/committee members Improve the availability of BIS marked pump spares outside the government system. Supply tools for village mechanics and caretakers.	Conduct workshop for elected representatives on water supply sustainability. Support social mobilisation and awareness creation. Conduct training for mechanics, caretakers, and Panchayat WatSan Committee members. Supply VLOM tools. Organise consignee-end inspections, in cooperation with Government departments.



Broad categories of activities		Activities for 1999
<b>Sub-project 2-4 FRESH WATER RESOURCES MANAGEMENT (linked to LFA output 6)</b>		
<b>National level</b>	<p>Advocacy for community-based watershed, focusing on activities linked to the protection of public drinking water sources.</p> <p>Support the monitoring of groundwater use, groundwater depletion, water resources inventories.</p> <p>Support Field Offices in their promotion of the use of GIS tools in the development of watershed management action plans.</p> <p>Engage Governments, politicians, PRIs, NGOs and CBOs in a policy dialogue, which encourages the adoption of a new paradigm on the management of, and rights over, fresh water resources.</p>	<p>Develop/revise guideline for WRM for source protection through community action.</p> <p>Issue guidelines to Field Offices on UNICEF support in the promotion of the use of GIS tools in WRM.</p>
<b>State level</b>	<p>Advocate for the replication of community-based management of micro watersheds, focusing on activities linked to the protection of public drinking water sources.</p> <p>Support the monitoring of groundwater use, groundwater depletion, water resources inventories.</p> <p>Support the use of GIS tools in the development of watershed management action plans.</p> <p>Engage Government, politicians, PRIs, NGOs and CBOs in a policy dialogue which encourages the adoption of a new paradigm on the management of, and rights over, fresh water resources.</p>	<p>Adapt, translate national guidelines for WRM for source protection, through community action.</p> <p>Provide inputs for monitoring water level depletion in drought prone districts.</p> <p>Identify key institutions for watershed management, assess their need for support in GIS use.</p> <p>Organise a fresh-water study in one micro-watershed pr State.</p>
<b>District level</b>	<p>Support community management of the micro watershed, through action research linked to the protection of public drinking water sources.</p> <p>Extend the scope and coverage of the local-level fresh water studies.</p>	<p>Conduct fresh-water study in one watershed, with active community participation.</p> <p>Support implementation of WRM for source protection through community action, in one watershed.</p>
<b>Sub-project 2-5 EMERGENCY PREPAREDNESS (linked to LFA output 5)</b>		

<b>Broad categories of activities</b>		<b>Activities for 1999</b>
<b>N</b> <b>a</b> <b>t</b> <b>i</b> <b>o</b> <b>n</b> <b>a</b> <b>l</b> <b>l</b> <b>e</b> <b>v</b> <b>e</b> <b>l</b>	Support for State preparation of UNICEF action plans in emergencies. Training of UNICEF and Govt counterpart staff on emergency responses	Develop a simple, practical guideline for UNICEF preparedness in case of emergencies.
<b>S</b> <b>t</b> <b>a</b> <b>t</b> <b>e</b> <b>i</b> <b>e</b> <b>v</b> <b>e</b> <b>l</b>	Preparation of UNICEF action plans in emergencies.	Support the preparation of a UNICEF India guideline on emergency preparedness.
<b>Project 3: URBAN WATER SUPPLY AND ENV. SANITATION</b>		
<b>Sub-project: 3-1 CHILD-FRIENDLY TECHNOLOGIES AND APPROACHES (linked to LFA output 7)</b>		
<b>N</b> <b>a</b> <b>t</b> <b>i</b> <b>o</b> <b>n</b> <b>a</b> <b>l</b> <b>l</b> <b>e</b> <b>v</b> <b>e</b> <b>l</b>	Study sector work done by other ESAs/NGOs, and disseminate best practices on community management, water quality monitoring and water conservation. Conduct operational research on technologies, which will improve the WatSan situation of the urban poor.	
<b>S</b> <b>t</b> <b>a</b> <b>t</b> <b>e</b> <b>i</b> <b>e</b> <b>v</b> <b>e</b> <b>l</b>	Study sector work done by other ESAs/NGOs, and disseminate best practices on community management, water quality monitoring and water conservation. In cooperation with other sectors, develop child-friendly city plans of action related to water supply and sanitation, to benefit the poorest children and women in selected cities.	Initiate a study to summarise the approaches/strategies and the lessons learned to-date on work done in the urban poor WES sector by UNICEF, other ESAs and NGOs.

<b>Broad categories of activities</b>		<b>Activities for 1999</b>
<b>D i s t r i c t  l e v e l</b>	<p>Develop and implement pilot projects in selected urban-poor communities on home sanitation, solid waste management, water conservation, water quality monitoring and wastewater disposal.</p> <p>Support the on-going CDD-WatSan strategy in selected cities and expand to new areas.</p> <p>Support urban initiatives in selected cities identified for Child-friendly City Plans of Action.</p>	
<b>Sub-project 3-2 Networking (linked to LFA output 7)</b>		
<b>N a t i o n a l  l e v e l</b>	<p>Conduct workshops on selected themes including community-based, water quality monitoring and surveillance, water conservation and recycling, groundwater recharge, equitable distribution of available water, etc.</p>	<p>Commence building up a database of agencies involved in improving the environmental sanitation situation of the urban poor in the State.</p>
<b>S t a t e  l e v e l</b>	<p>Conduct workshops at national and state level on selected themes including community-based management, water quality monitoring and surveillance, water conservation and recycling, groundwater recharge, equitable distribution of available water, etc.</p> <p>Promote city-community-NGO partnerships, with communities actively involved in improving their home and community environment.</p>	
<b>Project 4: MIS AND SURVEILLANCE</b>		
<b>Sub-project 4-1 COMMUNITY MONITORING (linked to LFA output 8)</b>		

Broad categories of activities		Activities for 1999
National level	Support States to develop systems which enhance community control and which feed data into the state-specific MIS systems currently implemented in selected states. Support States to operationalise the State-level MIS developed in 1995-97.	Develop/revise guidelines for community monitoring in WES, linking to State MIS systems for WES. Monitor and document the completion of the State MIS systems in Orissa and Bhopal.
State level	Develop systems which enhance community control and which feed data into the state-specific MIS systems currently implemented in selected states. Build capacity among State functionaries. Operationalise the State-level MIS developed in 1995-97.	Develop district action plans for community monitoring in WES. Train/orient State functionaries.
District level	Support demo projects on community monitoring, linked to the Panchayati Raj Institutions. Build capacity among Panchayati Raj elected functionaries.	
<b>Sub-project 4-2 MONITORING AND SUPPORT(linked to LFA output 1 through 8)</b>		
National level	Monitor UNICEF supplied rigs, spares, HFUs and TMCs, through RIMS, SPMS, HMS and TMS. Collect and analyse sector and programme data, for monitoring purposes. Conduct studies and evaluate critical programme components.	Formulate approaches to participatory baseline surveys. Develop comprehensive monitoring and evaluation plan. Monitor and analyse data on the use of rigs, HFUs/TMCs, and spares. Update the State WES profiles.

<b>Broad categories of activities</b>		<b>Activities for 1999</b>
<b>S t a t e  l e v e l</b>	<p>Monitor UNICEF supplied rigs, spares and hydro-fracturing units through RIMS, SPMS and HMS.</p> <p>Conduct surveys to assess the utilisation of UNICEF resources in demonstration projects.</p> <p>Collect and analyse sector and programme data.</p> <p>Evaluate critical programme components.</p>	<p>Organise participatory baseline surveys.</p> <p>Monitor and analyse data on the use of rigs, HFUs/TMCs, and spares; share with WESS, ICO.</p> <p>Provide inputs for updating the State WES profiles.</p> <p>Support the evaluation of RSP in one State.</p>
<b>Sub-project 4-3 GUINEAWORM ERADICATION (linked to LFA goal)</b>		
<b>N a t i o n a l  l e v e l</b>	<p>Support the annual evaluation of National Guineaworm Eradication Programme.</p> <p>Support international declaration of complete guineaworm eradication in 2000.</p>	<p>Work with NICD and other partners on the annual evaluation.</p>
<b>S t a t e  l e v e l</b>	<p>Support intensive case surveillance in 1999 and 2000.</p> <p>Support annual evaluation of National Guineaworm Eradication Programme.</p> <p>Support international declaration of complete guineaworm eradication in 2000.</p>	<p>Support the RIGEP Cell in Rajasthan.</p> <p>Work with NICD and other partners on the annual evaluation.</p>

## **ANNEX 2: TECHNICAL APPRAISAL**

### **4 Government and NGO operations**

1.1 The Central and State Governments of India operate one of the largest rural water supply programmes in the world. The rural sanitation programme, started more recently, is a more modest operation. While Government resources are considerable, these are sometimes poorly managed and poorly targeted. Government schemes are at times driven by short-term, populist political interests, resulting in a welfare approach, rather than less popular but more sustainable long-term considerations. NGOs efforts are often, but not always, more geared to work with communities rather than for communities. However, the scale of their operations is tiny compared to the magnitude of the Government rural water supply and sanitation programmes.

### **2 Rural sanitation**

2.1 The Rural Sanitation Programme (RSP) provides for the subsidised construction of toilets for households below the poverty line. The programme has also very limited provisions for IEC activities to create demand for toilets, for setting up rural sanitary marts and for the construction of bathing/toilets complexes for women. The Central Government promotes sanitation as a comprehensive concept, including personal and domestic hygiene, use of sanitary toilets, food hygiene, waste water and solid waste disposal.

2.2 Hygiene education has been much neglected in the rural water supply and sanitation programmes of Government. In 1995-96, the Central and State Governments started the development of the IEC strategy for WatSan, as part of the Rural Sanitation Programme. Setting up and strengthening the State-level IEC-cum-Sanitation Cells has been a slow process. In most States, the State- and District-level Coordinating Agencies (DCAs), mentioned in the model action plan for IEC, have yet to be fully activated. The State IEC-cum-Sanitation Cells and the DCAs are to formulate and execute inter-sectoral Plans-of-Action for hygiene promotion in 3-5 districts in each State, already selected for implementation of the national IEC for WatSan. The seven components of sanitation, also called the 'sanitation package', form the basis for developing these IEC Plans-of-Action. Hygiene promotion and education is to involve Anganwadi Workers, schools, health workers, NGOs and, in some States, the Gram Panchayats.

2.3 Rural sanitation is the responsibility of the States. The Central Government makes available funds under the Central Rural Sanitation Programme (CRSP), subject to the States matching the Central allocations from their Minimum Needs Programme (MNP) funds. In 1996-97 financial year, the Central and State Government budget for RSP was Rs. 0.6 billion. Additional funding for school water supplies and sanitation is available under Tenth Finance Commission recommendations. These funds are routed to the State Education Departments.

2.4 Gol aims to have toilets and safe water at all existing primary schools, by 2002. New primary schools are built with water supply and sanitation facilities.

## **Achievements in rural sanitation**

2.5 The thrust of the rural sanitation programme has been on the construction of toilets for poor households. From its inception in 1986, programme output has grown to about one million toilets per annum in 1996. It is estimated that the private sector adds about twice this number of toilets per annum.

2.6 While toilet coverage has increased from about 11 per cent in 1991 to about 20 per cent in 1996, it was only in that year that the absolute number of households without a toilet finally stabilised at slightly over 100 million.

2.7 Implementation of the national IEC strategy has progressed to produce some State and district action plans, but most activities are yet to take place.

## **Problems in rural sanitation**

2.8 The lack of toilets and widespread open-air defecation are major factors in disease transmission, especially in areas of high population densities. Changes in age-old habitual practices, needed for better hygiene, are particularly hard to achieve among the country's masses. A summary of problems related to rural sanitation is as follows:

- In the project States, home toilet coverage in rural areas is well below the national figure of 17-20 per cent (1998).
- RSP focus is almost exclusively on the construction of subsidised toilets for the rural poor, without provisions for supporting better-off households to build toilets.
- Although RSP allows for four toilet designs, the States implement almost without exception the expensive twin-pit pour-flush design.
- In 1993, only 11 per cent of rural primary schools had toilets, while 44 per cent had a safe supply of water.
- For the effective promotion of hygiene, adequate dedicated capacity is lacking at all levels.
- While CRSP has provisions for the non-hardware components of sanitation, programme cooperation with State Government Departments with expertise in education and communication is often weak.
- A 1996-97 survey reported that while nearly all interviewees claimed to wash hands before eating, only 10 per cent reported to wash with water and soap.
- Indicators for other components of sanitation are poorly defined and not systematically monitored.

## **Technical aspects related to the rural sanitation component of this project**

### **Hygiene education and integrated approaches**

2.9 From 1992-93, UNICEF is supporting Government to design and implement integrated water supply and sanitation projects, complemented with Control of Diarrhoeal Diseases (CDD) programme aspects. Multi-sectoral teams at district, block and village level lead the implementation of these projects. Inter-sectoral Village Contact Drives and Village Sanitation Drives are part of the overall strategy aimed at increasing knowledge and awareness of key hygiene practices.

2.10 The project will fund the completion, evaluation, documentation and dissemination of the ongoing integrated water supply and sanitation projects in the six project States.

Water supply, sanitation and hygiene improvements will be complemented with activities related to CDD and nutrition. The project will also fund integrated water supply and sanitation in four additional districts. Implementation will be done in line with LFAs developed specifically for each of these district-level projects.

2.11 Project support for the State IEC-cum-Sanitation Cells will cover, if required, staff costs for the first two years, audio-visual equipment and mobility support. The project will also support the development communication strategies and the development and reproduction of hygiene promotion materials. Where necessary and acceptable, UNICEF will place specialists to the State IEC-cum-Sanitation Cells to support the development and implementation of the IEC action plans. The project will also fund monitoring and evaluation of the application of the strategy.

2.12 The project will fund professional support to the State and District Coordinating Agencies and District School Sanitation Cells.

2.13 Implementation of this project will bring about closer cooperation between the State HRD and IEC-cum-Sanitation Cells. The State HRD Cells will be supported to include health and hygiene subjects in curriculum of all personnel trained through the Cell. UNICEF will also support the inclusion of hygiene and sanitation subjects in the curriculum of technical personnel, at all levels.

#### **Promotion of home toilets**

2.14 **No subsidy approach.** In the project, the focus will be on the promotion of no-subsidy approaches to home toilet construction. Towards this end, alternate delivery systems and a range of technical design options for toilets will be implemented in Integrated WatSan districts. The success of this approach will be used to advocate with Governments for a more diversified use of RSP resources. This will include reduced subsidies for home toilet construction to households below the poverty line to a progressively lower percentage of progressively higher standards of toilets.

2.15 **Range of design options.** RGNDWM has developed a range of toilet design options, which vary in cost from US\$ 15 to US\$ 100. In Integrated WatSan projects, UNICEF will promote the use of these options in the construction of home toilets, both in the subsidised programme for below poverty line (BPL) households and for the non-subsidy sector for better-off households. The range of design options offers households a fair degree of choice in selecting the type of toilet most suited to individual need and preference. UNICEF will support RGNDWM to further improve the range of options by including designs more suitable for small children to use, as well as designs for use in high-water table areas and in areas where people do not use water for ablution.

2.16 **Rural Sanitary Marts (RSMs), Production Centres and other private producers.** Project activities will increase access to the materials, skills and knowledge necessary to build a sanitary toilet, through the creation at block level of 300 new Rural Sanitary Marts (RSMs) and 100 production centres, where materials needed for toilet construction (pans and traps) can be bought. State Governments and UNICEF will introduce RSMs and Production Centres as appropriate in the various State settings. In most areas, each Production Centre will be linked to two to three RSMs, and also sell its produce directly to the public. RSMs will also sell a wide range



of other products needed to maintain hygiene, such as soap, washing powder, nail clippers, etc. On an average, each RSM will sell materials for the construction of 800 toilets per annum. The project will also monitor and evaluate the performance of the more than 300 RSMs/Production Centres already functioning in the project States. The project will also identify and network with existing private entrepreneurs, producing sanitary ware in the Integrated WatSan areas.

2.17 Under the project, about 5,000 local masons and 10,000 sanitation motivators will be trained, who will team up with the RSMs/production centres to accelerate toilet construction.

2.18 The project will fund the initial grant for working capital of each RSM/Production Centre, the cost of training and social mobilisation. RSMs/Production Centres will function without direct subsidies after one year of operation. In the project, sanitation motivators or supporting NGOs will not be paid direct incentives. Instead, these incentives will be paid by the RSMs/Production Centres and will be added to the price of each toilet.

2.19 UNICEF will negotiate with rural banks for the use of credit to individuals or to groups for home toilet construction. The Prime Minister's Rozgar Yojana (PMRY) already allows access to credit to youths for the purpose of operating RSMs or Production Centres. The National Dairy Development Board (NDDB), with a network of 30,000 milk unions, will be a major partner in the promotion of hygiene and the sale of items for home toilets in several States.

2.20 **Sanitary parks.** State Government will also construct sanitary parks at institutions where maximum publicity is assured and where training of lower level functionaries is conducted. The technologies demonstrated in these parks will be strictly in line with the detailed technical design options for home toilets published by RGNDWM.

2.21 **School water supply and sanitation.** The school water supply and sanitation component will directly cover about 6,000 primary schools in demonstration projects in two districts in each of the six project States. In these intensive school sanitation areas, project funds will contribute towards the cost of adequate toilets and a safe source of water, training of teachers and Parent Teacher Associations (PTAs), child-to-child communication, and improved hygiene practices by students and teachers. Through the PTAs and the students (child-to-parents), the use of home toilets as well as personal and home hygiene will be promoted in the villages served by the primary schools. Teachers and children will operate and maintain the school water supply and sanitation facilities.

2.22 For the construction of toilet/urinal blocks in schools, the project and the District Administration/State Government will share costs. For the installation of wells, District Administration/State Government will meet the cost of drilling, well and platform construction. Government will also meet the cost of water storage and drainage. The project will supply 4,000 VLOM type handpumps, O&M tools and a kit with spares with each pump.

2.23 Using the 6,000 schools covered through intensive efforts as a model, UNICEF will advocate with the State Government to replicate the demonstrated models to other

areas in the State. In these areas, project support will be primarily in the form of training, training materials, monitoring and cross-district exchange of experiences. UNICEF will also work with NCERT and SCERTs to improve school curriculum as well as institutionalise sanitation training in the pre- and in-service training of teachers. UNICEF and State partners will develop and produce area-specific IEC materials for use in and by schools. In this way, the aim is to reach about 70,000 primary schools, 25 per cent of the total number of primary schools in the six project States, under the school sanitation programme model.

### **Health impact**

2.24 The measurable indicators listed at goal level in the LFA show that improved health and survival are among the most important reasons for investing in this project. Although measuring actual health improvement is extremely difficult, rigorous studies have demonstrated that well-designed projects can make important contributions to health. While water supply and sanitation facilities alone usually result in little health improvement, the use of improved facilities combined with better hygiene practices can result in marked health improvements.

2.25 From the description given in this Annex, it is clear that the project will cover both engineering and behavioral aspects of water supply and sanitation. If successful, this integrated approach should result in a lower incidence of faecal-oral and water-washed diseases, especially among infants and children. In addition, the identification of contaminated sources and the treatment of water with excess fluoride or arsenic will reduce the incidence of fluorosis and a number of diseases resulting from the ingestion of arsenic.

2.26 The project focus on the promotion of the use of home toilets provides for the primary barrier preventing the transmission of faecal-oral diseases. The promotion of improved hygiene practices, especially on handwashing and on proper water storage, gives a secondary barrier to prevent transmission. To control water-borne transmission of disease, it is important to protect the water from faecal contamination, right up to the time of use. To control water-washed disease, the quantity of water used is more important, which is again closely related to the distance to the water source and the burden to collect water. The design of the project has taken these factors into account, as is reflected in the project description and technical details provided in Annex 1 and 2.

2.27 The project LFA has many indicators related to improved hygiene behaviour, including the use of water from protected sources and the use of toilets. Such indicators will form good proxy indicators for health. The LFA will guide the implementation of the project and keep implementers firmly focused on the aim of changing hygiene behaviour.

### **3 Rural water supply**

3.1 National policy includes the National Water Policy (1987) which gives the highest priority to water for drinking purposes, and the Environment (Protection) Act (1986) which provides for protection and improvement of the environment.

3.2 The Rural Water Supply (RWS) Programme aims to cover all habitations with adequate safe water supply for domestic purposes. The RWS Programme gives priority to (1) not-covered habitations, (2) partially-covered habitations, (3) habitations with water quality problems, (4) habitations with less than 40 lcpd in safe water supplies, (5) water supply at rural primary schools.

3.3 The RWS Programme allocates funds to the States/Union Territories using the following criteria: (1) rural population, (2) rural area, (3) incidence of poverty and (4) the population/area covered under the Drought-Prone Area Programme, Hill Area Development Programme, Desert Development Programme and special category hill states. The RWS Programme also requires States to earmark at least 25 per cent of the budget for water supply for Scheduled Castes (SC) and an additional 10 per cent for Schedules Tribes (ST). The first source of drinking water must be provided in SC/ST localities, while coverage of SC/ST habitations must be given first preference and highest priority.

3.4 Rural water supply is the responsibility of the States. The Central Government makes available funds under the Accelerated Rural Water Supply Programme (ARWSP), subject to the States matching the Central allocations from their MNP funds. In 1996-97 financial year, the Central and State Governments spent about Rs. 24.1 billion on the rural water supply programme.

#### **Achievements in rural water supply**

3.5 During the last three decades rural water supply coverage has improved markedly. Using the coverage norm described in Annex 1, about 82 per cent of the rural population of about 960 million had access to safe water in 1996. Guineaworm disease is virtually eradicated, with no cases of the disease since 1997, the first year of zero incidences.

#### **Problems in rural water supply**

3.6 Despite overall improvements in the environment of children, enormous challenges remain. The huge population of the country requires intense efforts, sustained over many years, for any significant change to become evident. In rural water supply, the major problems are:

- The mere physical creation of a safe water source in or near a habitation does not always result in the use of safe water by all households of that habitation. A survey in 1997 found that about 72 per cent of households reported to be taking their drinking water from protected sources. For convenience sake, households will often use nearby polluted sources, rather than more distant safer sources of water. Physical barriers, social considerations of caste and class and other factors can also deter or deny access.
- As the State Water Supply Agencies continue extending the water supply infrastructure, and reaching closer to full coverage, there will be increasing need for technologies other than the standard menu of handpumps on borewells or piped water supplies. Even in areas, which are already covered, water quality problems will require alternative solutions.
- Problems of water quality are becoming increasingly acute. Borewells, long promoted as safe sources of water, are found to be faecally polluted as a result

of poor well construction and unsanitary well surroundings. At least 10 per cent of the population has excess levels of fluoride, arsenic, iron or salinity in their sources of drinking water.

- The water supply infrastructure has been created with very limited participation and even less contribution from the user households. From the inception of the programme, the State Water Supply Agencies were responsible for the planning, construction, operation, maintenance and repair of the entire water supply infrastructure.
- Public water supplies are often irregular or out of order for long periods. A recent survey showed that 23 per cent of the handpumps, 14 per cent of the mini-piped schemes and 44 per cent of the larger piped water supply schemes were not functioning due to breakdown and poor maintenance.
- Sustainability of the very technologies used successfully to reach out rapidly and cost effectively to provide access to safe water to millions of households is under threat from falling water tables, caused by over-exploitation of groundwater for irrigation and industry. The fresh water situation is increasingly threatened by indiscriminate pollution of surface and ground water.

### **Technical aspects related to the rural water supply component of this project**

#### **Water quantity**

3.7 During the project period, Central and State Government will continue expanding the rural water supply infrastructure, mostly through the drilling of borewells fitted with handpumps or piped water supply schemes. Government plans are to emphasize decentralisation, community participation and cost sharing. There are plans to revise the Central Government guidelines for ARWSP, in line with these new approaches to the provision, operation, maintenance and repair of rural water supplies. Within this huge Government-led programme, the project will support the development, demonstration and replication of the following alternative low-cost, water supply technologies:

- UNICEF and All India Institute of Hygiene & Public Health (AIIPH), Calcutta, have developed and field-tested Horizontal Roughing Filters with Slow Sand Filters (HRF-SSF), which allow the use of water from village tanks and ponds. A small number of these units have been constructed in West Bengal and Orissa. Project funds will be used for social mobilisation and the construction cost of 100 HRF-SSFs, in areas where groundwater is either not available or not suitable.
- UNICEF has worked with State Water Supply Agencies and NGOs to demonstrate rooftop rainwater harvesting, mostly for individual household use, in Uttar Pradesh, Maharashtra, Himachal Pradesh and Tamil Nadu. Based on these experiences, UNICEF will refine strategies and technologies, and fund the construction, related training and social mobilisation, of 1,000 domestic rooftop rainwater harvesting tanks. The user households will finance half of the cost of their tanks.
- The protection of open wells is an excellent way of improving village water supply. Traditionally used open wells are provided with a masonry top lining, a concrete apron, and usually a handpump to draw the water. Pilot schemes have shown very good results, with dramatic improvements in water quality and excellent user participation. A key advantage is that use of the improved

water source is virtually assured, since in most cases the villagers themselves originally constructed the well. The project will contribute towards the cost of protection, related training and social mobilisation, of 600 existing open wells, with at least 25 per cent of the costs provided by the user communities. However, the protection of open wells will have limited application in drought-prone areas, where the water table is showing significant declines.

- Spring protection has been tried out in remote, hilly, terrain in Orissa. There is scope to expand the use of this technology to other areas of similar terrain in M.P. and U.P. Build on these experiences, project funds will be used to assist communities to protect an additional 300 springs in the project States.
- Kundis are covered, dome-shaped tanks that collect rainwater. These underground storage tanks are traditionally used in Rajasthan. UNICEF and the Government of Rajasthan will promote the construction of such tanks in selected areas.

3.8 While the project aims to promote alternative technologies for rural water supply, the starting point will be to assist villages in solving their water supply problems, using technology suited to their needs and preferences. The actual numbers of each technology option will depend on the choices made by communities, and the numbers given on this page can only be indicative.

### **Water quality**

3.9 The development of water quality monitoring and surveillance systems is receiving increasing importance in the RWS Programme. Government efforts focus primarily on developing a strong network of district laboratories for water quality testing. In most of the project States, new sources are tested only in case the supply is for a piped scheme. Water quality surveillance is not yet institutionalised.

3.10 Similarly, more attention is given to find solutions for villages, which are affected by water quality problems. The approach by Government is mostly on the construction of piped water supply schemes, bringing water from distant sources to the affected areas. Efforts to introduce community water treatment facilities have largely failed, because Government agencies were unable to generate adequate community ownership, necessary to operate and maintain these facilities. UNICEF is working with NGOs and the State Water Supply Agency in Orissa on community-level iron removal plants, which has met with some success. UNICEF advocacy has led to a degree of acceptance for domestic water treatment in some States.

3.11 Through this project, these Government-led efforts will be accelerated, as follows:

- Supporting the development and demonstration of community-based water quality surveillance systems, covering about 300 villages in each project State, in areas where water quality problems are severe. In each village, a local worker will be trained and equipped with a field kit for testing the water. Trained members of the Gram Panchayat, teachers and other respected persons will supervise the work. These systems will provide the user communities with valuable information on water sources which may be harmful to health and which should be avoided for drinking and cooking.

Where bacteriological contamination is found, the users will be taught how to disinfect the well and how to prevent future pollution.

- The project will also support further improvements on simple, yet reliable, water quality field test kits, which will be essential for any community-based system of water quality surveillance. Work is already in progress to test all field test kits available in India for reliability and ease of operation.
- UNICEF will also support the strengthening of the district government water supply laboratories, so as to ensure that these have capacity to test accurately for key water quality parameters: bacteriological pollution, fluoride, arsenic and nitrate. Priority attention will be given to the 18 districts, where community-based water surveillance will be developed.
- UNICEF will also support the demonstration of domestic water treatment in hamlets/villages where no safe source of water is available. In the fluoride-affected areas of Rajasthan, Madhya Pradesh, Uttar Pradesh and Andhra Pradesh, as well as in the arsenic affected areas of West Bengal, about 4,000 households in about 30 villages will be supported with domestic water treatment filters. Households will meet 25 per cent of the cost of filters and all recurring expenditure for O&M. The project will also fund the community and household capacity building, awareness creation and development of the support system, which is necessary to sustain domestic water treatment. UNICEF will also support the demonstration of community-managed iron removal in selected villages in Orissa.
- Under the project, UNICEF and Government will also support community action to protect the environment of water supply points, including the widening of platforms, improving drainage and removing nearby sources of pollution. User communities will share about half of the costs of such improvements.

3.12 Irrespective of technology, communities will be key partners in planning, executing and maintaining projects, which will promote these non-conventional technologies.

### **Sustainability of the handpumps and piped water supply schemes**

3.13 The Central Government is working with the State Governments to develop decentralised systems for operation, maintenance and repair of rural water supply systems. Eventually, the Panchayati Raj Institutions will manage these decentralised systems, at district, block and village levels. During the coming years the Central Government plans to carry forward the development of such systems in a forceful manner.

3.14 Within this move towards introducing and scaling up decentralised O&M systems, UNICEF support will focus on the following aspects:

- Building capacity within the Gram, Block and Zilla Panchayats will be the key to successful decentralised O&M. The project will develop training modules and materials, meet part of the training costs, supply simple tools, etc. in the 3-4 districts where the State Governments will pilot decentralised O&M systems.
- The project will also further develop, refine and promote the use of easy-to-maintain handpumps, plastic pipes, couplers and rods for use on

handpumps, which will significantly reduce the repair burden on the user communities. The project will supply about 16,000 India Mark III (50 mm) and TARA handpumps for use in areas covered by demo projects on decentralised O&M, Integrated WatSan and school sanitation.

### **Sustainability of the borewells**

3.15 Some 80 per cent of the rural water supply infrastructure is based on the use of ground water through borewells or tubewells. Over time, the yield of these wells tends to decrease due to sedimentation or encrustation. The practice of abandoning such wells and drilling new wells is neither cost effective nor environmental friendly. In the absence of appropriate technology, borewells in hard rock with low initial yields are similarly abandoned.

3.16 Building on achievements of the past decade, UNICEF will further promote the use of well rejuvenation and servicing technologies. Hydro-fracturing of borewells and air-flushing of borewells and tubewells costs much less than the drilling of new wells.

3.17 **Hydro-fracturing** refers to the injection of water under very high pressure into a well drilled in hard-rock. This process cleans up and widens the fractures and fissures in the rock, which contain the groundwater. Experience in several States has shown success rates of about 70-75 per cent, with higher rates on low-yield wells, and little success on dry borewells.

3.18 **Air-flushing** introduces air under high pressure into the well, which flushes out accumulated silt and debris. This technology improves well yield and also contributes to improve water quality by removing from the well iron flocs and particles, resulting from the oxidation of dissolved iron and/or the rusting of poor quality riser pipes.

3.19 Under the project, UNICEF will supply two or three hydro-fracturing units (HFUs) or air-flushing units to each of the project States, depending on their interest and their satisfactory use of earlier supplied equipment. UNICEF will also develop capacity in the agencies operating these rigs, and actively monitor use and output of the equipment.

UNICEF will also work with the State Governments to ensure separate budget allocations and activity lines for well rejuvenation/servicing, which will help to institutionalise this increasingly important aspect of the RWS Programme.

### **Sustainability of the fresh water resource**

3.20 Sustaining the fresh water resource is essential for sustaining the domestic water supply infrastructure, which relies heavily on the use of ground water. During the 1980s and 1990s, the use of groundwater for irrigation, industry and urban centres has increased to such an extent that ground water levels in many areas of the country are declining, resulting in the need to drill deeper and deeper in the search for water. Industry, urban centres and agriculture also contribute to the widespread pollution of fresh water resources. These trends are continuing unabated, posing real threats to the very technology that is supplying millions of rural people with water for their domestic needs.

3.21 The Central and State Governments are investing heavily in watershed

development and groundwater recharge activities. While UNICEF endorses and advocates strongly for better water resources management, UNICEF's capacity to contribute significantly in this area is limited. Given this constraint, UNICEF will make only limited investments in demonstration projects on watershed management or ground water recharge.

3.22 In the context of the UNICEF-WWF partnership on fresh water, UNICEF and Governments will use project resources to:

- Demonstrate community action for environmental protection of drinking water sources in one drought-prone district.
- Study the fresh water situation in one watershed.
- Prepare State maps delineating areas of water quality and quantity problems, and water resource management.
- Continue the policy dialogue on fresh water issues with Central and State Governments.

#### **4 Urban water supply and sanitation**

4.1 The environment of the urban poor is facing a deepening crisis. In 1991, more than a quarter of the population, 217 million people, was living in cities. Of these, 40 percent live in slums or as squatters. Growing numbers of urban poor suffer from problems such as overcrowding and deplorable housing. About one-third have bucket or dry toilets, while another one-third does not have any kind of toilet. Drainage and garbage disposal are often abysmal. Projections are that by the year 2020 close to half of the population, 600 million people, will be living in cities.

4.2 The number of children of the urban poor, living in an environment which poses serious risk to their health and survival, will rapidly increase, possibly exceeding the number of children in rural households living below the poverty line.

4.3 Urban development is the responsibility of the individual States. The Central Government's Ministry of Urban Affairs and Employment assists State Governments by formulating broad policy framework and guidelines, legislative support, implementing centrally sponsored schemes, and providing technical support. The Central Government schemes in water supply and sanitation are:

- the Accelerated Urban Water Supply Programme, which aims to solve the drinking water problems of small towns (<20,000 population). Only Rs. 280 million was released in 1997-98, with an equivalent amount forthcoming from the State Governments.
- the Environmental Improvement of Urban Slums scheme, which reached nearly 900,000 slum dwellers with environmental improvements.
- the National Slum Development Programme, which aims to provide adequate and satisfactory water supply, sanitation, educational facilities, health care, housing, community empowerment, solid waste management and environmental improvements in urban slums. In 1997-98, Rs. 3.3 billion was allocated to the States/Union Territories.
- the Low-cost Sanitation (for Liberation of Scavengers) programme, which converted/ constructed about 124,000 toilets in 1997-98.



4.4 Water supply and sanitation schemes in larger towns are formulated, planned, funded and implemented by the municipalities and the State Governments, without financial support from the Central Government.

#### **Technical aspects related to the urban environment component of this project**

4.5 UNICEF will initially draw out the lessons learned in ongoing schemes on environmental improvements for the urban poor in Chennai, Calcutta and Mumbai. UNICEF will also study experiences on WES for the urban poor done by other external support agencies. Based on these experiences, projects will be developed and taken up in 2-3 selected urban poor communities, focusing on home sanitation, solid waste management, water conservation, water quality monitoring and wastewater disposal. In selecting cities for implementing demonstration projects, priority will be given to cities located in districts where UNICEF is supporting Integrated WatSan demo projects.

4.6 In addition to demonstration projects in selected cities, UNICEF will also support the development of child-friendly city plans of action related to water supply and sanitation, to benefit the poorest children and women in selected cities, and promoting city-community-NGO partnerships for improving the living conditions of the urban poor.

#### **Management Information Systems**

5.1 From 1995, UNICEF has supported the State Water Supply Agencies in Orissa and Madhya Pradesh to develop elaborate State-level management information systems. These systems are designed to capture and computerise the extensive operations of these agencies. While initial trials have been successful, the systems are yet to be made fully operational. Gol has reviewed these models and recommended their application across these States, as well as for adaptation to other States.

5.2 For the 1999-2002 Programme of Cooperation, UNICEF and Gol have decided to change the focus from State-level MIS systems to community-level monitoring of WES indicators. As community-level monitoring is developed, links to the State-level MIS systems will be established, through the block and district levels. However, the emphasis will be on the use of information at village level to guide and facilitate community action towards further improvements in their water and sanitation situation. The link to the State-level MIS is of useful, but secondary, importance.

#### **Technical aspects related to the MIS/Surveillance component of this project**

5.3 Under this project, UNICEF will work with the State Panchayat Raj Department, social sector line agencies and selected NGOs to develop community monitoring systems, which will enhance community control and ownership. Several demonstration projects on community monitoring will be set up in selected blocks in each of the four high-priority States. Support will be provided for the preparation of action plans and capacity building.

5.4 UNICEF will also support the completion of the pilot phase of demonstration state-specific MIS systems, as well as subject-specific MIS systems such as RIMS, HMS and SPMS. These systems concern the operations of the State Water Supply Agencies.

## **6 Critical issues**

### **Technology choice**

6.1 The Rural Water Supply Programme is narrowly based on the use of handpumps and piped water supply schemes, mostly based on borewells or tubewells. Users generally have no say in the decision on their water supply provision: the selection is determined by the State Water Supply Agency using rigid criteria. Similarly, the rural sanitation programme is based almost exclusively on the promotion of a single toilet design.

6.2 In the water supply component of this project, demonstrating a range of technical options, communities will select the technology, which suits their needs, means and preferences best. Each technology will require community participation and contributions. In practice, this will require the service provider to review various options with the community and guide them in making their selection.

6.3 In rural sanitation, UNICEF and partners in the States will actively promote the use of the range of toilet design options for home toilets, for households below as well as above the poverty line.

6.4 Strategies to encourage State Government line agencies mainstreaming the technical options for water supply and sanitation will include:

- evaluation, documentation and dissemination of demonstration projects on the application of technology choice, both in water supply and in sanitation, at national and State levels.
- visits to demonstration projects by UNICEF and Government personnel, across district and State borders.

### **Maintaining construction standards**

6.5 In rural water supply, contractors construct about 80 per cent of the new wells. Supervision of these often large-scale operations is grossly inadequate. The consequences of poor siting and/or poor construction are pollution of the water in the well and/or a significantly shortened life span of the well. Similarly, the quality of toilets constructed under the subsidised programme is often below standard.

6.6 While recognising these shortcomings, UNICEF's role in well drilling and in the subsidised construction of home toilets will be very limited. UNICEF will conduct surveys to monitor the quality of construction of wells and home toilets in the Integrated WatSan areas, bringing findings to the attention of district and State level functionaries, for necessary corrective action.

### **Operation, maintenance and cost recovery**

6.7 In line with the Constitution (73<sup>rd</sup> Amendment) Act of 1992, section 243G, and the Eleventh Schedule, the Panchayats should be responsible for the implementation of schemes related to drinking water. UNICEF advocates for the decentralisation of powers, authority and responsibility related to the provisioning, operation, maintenance and repair to the lowest level of the Panchayat, which is the Gram Panchayat, with

suitable back-up for repairs which are beyond the capacity of the Gram Panchayat to rectify.

6.8 UNICEF will advocate for the gradual introduction of water tariffs, with the Gram Panchayat recovering at least part of the cost of operating, maintaining and repairing the Panchayat water supply systems from among the resident users. Given the significant differences in the levels of decentralisation in water supply operation and maintenance and in the empowerment of the Gram Panchayats in the six project States, it will be inevitable that achievements will vary from State to State.

6.9 Activities, which involve non-recoverable costs, include the provision of toilets for schools, training, health and hygiene education, social mobilisation and the capital costs for public water supply.

### **Operational research**

6.10 UNICEF will use project funds for operational research on (1) fine-tuning the Village-Level Operation and Maintenance (VLOM) type handpumps, in particular the India Mark III 50 mm pump; (2) the development of plastic riser pipes, couplers and rods for the India Mark III (50 mm) pump, as well as for the India Mark II handpump; (3) domestic water treatment to remove fluoride and arsenic; (4) handpump and/or home removal of iron; (5) standardisation of water quality field test kit; (6) environmental protection around handpumps; (7) well rejuvenation; (8) low-cost sanitation technologies. Research with implications for more than one State will be managed by UNICEF-Delhi.

## **ANNEX 3: ECONOMIC AND FINANCIAL APPRAISAL**

### **1 Water sector policies**

1.1 Stated national policy gives the highest priority to water for drinking purposes. Communities not yet reached by the Rural Water Supply Programme (RWSP) or with insufficient numbers of safe sources are its major targets. Communal water supplies have traditionally been constructed free of charge to users, in both urban and rural areas. Water from piped schemes is subsidised. Households with individual connections pay a charge intended to cover annual operation and maintenance costs, although it usually does not do so. Rural households with individual connections in Uttar Pradesh and Madhya Pradesh, for example, pay Rs 20 per month, which is estimated to cover about half of the running costs. If the cost of subsidised electricity were taken into account, the true level of subsidy would be even higher. Users with individual house connections receive a proportionately greater share of subsidies than those who use communal water supplies.

1.2 Water for agriculture and industry is also heavily subsidised, which fails to encourage its efficient use. This has led to increasing competition for freshwater resources, at the expense of drinking water supplies. The expansion of irrigated agriculture has caused the water table to fall by an average of three metres in the last decade, a period of good monsoons. As a result, some shallow wells no longer provide drinking water all year round. Water sector pricing policy has therefore led, unintentionally, to inefficient, inequitable and unsustainable water use.

1.3 In some areas of Rajasthan, the driest state in India, where the water table has fallen by ten metres over the last decade. The State Government has been forced to recognise that water is an economic as well as a social good. A draft bill to restrict people's traditional right to extract groundwater located under their property is being circulated for comment, and a groundwater resource management plan is being prepared.

1.4 Government of India norms state that the minimum level of service in rural areas is one safe water source per 250 people at a maximum distance of 1.6 kilometres. By 1996, an estimated 82 per cent of the rural population was covered on this measure.

1.5 National government policy considers drilled wells with handpumps, piped water and sanitary dugwells as the only safe sources of water. Other technical options exist, see Table 10, but are rarely used in the Government programme. A significant proportion of households in the project States (25%, 24%, 29% and 53% respectively in Uttar Pradesh, Orissa, Madhya Pradesh and Rajasthan) report using traditional water sources in preference to protected water sources provided by government. Dependence on borehole water rises in the dry season, as surface water supplies or shallow wells dry up.

1.6 In the project States, the number of communal handpumps ranges from 150,000 in Rajasthan to over 650,000 in Uttar Pradesh. Every year, the Water Supply Agencies in these States add several tens of thousands new wells, stretching their already tentative capacity for maintenance and repair ever further. A significant proportion of handpumps is out of order at any one point in time. In Rajasthan and Madhya Pradesh, for example, the estimated figure is 20-25 per cent, and the proportion is

probably similar in other project States. While this may not be a major problem for communities for much of the year, it is a particularly acute problem in the dry season. In Orissa, some 40 per cent of villages complained of water shortages in the dry season, when their own sources were not meeting their needs, and when handpumps had broken down and there were delays in repairing them.

1.7 National and state government policy on cost recovery for drinking water provision in rural areas is beginning to change. Although there is still reluctance on Government's part to charge for community safe water supplies, there is willingness to move towards a system of village-based operation and maintenance, which would expect communities to contribute to costs. Responsibility for the management of water supplies will gradually be transferred to the Village Panchayat level, under the decentralisation process, resulting from the 73<sup>rd</sup> Constitutional Amendment.

1.8 Policy on choice of safe water source is not changing yet, although some of the technical options for water treatment, piloted by UNICEF, are being adopted on an experimental basis, for example in Orissa.

1.9 In West Bengal the strong Panchayat system has allowed the State Government to decentralise the creation and maintenance of spot sources and mini piped schemes to the Village Panchayats. In most other States, the involvement of the Village Panchayats is still very limited. Especially in the creation of new water supply facilities, their participation is often only nominal. The current position in the project States is summarised below in Table 6.

**Table 6: Rural Water Supply: Community Participation and Cost Recovery**

	Gram Panchayat involvement in O&M	Gram Panchayat involved in new water supplies	Community choice in technology	Water tariffs
National	Eventually fully responsible; depends on decentralisation of responsibilities and powers and development of capacity.		None	Policy is to encourage recovery of O&M costs
West Bengal	In alluvial areas, O&M is fully decentralised to block and GP levels	In alluvial areas, Gram Panchayats implement; except piped schemes	GPs are involved in planning; no direct choice for communities	None
Orissa	Limited to initial efforts in 20 blocks	Very limited	None	Water charges for home connections only
Rajasthan	Govt.-paid Village Mechanics controlled by GPs. PHED repairs pumps twice a year.	Very limited	None	Water charges for home connections only
Madhya Pradesh	Maintain small piped schemes, not handpumps	Very limited	Larger villages can opt for piped supply, if willing to contribute to capital cost	Rs. 20/month for a home connection

	Gram Panchayat involvement in O&M	Gram Panchayat involved in new water supplies	Community choice in technology	Water tariffs
Andhra Pradesh	Maintain small piped schemes, not handpumps	Very limited	None	Rs 10-20/month for a home connection
Uttar Pradesh	None	Very limited	None	Rs. 20/month for a home connection

### Sanitation sector policies

1.10 National sanitation guidelines (1993) limit subsidies for home toilets to families below the poverty line (BPL). Subsidies are a flat rate of 80 per cent, and may be used to fund four types of sanitary toilet options. Central policy guidance also champions the "package approach" to environmental sanitation, which promotes an integrated approach based on increasing water and sanitation usage and improved hygiene behaviour. Rural Sanitary Marts and IEC activities are now eligible for CRSP funding. Following a national sanitation workshop held in July 1998, a further revision to the CRSP guidelines is expected shortly. It is expected that the new guidelines will include a wider range of toilet options, much lower levels of subsidy for toilets, and higher allocations for IEC and school sanitation.

1.11 State Governments can adapt the national guidelines to suit their needs. In West Bengal, the State Government is ahead of national policy, and has reduced the subsidy for home toilets substantially, to a flat rate of Rs. 200, and is actively promoting the lowest cost options for BPL households and no-subsidy toilets for the economically better-off. In Orissa, the Rural Development Department is experimenting with the promotion of a low-cost single pit option and has recommended to the Minister that subsidies be substantially reduced throughout the State. In the other project States, the policy remains to promote the twin-pit option, through a high level of subsidy. The current position in the project States is summarised below in Table 7.

**Table 7: Home Toilets: Consumer Choice and Cost Recovery Policies**

	Preferred Toilet Options	Options on offer	Subsidy policy
National	Range of designs	Four, expected to be increased to 12, by end '98	80%, restricted to BPL families Expected to be reduced substantially before the end of 1998.
West Bengal	Low cost single pit	Six	Rs. 200 rate to BPL h/holds
Orissa	High cost twin pit. Low cost single pit on pilot basis	Six in one district on pilot basis	RDD has proposed to reduce the subsidy to Rs. 550; decision pending with Minister.

	Preferred Toilet Options	Options on offer	Subsidy policy
Rajasthan	High cost twin pit pour flush	One	80% to BPL h/holds
Madhya Pradesh	High cost twin pit pour flush	One	80% to BPL h/holds; no-subsidy toilet promotion by District Administrations, in a few districts.
Andhra Pradesh	Mostly high-cost, twin-pit pour-flush	Mostly one; limited promotion of lower cost designs has started.	80% to BPL h/holds
Uttar Pradesh	High cost twin pit pour flush	One	In April '98 subsidies were reduced to 77% for SC/ST and 73% for others.

## 2 Government expenditure on rural water supply and sanitation

2.1 Government expenditure on rural water and sanitation ranges from the equivalent of 30 to 130 pence per capita in the project States. The actual figures for 1997/98 are shown in Table 8. The higher per capita expenditure for Rajasthan is probably explained by the need to pipe water for long distances across the more arid areas to supply communities with safe water.

2.2 While normally the budgets for these programmes are shared equally between the Central and the State Governments, some States spend more of their Minimum Needs Programme funds on rural water supply and sanitation than the funds they received from the Central Government. Expenditure on rural sanitation in the six States is about eight per cent of the expenditure on rural water supply. Central guidelines allow ten per cent of the annual programme budget to be used for operation, maintenance and repair. Without exception, the State Governments consider this allocation inadequate to operate and maintain their centralised, government-funded systems.

**Table 8: Government Expenditure on Rural Water Supply and Sanitation in 1997/98.**

(In million Rupees, unless otherwise indicated)

State	Rural pop. (mn)	Rural Water Supply		Rural Sanitation		Total expenditure		Exp in (Mln £)	Expenditure per capita (Pounds)
		State	Central	State	Central	State	Central		
A.P.	23	881	878	153	153	1034	1031	29.5	1.28
M.P.	51	475	511	47	47	522	558	15.4	0.30
Orissa	27	342	347	18	23	360	370	10.4	0.39
Raj	34	1659	1310	10	11	1669	1321	42.7	1.26

U.P.	111	2288	1266	231	160	2519	1426	56.4	0.51
W.B.	49	730	442	12	20	742	462	17.2	0.35
<b>Total:</b>	<b>295</b>	<b>6375</b>	<b>4754</b>	<b>471</b>	<b>414</b>	<b>6846</b>	<b>5168</b>	<b>171.6</b>	<b>0.58</b>

Source: RGNDWM Rural Water Supply and Sanitation Programme Data Book; National Census 1991.  
Exchange rate: one Pound = 70 Rupees

### 3 UNICEF expenditure on rural water supply and sanitation

3.1 UNICEF's expenditure on rural water and sanitation in the same States in 1997 and 1998 was a very small proportion of the total, ranging from 1.1 to 5.7 per cent of Government expenditure. The actual level of UNICEF expenditure in each individual State for the period 1996-98 is shown in Table 9. The potential value-added of the UNICEF programme is much higher than its proportion of expenditure, because of its focus on pilot projects, with the aim of informing policy and practice in the water and environmental sanitation sector at State and national levels.

**Table 9: UNICEF expenditure on WES 1996, 1997, 1998 (estimated)**

(In US\$\*000 | £\*000)

State	1996		1997		1998	
	US\$	Pounds	US\$	Pounds	US\$	Pounds
Orissa	933	583	974	609	954	596
Raj	512	320	341	213	802	501
M.P.	366	229	176	110	756	473
U.P.	1,343	839	1,421	888	1,659	1,037

Exchange rate: one Pound = US\$ 1.60

3.2 The Ninth Five-Year Plan draft document indicates priority for non-covered and poorly covered habitations. Plans are to cover these first, and then progressively raise the present norm of 40 lcpd to 55 lcpd, reduce the distance from 1,600 mtrs. to 500 mtrs. The Plan estimates that nearly 600,000 villages/habitations will have to be reached, substantially more than covered during the previous Plan. Of these villages, most are in the partially covered and in the water quality problem categories. While the draft Ninth Plan does not give exact budget allocations, it cautions that resources may not be adequate to fully cover all habitations during the Ninth Plan. The draft Plan suggests that in rural areas, users should contribute towards O&M costs. It would seem that the Plan envisages funding for rural water supply at levels of at least Rs. 20 billion (£ 285 million) per annum, similar to the average allocation provided during the previous Plan.

### 4 Economic justification of project

4.1 The main direct benefits of the project, as a result of better hygiene practices, water supplies and sanitation, will be improvements in health (particularly of children), time savings and reduced physical effort (particularly of women and girls) and greater convenience and physical security (particularly of women and girls), among communities reached in the demonstration districts. Since the project will be implemented in a wide variety of areas, addressing basic water needs of households (not providing household connections) and will be demand-led in case of the sanitation component, no detailed valuation of these benefits has been carried out, although a comparison has been made with household incomes. The analysis here mainly looks at the way in which the project is likely to influence sector policy, notably in terms of



encouraging cost-effective approaches and long-term sustainability through greater cost recovery.

4.2 Through this project UNICEF can make significant contributions to policy and practice in India in the water and environmental sanitation sector. UNICEF has a proven track record in successful advocacy. Its ability to influence government policy in the key area of overall fresh water resource management is probably limited, although UNICEF and Gol have agreed to undertake some modest activities in water resource management, which can contribute to the debate. But the project is expected to influence policy within the WES sector, leading to a more efficient and effective use of resources by government.

4.3 The project's major contribution will be in helping to achieve wider adoption of more cost-effective technical options and greater cost recovery within the rural water and sanitation programmes. The greatest impact is expected to be in the six project States, but the project will influence policies in other states too, through its policy dialogue at national level with RGNDWM, and through UNICEF's dissemination of project experience through its ten Field Offices, covering 13 of the major States.

4.4 Economic benefits will also occur through the modest shift towards an element of demand responsiveness in policy and practice, leading to the better use of available resources in the rural water and sanitation sector, a key component of project *Purpose*.

4.5 UNICEF has already been successful at national policy level in helping to bring about a change in approach on rural sanitation strategy. After the national guidelines, now under revision, have been re-issued, significant benefits will come from increased options and reduced subsidies for home toilets, at state level. The project's contribution to this process, through its expansion of Rural Sanitary Marts/Production Centres, and the demonstration of their financial viability, combined with dissemination of successful lessons of experience across project States, should lead to significant economic benefits. There is already evidence from a UNICEF-assisted project in West Bengal that this approach can be successful.

4.6 The project will contribute towards government reformulation of sector policy over the next five years, to incorporate decentralisation, community participation and cost sharing. The project will extend coverage of safe sustainable low-cost water supplies to the most vulnerable and most difficult to reach communities, through the demonstration of alternative technology and participatory approaches.

### **Cost effectiveness**

4.7 There are a number of low-cost technical options available for safe water supplies. These are listed in Table 10. The State Water Supply Agencies do not normally consider a number of these options, by-and-large constructing bore/tubewells with handpumps or piped water supply schemes. There is therefore no attempt to seek the most cost-effective option, defined in terms of increased safe water use, as against increased access to safe water sources. Government's gradual adoption of well rejuvenation technologies, pioneered by UNICEF, has however led to significant cost savings as the cost of rehabilitating an existing borewell is much less than the cost of drilling a replacement well.

4.8 UNICEF is currently actively involved in piloting water treatment technologies in demonstration areas, e.g. iron removal plants for borehole water and horizontal roughing filter with slow sand filter for using surface water. It is working with communities to improve traditional water sources, e.g. spring protection, and is demonstrating rooftop rainwater harvesting.

**Table 10: Estimated Costs Per Head for Rural Water Supply Options**

Type of water supply	Capital cost (Rs)	Annual O&M cost (Rs)	Lifetime cost per capita (Rs)	Lifetime cost per capita (Pounds)	Annual cost per capita (Rs)
1. Deep borehole or tubewell with an India Mark II pump	40,000 6,600	600	350	5.00	35
2. Deep borehole or tubewell with an India Mark III pump	40,000 7,500	150	326	4.66	33
3. Shallow well with a TARA direct-action pump	10,000 6,000	100	170	2.43	17
4. Rejuvenation of a borewell or tubewell, fitted with:					
· an India Mark II pump	12,000	600	100	1.43	20
· an India Mark III pump	12,000	150	90	1.29	18
· a TARA pump	2,000	100	17	0.24	3
5. Sanitary well	60,000	600	440	6.29	44
6. Spring protection	12,000	50	83	1.19	8
7. Rainwater harvesting	15,000	100	3,200	45.71	320
8. Horizontal roughing and slow sand filter	80,000	500	567	8.09	57
9. Domestic water treatment				6.86	
· Household filter	800	150	480		48
· Regeneration centre	3,000				
10. Iron removal plant	12,000	150	90	1.29	9
11. Mini-piped water supply	375,000	31,500	920	13.14	92

Assumptions and explanations:

- (i) Each water source is assumed to serve 150 people, with the exception of rainwater harvesting and domestic treatment, which are on an individual household basis, and mini-piped water supplies which serve one to three villages, through public standposts and limited household connections (calculations based on 750 people per scheme).

- (ii) Length of life of capital works on water sources and pumps is conservatively estimated (ten years for all options, except rejuvenated tubewell/borehole at five years).
- (iii) The capital cost of well rejuvenation is that of hydro-fracturing or flushing. The O&M costs are those of the pumps.
- (iv) An iron removal plant treats groundwater from a well at source. Its costs are spread over 150 individuals. The domestic treatment system consists of individual household filters (investment costs spread over five people) and a community regeneration centre (investment costs of which are spread over 150 people). The O&M costs of the household filters and the regeneration centre are met by the households.
- (v) The TARA pump is only suitable for use on wells with a static water level in the driest season of no more than 13 metres depth.
- (vi) Lifetime cost per head for communal water supplies is calculated by multiplying annual O&M costs by ten (or five years for rejuvenated boreholes), summing this figure to the initial capital cost, and dividing by 150. The costs of individual household supplies and/or treatment systems are divided by five.
- (vii) Costs are undiscounted.

4.9 Table 10 shows that nearly all water supply options under consideration have very low annual per capita costs. In the project areas, the official annual income level below which a household is classified as poor is around US\$ 300 or Rs. 12,000 equivalent or about Rs. 2,400 per capita. Thus, annual water supply costs would only be equivalent to one to two per cent of their annual income. Experience elsewhere indicates that poor people are often willing to spend a much higher share of their income on clean water supply, so the benefits from improved supplies in the project should greatly exceed the costs.

4.10 Cost effectiveness has been central to the work of UNICEF on hygienic toilet options, with particular emphasis on developing low-cost options for the poorest. A number of options have been developed ranging from Rs. 450 to Rs. 3,000 (£6 to £40). For the cheapest option, average costs per capita per year amount to about Rs. 18 (assuming a five year life and five persons per household). This should be affordable even to households below the poverty line, costing about one per cent of their annual income.

Two of the project States have adopted these design options in their State RSP. Active dissemination of best practice in the project States, including taking officials to see successful projects, is expected to lead to their greater adoption of a cost-effective approach to increasing latrine coverage and use.

4.11 At the overall programme level, UNICEF's advocacy of an integrated approach to the provision of water, sanitation and hygiene promotion is considered cost-effective. There will be limited health benefits from increased access to safe water unless this is accompanied by appropriate changes in hygiene behaviour and water use. Endemic diarrhoeal diseases in poor communities are not primarily water-borne, even when households are drinking "unsafe" water. UNICEF has been successful in helping to bring about national policy change, i. e. the "package approach". Ongoing CDD-WatSan demonstration projects will continue to be central to the overall project strategy, as will support to the development of hygiene education capacity at state level.

4.12 UNICEF has been instrumental in bringing about many cost-effective options in service delivery, through its facilitation of Government-NGO linkages. NGOs have undertaken innovative tasks in which Government has little experience, i.e. communication using folk media, and more mainstream tasks, i.e. supervision of construction of sanitary latrines. In this project, UNICEF will continue expanding this approach.

#### **Replication and influencing policy, including on cost recovery**

4.13 During the past three decades of collaboration with Government, UNICEF has achieved a remarkable degree of influence over sector policy.

4.14 In **water supply**, UNICEF has been instrumental in developing the key elements of the rural water supply programme: borewells in hard rock and deepwell handpumps. UNICEF has introduced well rejuvenation technology, which is gradually finding acceptance in the State Water Supply Agencies. After a decade of work on community-based handpump maintenance, RGNDWM is now working with the State Governments to introduce decentralised, Panchayat-based, systems for operation and maintenance in water supply, which have many elements of the system piloted by UNICEF, including cost recovery aspects. In promoting the use of , village-level O&M (VLOM) -type handpumps, such as the TARA and India Mark III pumps, UNICEF has had less success.

4.15 In **sanitation**, UNICEF advocacy has resulted in government policy adopting a range of toilet options and the alternative delivery system for sanitation. UNICEF efforts have also resulted in appropriate amendments to national guidelines for the Central Rural Sanitation Programme and the development of a national government strategy for IEC for WatSan. Many years of investment in school sanitation is now leading to the introduction of this component in CRSP.

4.16 Through this project, UNICEF will continue policy dialogue with government in areas where it has a comparative advantage, such as water supply technology, decentralised O&M, school sanitation and alternative delivery systems for sanitation. As shown in Table 4 in Annex 1, the project aims to achieve very substantial additional benefits by replication of the technologies and strategies demonstrated by the project through the government sectoral programmes.

4.17 Cost recovery is essential for the sustainability of O&M arrangements for water supply and sanitation. UNICEF has already had some success in addressing sanitation subsidy issues. It has promoted a zero subsidy approach in selected areas in West Bengal, Madhya Pradesh and Uttar Pradesh. It has been influential in changing policy in West Bengal, and in bringing policy change onto the agenda in Orissa. It is difficult to predict the pace of change, but UNICEF's continuing advocacy for a low/no cost subsidy approach for home toilets is expected to lead to a greater degree of cost recovery over the project life.

4.18 UNICEF will continue to support the establishment of a decentralised, Panchayat-based, O&M system for water supplies. UNICEF and Governments will build on earlier experiences in cost recovery in community-based O&M schemes, to encourage Gram Panchayats to meet routine O&M costs. As shown in Table 10, the annual per capita O&M cost of many options is less than Rs. 4. Effective decentralised

systems for O&M can reduce these costs even further. Given these low costs, it should be possible for most Gram Panchayats to raise these amounts, either directly from the users or through local taxes.

4.19 UNICEF will continue work started in the early 1990s, demonstrating the advantages of using India Mark III and TARA handpumps, designed for village-level O&M. Where appropriate, UNICEF will promote the use of TARA pumps, which have lower capital and running costs than the India Mark III pump.

4.20 Through the project, UNICEF will continue its role of demonstrating the technical feasibility and social acceptability of a number of low-cost technology options for safe rural water supplies. This will lead to greater cost effectiveness in the demonstration areas, and the potential for greater cost effectiveness in other areas if the states include the technology in their menu of options.

## **ANNEX 4: INSTITUTIONAL APPRAISAL**

### **1. Introduction**

1.1 The institutional structure for water supply and sanitation in India is complex. It involves many institutions at national, State, district, block and village levels. Responsibilities often overlap or are not clearly spelled out. State agencies for rural water supply are very large, and typically overstuffed and underskilled, so not very efficient in carrying out their responsibilities. Community participation in planning and implementation of water supply systems is still the exception rather than the norm. Almost without exception, the rural water supply and sanitation programmes are supply- and target-driven. The State Water Supply and Sanitation Agencies have by-and-large a technical engineering approach to the sector, with little regard for social aspects, for which their staff have neither skills nor aptitude.

1.2 At national level there is an increased awareness of the need to reform the sector, and adopt decentralisation, community participation and cost sharing strategies in the rural water supply and sanitation programmes. Changing national policy is, however, a slow process, especially in rural water supply, which is politically very sensitive.

1.3 The institutional structure is in a state of transition. In 1992, the 73rd Constitutional Amendment (1992) was adopted, which permits the Legislature of each State to endow the Panchayats with such powers and authority as may be necessary to enable them to function as institutions of self-government. Such law may contain provisions for the devolution of powers and responsibilities to the Panchayats at the appropriate level with respect to the preparation of plans and the implementation of schemes for economic development, including water supply and sanitation. The Constitutional Amendment also permits the State Legislatures to authorise Panchayats to levy taxes and use funds so raised. The formation of these Panchayati Raj bodies, the transfer of responsibilities and attendant administrative and financial authority, has been a slow process and in most States water and sanitation service delivery remains with the State Departments. However, the transfer of responsibility for water supply and sanitation from the State Water Supply and Sanitation Agencies to the Panchayat Raj bodies has major implications for the functioning of these agencies, requiring staff with different skills and attitudes.

1.4 West Bengal, with a strong commitment to empower the Panchayats, has moved much ahead of other States and in most areas of the State all handpumps are planned, installed, operated, maintained and repaired by the Gram and Block Panchayats. In Orissa, the Panchayats are involved in the siting of new wells, but the responsibility for execution and most of the O&M remains with the State Department. The State has started a gradual move to decentralise O&M to the Gram Panchayats in one block in each of the 30 districts. In Madhya Pradesh, the responsibility for O&M of rural water supplies was handed over to the Panchayats in 1997, through an administrative order. Their lack of capacity and commitment resulted in large-scale failure of handpumps in the 1998 dry season and the responsibility for O&M reverted to the State PHED.

1.5 UNICEF has a long-standing, close working relationship with all key sector agencies, at national and at State level. Through this collaboration, UNICEF has a thorough knowledge of the strengths and weaknesses of the Government and NGO partners. With hygiene education and sustainability issues gaining prominence, this

intimate knowledge of this complex network of participating institutions and their functioning is becoming ever more valuable. The analysis of the institutional framework for the project presented in this appraisal is based on a comprehensive assessment of key secondary stakeholders, including UNICEF.

## **2. The Institutional Framework**

### **Government institutions**

2.1 The Department of Women and Child Development of the Government of India is responsible for policy coordination related to the Gol-UNICEF Programme of Cooperation.

2.2 The 73<sup>rd</sup> Constitutional Amendment mandates the development of local self-government and the decentralisation of responsibilities and powers for rural water supply and sanitation to the Panchayati Raj Institutions. The institutional structure at state level for WES is both diverse (no two states have the same structure) and complex. In some States, water and sanitation programmes are the responsibility of different government departments. The provision of services to urban and rural areas falls to separate departments. The functions of planning, implementation, and operation, maintenance and repair are split between different departments.

2.3 The Rajiv Gandhi Drinking Water Mission (RGDWM) of the Ministry of Rural Areas and Employment (MoRAE) is responsible for establishing overall RWSP and RSP policy and norms, managing ARWSP and CRSP funds, providing technical guidance to the State Water Supply Agencies, coordinating with donors and monitoring and evaluating sector programmes. The Mission has a technical resource group and a network of research and training institutions to support the Rural Water Supply and Sanitation Programmes. The small complement of staff in the Mission has the daunting task of evolving RWSP and RSP to become less welfare oriented, adopting instead more the role of a facilitator in working with communities to improve their water supply and sanitation situation.

2.4 In most States, the State Water Supply Agencies (PHED or equivalent) are responsible for the construction of new rural water supply facilities. This is mostly done through private contractors, controlled by the Agency. The State Water Supply Agencies also control most of the maintenance and repair of the rural water supply infrastructure, although from 1992, the Panchayati Raj institutions are increasingly involved. The State Water Supply Agencies are very large organisations, whose infrastructure reaches throughout the six project States. While the Agencies have very substantial engineering skills, their abilities related to social aspects of water supply and sanitation is mostly very limited. Their programmes are marked by target-driven, hardware oriented, water supply focused approaches, with little community involvement or hygiene related components.

2.5 With the revival of the Panchayati Raj institutions at District, Block/Mandal and Gram Panchayat levels, the responsibility for rural water supplies is gradually devolving from the State Water Supply Agencies onto the Panchayati Raj bodies. However, the degree of decentralisation is uneven across the States. There is nevertheless a distinct move towards decentralisation, which is expected to gather pace in the coming years. As powers devolve to local self-government, there is an urgent need to speed

up the development of knowledge, skills and resources for these institutions, especially at the Gram Panchayat level.

2.6 In the decentralised organisational set up, a large number of responsibilities will be entrusted to the Gram Panchayats. To deal effectively with the responsibilities related to water supply and sanitation, each Gram Panchayat will be required to set up a water supply and sanitation committee. Depending on the State legislation for Panchayati Raj, such committees can be formed at the level of the Gram Panchayat or at the level of individual village or hamlet, or at both levels.

It is of crucial importance that these WatSan committees are formally linked to the Gram Panchayats, as otherwise these committees will lack legal standing and will tend to dissolve soon after the project ends.

2.7 From 1989, UNICEF has worked with Governments of most major States on community-based handpump maintenance pilot projects. In 1996, this culminated in a national workshop on operation and maintenance in water supply, which resulted in a number of recommendations for decentralised approaches in O&M. To operationalise these recommendations, the RGNDWM is organising regional meetings of State Water Supply Agencies and Panchayat and Rural Development Departments, to develop action plans for district-level pilot schemes for decentralised O&M, where the responsibility for O&M is with the Gram Panchayats. UNICEF is a partner in the preparation of these action plans, which will be implemented in the course of this project.

2.8 In some States the responsibility for RSP is with the water supply agency, while in others it is with the Panchayati Raj Department. This diversity reflects a degree of discomfort in the State Water Supply Agencies in managing a programme for sanitation, and a trend to hand over the responsibility for sanitation to the Panchayats, in line with the 73<sup>rd</sup> Constitutional Amendment. Where the State Water Supply Agencies remain responsible for RSP, their approach tends to favour the use of a single expensive, toilet design, constructed by contractors, with virtually no household participation or contribution. The engineering staff of the Agencies prefer working on water supplies over work on sanitation. With the exception of the staff in the IEC-cum-Sanitation Cells, the professional staff of the Water Supply Agencies lack skills in the social aspects of water supply and sanitation. The professional staff is also almost exclusively male.

2.9 Other State-level departments, such as Women and Child Development, Health and Family Welfare, Rural Development and Education are involved in school sanitation and hygiene promotion. This involves inter-sectoral cooperation at State and district level, with State IEC-cum-Sanitation Cells, the State Coordinating Committee and District Coordinating Committees in crucial roles. In villages, hygiene promotion involves the Block and Village Panchayats, Anganwadi workers, teachers, health staff and NGOs/CBOs. Overall, changing hygiene behaviour is still considered a low priority. The government health sector in particular stands out for its very limited attention to hygiene behavior, where changes could lead to significant reductions in the incidence of many common diseases.

2.10 The IEC-cum-Sanitation Cells in the States are responsible for coordination between various departments for more effective health and hygiene awareness



campaigns. The IEC-cum-Sanitation Cells also coordinate with the corresponding Cell in RGNDWM.

2.11 All six project States have excess fluoride in the drinking water of many communities, leading to a range of medical problems. Rajasthan and Andhra Pradesh are more severely affected. RGNDWM is working with the State Water Supply Agencies to set up fluorosis control cells in the affected States. The project will support these cells, by providing short-term expertise, capacity building, training equipment and material and mobility support.

2.12 The Ministry of Water Resources is responsible for laying down policy guidelines and programmes for the development and regulation of the country's fresh water resources. The Central Ground Water Board is responsible for carrying out nation-wide surveys and assessments of ground water resources and guiding the States appropriately in scientific and technical matters related to ground water. The Board monitors ground water levels and quality in the entire country through a network of about 15,000 wells.

2.13 Pollution of groundwater poses a serious threat to aquifers, which is virtually irreversible. The Central and State Pollution Control Boards focus mostly on industrial pollution, ignoring non-point-source pollution from pesticides and fertilisers, which may be an even greater issue.

2.14 The National Water Resources Council and the National Water Board have been set up to review the National Water Policy and facilitate implementation.

### **Educational institutions**

2.15 There are a large number of schools, colleges, polytechnics and universities, where current and future WES sector personnel is trained. Much of their curriculum is oriented towards high-cost water supply and sanitation technologies for urban and peri-urban areas, with little attention to low cost technologies and social development aspects of water supply and sanitation.

### **NGOs**

2.16 NGOs are important partners in the WES sector. The Council for the Advancement of People's Action and Rural Technology (CAPART) is a registered society under the Department of Rural Development of MoRAE. The main objective of CAPART is to encourage, promote and assist voluntary action in the implementation of projects for rural development and to promote new, appropriate technologies, through NGOs. As such it functions as an umbrella organisation interface between MoRAE and a large number of NGOs participating in the sector.

2.17 In the water supply and sanitation sector, CAPART is providing financial assistance to voluntary agencies for the sinking of tubewells and the construction of toilets. For 1996-97, CAPART was allocated Rs 0.24 billion under ARWSP and CRSP.

2.18 After mixed experiences in the past, UNICEF prefers to develop relations directly with sector NGOs at national, State and district levels. Overall, UNICEF has a primary relationship with the Central and State Governments. Within this relationship, UNICEF

encourages NGO participation, to the extent the principal Government partners allow. With the explicit approval of the State Government, UNICEF sometimes works directly with NGOs, especially on operational research of new technologies or approaches.

2.19 UNICEF funds for NGO activities are normally released through Government, although sometimes funds are directly paid to NGOs, provided there is a specific request from the State Government to do so. Whenever an NGO is to provide services exceeding US\$ 10,000 in value, a special agreement is signed between UNICEF and the NGO. These arrangements ensure that the primary relationship of UNICEF with Government remains intact, while allowing maximum possible participation by capable and committed non-governmental organisations.

## **UNICEF**

2.20 UNICEF-India has over 300 professional and general service staff, including 23 full-time staff members of the Water and Environmental Sanitation Section. UNICEF-Delhi has five WES professionals, who work closely with the Rajiv Gandhi National Drinking Water Mission (RGNDWM). UNICEF has ten Field Offices covering 13 major states, including the six States reached by this project. Each Field Office has one or more WES professionals among their staff. This set up allows for effective coordination with state counterparts in project planning and implementation. As an international organisation, it shares global experiences and exchanges information between projects within the country.

2.21 Given UNICEF's historically intensive involvement in rural water supply, UNICEF worked particularly close with the State Water Supply Agencies. With the change in programme focus, started during the 1990s, the partnership in the States broadened to include Department of Rural Development, Panchayati Raj Department, District Administrations and NGOs.

## **Private sector**

2.22 In RWSP, about 80 per cent of the wells are drilled by private contractors. In most cases, these contractors also install the pumps and construct the platform. The private sector also manufactures and supplies all the drilling rigs, pumps and other hardware used in the programme. Private companies supply all of the equipment used in the water quality laboratories and in field-based surveillance. Private consultants and consulting agencies provide important technical support in surveys, designs, estimates, monitoring and evaluation.

2.23 Most of the home toilets are built by the individual households, without any incentive or subsidy from government. In RSP, most of the subsidised toilets are constructed through private sector contractors. Communications agencies provide services for the promotion of sanitation and hygiene through the media. The private sector is also the producer and supplier of audio-visual equipment and communication/education/promotion materials.

2.24 UNICEF is promoting private sector RSMs and production centres to facilitate private home toilet construction. Towards this end, UNICEF is also supporting the training of village masons and sanitation motivators. UNICEF also works with the private sector to refine well rejuvenation technology, handpump technology and water

quality testing equipment. UNICEF also obtains services from the private sector for training, quality assurance services and in MIS development.

### **3. Project approach**

3.1 Like all UNICEF-assisted programmes and projects, this project will be implemented through government. Working from within the government administration ensures consistency with government policies and plans, continuity beyond the end of the project, and a higher probability that successful technologies, approaches or strategies are sustained or replicated.

3.2 The planned project approach takes into account the resources available to the project, concentrating on key areas for support, on skills transfer and capacity building at state, district and community levels, and on bringing about greater commonality of purpose between stakeholders. It proposes to disseminate lessons of experience across states to maximise their impact.

3.3 The following sections describe major institutional hurdles to the adoption of integrated approaches to sanitation, hygiene promotion and water supply, and project action aimed at overcoming these constraints.

**Constraint 1:** Lack of coordination between different state government departments, district level authorities, and other agencies involved in WES.

#### **Project action:**

3.4 For integrated water supply and sanitation, school sanitation and the intensive promotion of hygiene, strong inter-sectoral cooperation between the concerned government departments is critical. Such cooperation has to be effective at State, district, block and village levels. Based on UNICEF's experiences in CDD-WatSan projects implemented in most major states from 1992-93 onwards, UNICEF and Government will facilitate inter-sectoral cooperation through State and District Coordinating Committees. At district-level, the committee is chaired by the District Collector/Chief Executive Officer, while at State-level the committee is chaired by a senior Government Secretary. Both at State and district levels, the committees bring together responsible administrators and specialists of relevant Departments, such as Health, Education, Rural Development, Public Health Engineering and Women and Child Development.

3.5 Each district-based Integrated WatSan project will be formulated using an LFA, which is reviewed and finalised by the District Coordinating Committee. Each LFA will include a number of outputs and indicators related to behavioural change, which will guide the committee to consider the ways and means necessary to achieve these. At block-level, coordination is the responsibility of the Block Development Officer. The gradual decentralisation of the responsibility for social development programmes to the Panchayats will strengthen inter-sectoral collaboration at district, block and village levels.

3.6 UNICEF will strengthen the State IEC-cum-Sanitation Cells by fund the placement of specialists in the cells, where necessary and acceptable, to assist with the development and implementation of IEC action plans for health and hygiene promotion. UNICEF Project Officers will closely monitor the functioning of the IEC-cum-Sanitation

Cells, and facilitate their role in coordinating IEC and sanitation activities. If necessary, staff costs will also be provided, for a maximum of two years. UNICEF will also fund the monitoring, evaluation and documentation of the implementation of the IEC strategy. These Cells will also be provided with audio-visual equipment, teaching materials and mobility support.

3.7 For historical reasons, UNICEF has been close to the State Water Supply Agencies. From the early 1990s, with increasing involvement in sanitation and in community-based maintenance of water supplies, UNICEF is working with a much wider range of Government partners. As UNICEF phases out involvement in routine Government operations in RWSP, the partnership with the State Water Supply Agencies will be further reduced. This will be particularly true in Uttar Pradesh, where UNICEF will lessen its involvement with the Uttar Pradesh Jal Nigam, in favour of closer collaboration with Rural Development and Panchayati Raj Departments. UNICEF already has a substantial working relation with the Panchayati Raj Department, and the project focus on sanitation and hygiene will result in a further strengthening of this relation.

**Constraint 2:** Predominance at state government level of a target-driven approach in water and sanitation service delivery.

**Project action:**

3.8 While UNICEF works closely with the national and State agencies responsible for RWSP and RSP, its influence over the overall functioning of Government is limited. Water supply in particular is politically very sensitive, and any change in basic programme policy is bound to face strong political resistance. Given the current stage of development, it is probably inevitable that governmental programmes continue to work with targets in service delivery.

3.9 UNICEF is nevertheless uniquely placed to work with Government administration, politics and society to change RWSP and RSP to be more focused on long-term sustainable solutions, which inevitably require embedding community participation more strongly in these programmes. This, in turn, requires a greater degree of decentralisation.

3.10 UNICEF will support RGNDWM to bring about necessary changes in RWSP and RSP policy guidelines. All project components will be implemented on principles of community participation, decentralisation and cost sharing. Project activities will contribute to sensitise politicians on the importance of adopting sector policies, which lead to long-term sustainable solutions in water supply and sanitation.

3.11 Following the 73<sup>rd</sup> Constitutional Amendment in 1992, UNICEF has contributed significantly to capacity building for elected members of the PRIs, at District, Block and Village levels. The degree of involvement varied from State to State, depending on the degree and speed of decentralisation of responsibilities and powers to the PRIs. Many components of this project crucially depend on the capacity and skills of the PRIs, especially at village level. In all these components, skill development of the PRI elected representatives will be an important activity. However, there is no point in building capacity for water supply or sanitation where the State Government has not devolved responsibility and powers onto the PRIs.

**Constraint 3:** Limited exposure of the state water authorities to social development issues.

**Project action:**

3.12 The project will take advantage of opportunities arising from the recent creation of State HRD and IEC-cum-Sanitation Cells in the State Water Supply Agencies/RDDs, and from the increasing transfer of powers to local government, as decentralisation gathers momentum. It will assist in building up social development expertise within water supply authorities, increase community participation and support the development of sustainable O&M systems for rural water supplies. Special efforts will be made in this regard in Uttar Pradesh, given the apprehensions about the willingness to move towards community-based, sustainable approaches among the leadership of the U.P. Water Supply Agency.

3.13 The HRD Cells in the States manage the development of capacity for WatSan, both in the departments and among grass-root workers in the field. UNICEF will provide expertise to these HRD Cells to strengthen course curriculum reflecting the social development aspects in the water supply and sanitation sector. Project funds will meet the cost of essential equipment for the functioning of the State HRD Cells, and cover the costs of upgrading the skills of their master trainers.

3.14 RGNDWM plans to develop State fluorosis control cells in the endemic states. The project will support these cells, by providing short-term expertise, capacity building, training equipment and material and mobility support.

3.15 Through this project, UNICEF will expand the WES professional teams in the Field Offices to include more social development expertise. Working closely with State Government partners, the UNICEF team will heighten their skills in and exposure to social development aspects of the sector.

**Constraint 4:** Long standing government practice limiting community participation in service provision.

**Project action:**

3.16 Like all UNICEF-supported schemes, community participation in planning, implementation and evaluation will be an important aspect of the project. The formation of Gram Panchayat WatSan Committees provides an entry point for participatory planning.

UNICEF-supported programmes devote increasingly substantial resources to capacity building of elected representatives of the Panchayati Raj institutions. This process will accelerate further during the new country programme period. The project includes many elements aimed at strengthening local capacity: training of elected members, WatSan Committee members, women's/mothers' groups, NGOs, village mechanics/caretakers, masons, motivators, etc. For all categories, equal participation by men and women is a specific aim.

3.17 To work most appropriately within the State-specific settings related to the 73<sup>rd</sup>/74<sup>th</sup> Constitutional Amendments, UNICEF will review and analyse the State-

specific legislation on Panchayati Raj, identifying opportunities and constraints with regard to WatSan. Implementing this project will support the State Governments to gradually decentralise O&M of water supplies to the Panchayats, ensuring proper functioning of the systems, adequate capacity and transparent arrangements before handing over. The transfer of responsibilities also requires the corresponding transfer of managerial and financial authority to local Panchayats and WatSan committees. Project support will be extended to implement decentralised O&M in line with the recommendations of the 1996 national workshop on O&M. In the project areas, UNICEF will also advocate for the maximum participation of the Panchayats in the creation of new water supply points.

3.18 UNICEF will capitalise on substantial earlier work in community-based maintenance of water supplies to advocate strongly for suitable changes in the Accelerated Rural Water Supply Programme guidelines. The project will also provide training to sectoral line agency staff on how to work best with communities, through participatory learning and other means.

3.19 Other ways in which UNICEF proposes to increase community participation include experimenting with innovative approaches to community organisation through a range of entry point activities in WatSan areas, and promoting the involvement of communities in the planning and installation of WES infrastructure in areas where the project will fund the improvement of traditional water sources. The annex on social development elaborates on these aspects of the project.

**Constraint 5:** Limited learning between districts and virtually no learning between States.

**Project action:**

3.20 The programme has a number of positive experiences with cross-learning, although the full potential of this approach has not been realised. UNICEF will actively support learning from experiences elsewhere, both within States and across State borders, for Government as well as for UNICEF. The huge scope and wide variety of the water supply and sanitation programmes in the country offers ample opportunity for personnel new to an approach or technology to take a first hand account of positive experiences elsewhere. This also gives the receiving team of implementers a measure of satisfaction and pride to show their work to colleagues from other districts or States.

3.21 UNICEF will undertake advocacy initiatives to ensure the utilisation of innovative experiences generated in the WES sector through its demonstration projects. The mechanisms for undertaking social research, process documentation, training and effective dissemination of experience, either by the UNICEF Field Office or contracted out, will be determined by each Field Office.

**Constraint 6:** UNICEF's partnership with NGOs is limited in numbers and NGOs often lack necessary skills.

**Project action:**

3.22 UNICEF's close working relations with Government at all levels allow for a unique degree of flexibility in implementation, including substantial participation by NGOs. NGOs will play a major role in social mobilisation, community organisation and capacity building. NGOs will also work on the promoting sanitation and hygiene education.

3.23 After working in rural water supply and sanitation in the project States for more than two decades, UNICEF has a fairly good knowledge of the strengths and weaknesses of the WatSan sector NGOs in each State. In the demonstration districts, UNICEF will further expand the partnership with NGOs in WatSan, particularly with women's organisations such as Mahila Samakhya, Mahila Mandals, etc. In each demonstration district, UNICEF will make a comprehensive inventory and assessment of established and active NGOs in the district and explore the potential for their participation.

3.24 UNICEF will ensure that NGO staff is properly trained before taking on project assignments. During field visits, UNICEF staff will pay particular attention to the quality of services provided by NGOs.

3.25 Plan-of-Action for integrated WatSan projects will include a clear exit strategy to phase out the involvement of NGOs, which depend on external funding for their operations in these project areas. Handing over responsibilities to the PRIs will be a crucial element of such a phase out plan.

3.26 UNICEF will also actively network with sector NGOs, not directly involved in project-supported demonstration projects. This will facilitate mutual learning.

**Constraint 7:** Schools, colleges, polytechnics and universities, where current and future WES sector personnel is trained often give little attention to the low-cost technologies and social development aspects of water supply and sanitation.

**Project action:**

3.27 UNICEF will interact with these institutions, especially the polytechnics, to expand their curriculum to cover more extensively low cost options, social development aspect and approaches which allow more intensive community participation.

**Constraint 8:** UNICEF lacks adequate control over standards of construction its projects support.

**Project Action:**

3.28 UNICEF staff in the field are few, dealing with a range of innovative project components, which require substantial staff support. As a matter of principle, UNICEF supports Government programmes from within, as a well-regarded partner, but without significant direct control over the quality of work in the field. UNICEF contributes indirectly through training support for Government, NGO and Panchayati Raj functionaries, which enhances capacity and contributes to better standards of work.

3.29 UNICEF and State Governments will limit the geographical spread of activities by ensuring that the various project components will converge to a large extent. This will allow UNICEF staff more time to attend more closely to the quality of work. UNICEF field staff will spend substantial time to visit a random selection of toilets and water supply installations funded by the project. From time to time, UNICEF will organise independent reviews of the quality of project-funded installations, which will inspect the quality of installations and, in participation with users, assess their degree of satisfaction and participation. Shortcomings will be documented and taken up with the responsible agencies, at the appropriate level. UNICEF will make best use of its close working relationship with all levels of government to advocate for suitable corrective action.

3.30 The project will fund one additional WES professional in each of the UNICEF Field Offices in the four high-priority States. This enhanced capacity will allow for more staff time in the field to monitor the quality of interventions funded by the project.

**Constraint 9:** UNICEF has very limited WES professional staff, who have inadequate expertise in social development aspects of the sector.

**Project Action:**

3.31 The 1997 WELL evaluation brought out that UNICEF lacked capacity at local level. This concern is inherent to UNICEF's mode of operating through government. Through this project, UNICEF will add one WES professionals in the four high-priority states. These additional officers will be specialists in WES social development aspects, thus complementing the predominantly engineering skills in the present UNICEF field staff. The supplementary TC budget will be used to strengthen the social development knowledge and skills of key Government officials and UNICEF WES professionals. This inter-disciplinary UNICEF WES team will facilitate convergence of water and sanitation with other programmes.

**Constraint 10:** UNICEF has limited WES professional staff with expertise related to the urban sector.

**Project Action:**

3.32 UNICEF's involvement in environmental issues affecting the urban poor is modest and of recent origin. The accelerating pace of urbanisation and the resulting deterioration of the urban environment, especially the growing numbers of the poor, require UNICEF to devote more resources to address these problems.

To develop UNICEF's capacity for a more concerted effort in the urban sector in the coming decade, the project will fund a post for a project officer specialised in environmental aspects affecting the urban poor.

#### **4. UNICEF-DFID Partnership**

4.1 UNICEF-DFID cooperation in the water supply and environmental sanitation sector started in 1996, when DFID agreed to fund a UNICEF CDD-WatSan project in Orissa and West Bengal. A DFID evaluation of the UNICEF programme in Andhra Pradesh and Karnataka by WELL in 1997 found considerable common ground



between the UNICEF and DFID agendas for sector development. UNICEF and DFID now intend to expand this partnership in the water supply and sanitation sector. Closer collaboration will have a synergistic effect on the overall development of the water supply and sanitation sector programmes in India.

4.2 To this partnership, UNICEF brings a long-standing, proven, record of effective programme cooperation with the national and State governments, through a mix of advocacy and promotion at national and State levels and demonstration projects at district level. This programme of cooperation, spanning more than two decades, has earned UNICEF a high degree of trust among government functionaries, including those at the senior-most levels.

4.3 DFID brings considerable technical expertise, in-house and through recognised national and international institutions, as well as growing experience through bilateral projects in the sector. An effective partnership will help both agencies to advance their respective agendas for the development of the WES sector more effectively.

4.4 Through this project, UNICEF and DFID will operationalise the mutually beneficial working relationship as follows:

- DFID will participate in the annual UNICEF-Government programme reviews, in the States and at national level. This will give DFID a good understanding of the programming environment in each of the six project States, and at national level. DFID participation will be of an advisory and technical nature, in support of UNICEF's approaches to carrying project implementation forward.
- From time to time, DFID, UNICEF and State Governments will discuss possibilities for DFID bilateral cooperation in the WES sector. Such projects could relate to sector areas, which UNICEF recognizes as important, but which fall outside the scope of the Gol-UNICEF Master Plan of Operations (MPO).
- UNICEF will acknowledge DFID as an actively participating partner and funding agency during the implementation of the project through Government and NGO stakeholders.
- DFID will have ready access to UNICEF Field Offices to discuss issues in social development sectors other than WES.
- UNICEF will seek the expertise from DFID advisers in the development of the Child's Environment programme, particularly in the areas of social development, the urban environment and community-based monitoring linked to State-level MIS. Similarly, UNICEF will avail of the resources available through DFID through national and international specialised institutions.
- UNICEF and DFID will cooperate in the dissemination of project experiences. Such collaboration will be in the form of visits to demo projects by sector personnel from other districts/States, documentation, networking, workshops and conferences.
- DFID will participate in programme review/planning sessions of the bi-annual UNICEF WES reviews.
- UNICEF will participate in DFID discussions on WES sector policy.
- DFID will involve UNICEF WES staff on missions to appraise, monitor, and evaluate (aspects of) DFID bilateral WES projects in India.

4.5 UNICEF and DFID will carefully nurture this partnership, allowing it to mature through mutual openness and trust, building on each other's strengths and helping each other to overcome weaknesses.

## **5. Technical Cooperation**

5.1 The WELL evaluation of the UNICEF assisted programmes in A.P. and Karnataka acknowledged UNICEF staff as the most critical programme input, more important than UNICEF's cash or hardware inputs. UNICEF corporate policy and reduced global income limit the scope for increasing levels of staffing. UNICEF and DFID agree in principle that adequate UNICEF professional support will be critical for the implementation of the project. UNICEF will ensure that each of the six Field Offices will have at least two professional staff to support implementation. UNICEF will recruit a specialist with primary skills in social development on TFTA basis, to complement the predominantly engineering skills of the UNICEF staff members, in each of the four high-priority States, funded by the project. The project will also fund short- and medium-term local consultancies to complete specific assignments required for project implementation.

5.2 To strengthen UNICEF capacity for the implementation of the project, DFID will allocate a Technical Cooperation (TC) budget of £ one million, managed by DFID, in addition to the project budget. This provision will, among others, be applied for:

- the placement of international technical experts in UNICEF, in New Delhi or in any of the Field Offices, as agreed between UNICEF and DFID on the basis of specific Terms-of-References, for short to medium-term assignments related to the implementation of the project. Assignments will include contributions to the development of project components where UNICEF has relatively less experience and to major surveys and evaluations.
- capacity building for UNICEF WES staff and their key Government counterparts, through short-term courses, focusing on strengthening capacity in the social development, urban environment and community monitoring aspects of the project.
- short-term training for the teams of professional staff at the UNICEF Field Offices, focusing on all aspects of intra- and inter-sectoral convergence.
- development of child participation aspects in the Integrated WatSan project areas.
- further operational research to find appropriate solutions to protect drinking water sources from pollution from toilet leach pits.
- development of a comprehensive project monitoring and evaluation plan.

## ANNEX 5: SOCIAL APPRAISAL

### 1. Disparities in water supply and sanitation: rights denied

1.1 All children have the right to enjoy the highest attainable standards of good health. For this, the use of safe water and good hygiene practices are indispensable. Poor people, often illiterate, are most prone to the transmission of diseases through the faecal-oral route as they lack the knowledge and resources to avoid such transmission, often living in the most polluted and crowded environs. More frequent illnesses impair their livelihood, so often already a hand-to-mouth existence. Medical treatment for them is exorbitantly expensive, and a serious illness can easily drive a household in debt.

1.2 India has made significant progress in providing access to improved, protected sources of water for domestic uses, to more than 80 per cent of the population. With the exception of the use of toilets, progress on other indicators of hygiene practices is not systematically monitored.

1.3 The mere physical creation of a safe water source in or near a habitation does not always result in the use of safe water by all households of that habitation. For convenience sake, households will often use nearby polluted sources, rather than more distant safe sources of water. Physical barriers, social considerations of caste and class and other factors can also deny access. Surveys in 1994 and 1997 found that 72 per cent of households report taking their drinking water from a protected source. The 1994 survey indicated that safe water use among the Scheduled Castes is virtually the same as for the general rural population. Safe water use among Scheduled Tribes lags country coverage to some extent. This is a reflection of the remoteness and inaccessible terrain of the areas where the tribal population lives.

1.4 Government programmes for rural water supply specifically aim to reach disadvantaged groups such as Scheduled Castes and Scheduled Tribes (SC/STs). At least 35 per cent of the central government rural water supply programme funds must be used for SC/STs. The first source of drinking water for a village must be provided in SC/ST localities, while coverage of SC/ST habitations must be given first preference and highest priority.

1.5 While in certain communities Scheduled Castes are denied access to water supply facilities, the national HDI Survey of 1994 found that safe water use among the Scheduled Castes is virtually the same as for the rest of the rural population. However, safe water use among the Scheduled Tribes lags country coverage to some extent. This is probably a reflection of the remoteness and inaccessible terrain of the areas where the tribal population lives.

1.6 The high national coverage for rural water supply masks significant regional variations. A survey in 1997 reported that the proportion of households taking their drinking water from unprotected sources was 25%, 24%, 29% and 53% respectively in Uttar Pradesh, Orissa, Madhya Pradesh and Rajasthan.

1.7 More than a quarter of India's population, some 217 million people, live in 3,768 towns. Projections are that by the year 2001 close to one-third of the population will be living in urban areas, which could increase to 50 per cent by 2020. Some 40 per

cent of the urban population, 80 million people, live in abject poverty in slums or as squatters. Growing numbers of urban poor suffer from overcrowding and deplorable housing, while basic services such as drinking water, sanitation, health and education are often poor and sometimes lacking completely. Water supply and sanitation facilities are available primarily for the urban upper and middle classes.

If the urban water supply system is unequal and unjust being highly biased in favor of the rich, the sewerage system is even more unjust and even more highly biased in favor of the rich.

1.8 The right of families to the use of knowledge of the advantages of hygiene and environmental sanitation remains to be fulfilled for most, but more so for the poorer sections of society, those beyond the very limited reach of the hygiene education activities in Government programmes.

## **2. Convergent Community Action**

2.1 The 1999-2002 Programme of Cooperation between UNICEF and Gol has convergent community action (CCA) as a key strategy, common to all programmes, both in rural and in urban areas. The use of CCA as a strategy aims to improve decision-making by local communities and increase responsiveness of the social development sector to community needs. CCA seeks to foster a team approach for assessing, analysing and initiating action to meet the rights of children at community level, promote effective social communication between team members and develop a system of community level monitoring to track progress made towards the goals for children.

2.2 UNICEF will support Government to apply the CCA strategy towards the aim of community empowerment and improved government responsiveness to community demands. This approach is an element in each of the sectoral programmes, including the Child's Environment Programme. UNICEF will make special efforts to operationalise CCA strategies in 50 districts spread over 15 States. In the rural areas of these districts, skills will be built in community-mobilisation teams and in self-help groups to conduct community needs assessment, analyses and actions, and capacity to monitor the situation of children. Another aim is to build the capacity of the Gram Panchayats, especially of the women members.

2.3 The CCA strategy is of equal importance for programmes aiming to support social development of the urban poor. UNICEF will work with partners to mobilise the poorest urban communities to seek better quality government services, in at least one major town in each of the major states. Efforts will also be made to strengthen the nagar palikas, especially the elected women members, representing the poorest communities in these cities. CCA will be core to the delivery of programmes by all UNICEF Field Offices.

2.4 This DFID project reflects this corporate priority strategy in many ways.

## **3. Primary and secondary stakeholders**

3.1 The project's main primary stakeholders are women and children in rural areas and in urban slums. The major secondary stakeholders are the national and State

Government implementers. At national level these include the Department of Women and Child Development, the Ministry of Rural Areas and Employment, the Rajiv Gandhi National Drinking Water Mission, the Ministry of Urban Affairs and Employment and the Ministry of Water Resources. At State level key secondary stakeholders are the Department for Women and Child Development, the Rural Development Department, the Panchayati Raj Department and the State Water Supply Department. NGOs are also important secondary stakeholders. A list of all stakeholders is given in Annex 8.

3.2 The general perception among the primary stakeholders is that the provision, operation, maintenance, and repair of water supply infrastructure is the sole responsibility of the Government line agencies. Government policy with regard to basic rural water supply infrastructure, being supply-driven and devoid of community participation is largely responsible for this situation. It is only now, with the country nearing the completion of the basic infrastructure for water supply, that basic changes in rural water supply policy are considered. Policy makers at national level are proposing to introduce decentralised approaches, community participation and cost sharing as key elements in ARWSP. As rural water supply is politically a sensitive subject, these proposed changes will take time to be accepted.

#### **4. Windows of opportunity**

4.1 Changes in the institutional and social environment of the water supply and sanitation sector offer opportunities for this project to contribute to the introduction of more sustainable and community-friendly approaches in the sector.

4.2 The 73<sup>rd</sup> and 74<sup>th</sup> Amendments to the Constitution mandate the development of local self-government and the decentralisation of responsibilities and powers for many basic services, including water supply and sanitation to these representative bodies. Although there have been setbacks, the overall trend in the sector is inexorably towards the Panchayati Raj institutions. This offers very significant opportunities for UNICEF to facilitate this process, through this project.

4.3 India is committed to the achievement of the rights of the child. The new Gol-UNICEF Programme of Cooperation also adopts a rights approach to programming. The project follows key principles in programming for fulfilling the rights of the child in relation to water supply and sanitation. These include: (1) community participation; (2) complementing efforts by others; (3) demand responsiveness; (4) disparity assessment; (5) child participation.

4.4 For many years, UNICEF has aided the Government of India in adopting strategies that address gender concerns in development policy. However, given the widespread low status of women in society, the inevitable reality is that gender equality is still a distant dream. UNICEF, working from within Government, continues to act as a strong catalyst for change in this regard. The Gol- UNICEF Programme of Cooperation for 1999-2002 emphasizes enhanced capabilities of women as a major strategic thrust area. In all UNICEF-supported interventions, equal participation by men and women is strongly advocated. This project offers ample opportunities to contribute to the strengthening of the position of women in society.

#### **5. Community participation in project components**

5.1 The project recognises the critical importance of working closely with communities if the project purpose of increased use of protected water supplies and home toilets, and improved hygiene practices is to be achieved. The project will undoubtedly benefit from the successful application of the CCA strategy as described above. In selecting new districts for the project, preference will be given to CCA focus districts.

**The following section describes the approaches to community participation in the project:**

5.2 Through the project, UNICEF and Governments will reach out to communities through the Gram Panchayats and their WatSan Committees. Creating knowledge, awareness and skills on WatSan among the members of the Gram Panchayats and their WatSan Committees will be key to competent community participation in the project. All Gram Panchayat WatSan Committees in the Integrated WatSan project areas will be assisted to develop their Panchayat WatSan action plan, in close participation with all communities in the Gram Panchayat. More specifically, in each project component, communities will participate as follows:

**... in the Environmental Sanitation component ....**

5.3 Improvements in water and sanitation related behaviour is critically dependent on the close participation in project activities by communities and individual households.

While people may take to using a convenient water supply point even when it is created without community involvement, improvements in hygiene behaviour can only be achieved when communities and individual households become active participants.

5.4 In the Integrated WatSan districts, the project will promote community action for environmental sanitation, through the Gram Panchayats, their WatSan committees, schools, health workers and Anganwadi Centres. The Panchayat members, schoolteachers, students, health workers and Anganwadi workers work directly with village groups and individual households, particularly mothers, to create awareness of the health benefits of proper hygiene behaviour. NGOs will play a critical role in social mobilisation and hygiene promotion.

5.5 The Rural Sanitary Marts and Production Centres, with their network of masons and motivators, will be another effective network to support and facilitate community action for home sanitation improvements.

5.6 The intensive IEC campaign for water supply and sanitation will use a strategy, which will involve all sections of society, seeking to launch a people's movement for better personal, home and environmental sanitation. UNICEF will strengthen the social development and communications expertise of the State IEC-cum-Sanitation Cells, through staff training and, to the extent possible, by supporting short-term consultants to these Cells for the purpose of in-house training and strategy development.

**.... in the Rural Water Supply component .....**

5.7 In rural water supply, the new Programme of Cooperation has clearly demarcated Gol-UNICEF cooperation in rural water supply, to work on alternative water supply

technologies, water quality and sustainability issues. This allows UNICEF and GoI to focus cooperation on more critical areas, such as the promotion of hygiene, environmental sanitation and the urban environment. At the same time, the move out of mainstream water supply activities limits UNICEF's potential for influencing approaches to service delivery in rural water supply. The DFID-funded project reflects these strategic changes.

5.8 In focusing on working with communities the most difficult with improved water supplies, UNICEF and Government underline that all children require safe water and proper sanitation to fulfill their right to have the right to the highest attainable standard of health. UNICEF will support participatory surveys to identify and map disparities in the use of services in rural water supply, both quantitatively and qualitatively.

5.9 In areas where no safe sources of water supply are available, district and block level government functionaries will work with the Gram Panchayat WatSan Committees to determine the most appropriate technical solutions.

5.10 Any technology ultimately chosen by communities, be it alternative water supply or water treatment, will require their contributions. Such contributions will be higher for home solutions (rainwater harvesting, domestic treatment) than for public facilities (protected wells, HRF-SSFs, Kundis, etc.). Hydro-geological conditions may limit the number of available options.

5.11 In implementation, work will be done through trained local artisans, with the user households contributing their labor for work not requiring special skills. The WatSan Committee will provide overall supervision, in cooperation with the staff of the State Water Supply Agency. Operation, maintenance and simple repairs will be entrusted to the WatSan Committee, involving trained self-employed mechanic, who will be paid for his/her services.

5.12 Community-based water quality monitoring systems will be entirely run by the Gram Panchayat WatSan Committees and other local resource persons such as teachers, students and Anganwadi Workers. Pilot projects have shown that such systems can easily operate on a self-sustaining basis. These systems will give communities knowledge about the quality of the water from their sources and take appropriate action, either by treating the water or by demanding alternative supplies from the Government service provider.

5.13 The decentralisation of maintenance and repair of water supply systems will evolve much of the responsibility onto the Gram Panchayats and their WatSan Committees. For these bodies to take over these substantial tasks, UNICEF will support the development of training modules, train master trainers, and provide essential tools in selected areas. At the block and district level, UNICEF will help build capacity among the State Water Supply Agency, Rural Development and Panchayati Raj Department officials, who will be responsible for enabling the Gram Panchayats to maintain and repair their water supply systems.

5.14 The collection of local revenue for water supply O&M, and greater transparency in accounting for resources collected and spent will be promoted.

**..... in the Urban Environment component.....**

5.15 Past UNICEF initiatives for WatSan improvements for the urban poor all had a very strong element of community participation, sometimes to the extent of community management. UNICEF will build on these experiences, and take account of community-based approaches taken in WatSan projects for the urban poor funded by other ESAs. UNICEF's overall strategy will be convergent community action, as outlined earlier, complemented with appropriate technical solutions to improve the environment of the poorest of the urban poor.

**.... in the MIS-Surveillance component ...**

5.16 UNICEF will work with State Governments to develop and introduce community-based monitoring of social development, with a focus on indicators of environmental health. This will again require the commitment and capacity of the Gram Panchayats and their WatSan Committees, together with workers in individual villages and hamlets.

## **6. Child participation**

6.1 As rights holders, children have active roles to play in the enjoyment of their rights and in helping to define how these rights are to be fulfilled. This means that children's opinions are important and that their views must be heard and taken into account when planning and implementing the components of this project. Children should participate in decision-making processes in ways that are appropriate for their age.

6.2 However, with the exception of school sanitation, participation by children in the water supply and sanitation programmes is rare, even in the demonstration projects supported by UNICEF. The historical background of UNICEF's involvement, mainly in a technology-heavy rural water supply programme where children had little or no role, explains the present situation to some extent.

6.3 As described above, many components of the project can only succeed with communities participating. With school sanitation gaining prominence and with the advent of IEC as a more central component of the UNICEF assisted programme, there is now more scope for children to participate.

6.4 UNICEF will avail of the Technical Cooperation provision in support of this project to develop child participation, especially in the IEC and in the Integrated WatSan project areas.

## **7. Demand responsiveness**

7.1 The above description of the key project components shows how project strategies will enable communities and households to make informed choices, selecting options, which suit their needs and budgets best. In this project, UNICEF and State Governments will contribute to operationalising the CCA strategy element, which relates to enabling communities to seek better services from the responsible Government agencies.

## **8. Monitoring and evaluation**



8.1 UNICEF will conduct substantial surveys, to establish the baseline for project indicators at purpose and output levels in the LFA. The project will continue to be monitored against these indicators, from community to village, to district and to State level. Monitoring at all levels will take account of various socio-economic groups and gender.

8.2 UNICEF and State Governments will introduce participatory impact assessment in the Integrated WatSan demonstration areas, to determine levels of community satisfaction, so that adjustments can be made as and where required. UNICEF will work with State partners to develop a low-cost, community-based, system for monitoring diarrhoeal incidence and environmental health indicators, to inform its approach.

## **9. Poverty focus and social equity**

9.1 The project has a strong bias towards working with the poor to improve their water supply and sanitation situation. UNICEF and Government have decided to prioritise States where the proportion of people below the poverty line is larger than the national average. In selecting districts for demonstration projects, State Governments and UNICEF will give priority to districts with larger proportions of people below the poverty line.

9.2 Through the project, UNICEF will promote low-cost, appropriate, technologies for basic public water supplies and sanitation, which are more likely to be of use to the poor. UNICEF will support development and demonstration of alternative water supply technologies, which are specifically intended to provide services to the most difficult to reach, which again are more often poor and vulnerable communities.

9.3 Through the project, UNICEF and Government aim to reach the most difficult of the unreached, often the poorest and most vulnerable. In the promotion of home toilets, social equity issues will be addressed by offering people a range of toilet design options to suit households belonging to different socio-economic groups. Limited government subsidies for home toilets, targeted at the poorest of the poor, will protect their rights to improve their environment and safeguard the dignity of their women. Even so, experience is that a no-subsidy approach in the promotion of home toilets does not exclude low-income families. The sanitation motivators and masons trained through the project will provide services to any household keen to build a toilet, irrespective of the source of funding. Involving school children in promoting sanitation and hygiene will enhance social cohesion.

9.4 Project interventions will impact on poverty and vulnerability, both directly and indirectly. Decentralised maintenance will involve local caretakers and mechanics. The production centres and Rural Sanitary Marts will create employment opportunities, including large numbers of masons and motivators.

## **10. Gender aspects**

10.1 In this project, interventions will, where appropriate, specifically target women. These include awareness creation and capacity building for the prevention and management of diarrhoea, where mothers take action and give care. Women will be encouraged to work as handpump mechanics and caretakers in the decentralised

systems for water supply operation and maintenance. In the promotion of hygiene, mothers will be the focus of attention.

10.2 Women will be among the main beneficiaries of this project. Less water and sanitation related diseases can save households considerable amounts of money otherwise spent on treatment. Less disease in the household will reduce the physical and mental burden of mothers. Toilets in or near the home give convenience and protection, especially to women. While extensive new water supply service provisions are not within the purview of this project, the technologies, which will be demonstrated will result in considerable time and energy savings for the families, especially their girls and women.

10.3 The project will support activities aimed at improving the position of women in the society. Involving the women members of the Gram Panchayats in the planning and implementation of sanitation and water schemes will be encouraged. The project will contribute to the development of training modules and train Gram Panchayat members, especially women, on safe water, sanitation and hygiene. The participation of women on the Gram Panchayat WatSan Committees will be ensured. Creating employment opportunities for women will be another area of women's empowerment, through the selection and training of women motivators, mechanics and masons.

## **ANNEX 6: ENVIRONMENTAL APPRAISAL**

### **1 Overview**

1.1 In India, open defecation by 700 million people creates substantial environmental risks, especially in areas of greater population density such as larger villages and in urban slums. It is only since 1996-97 that the absolute number of rural households without home toilets has stabilised at over 100 million. Combined with the indiscriminate disposal of domestic and industrial waste, the environment is increasingly polluted, posing immediate and longer-term risks to the health of the population.

1.2 Proliferating use and pollution of groundwater is increasingly threatening the sustainability of the resource, which is the source of domestic water supply for more than 850 million people. Protected water sources for the poor are almost exclusively based on the use of ground water, placing these groups at an even higher risk. Environmental degradation often impacts worst on resource poor people.

1.3 The situation in the six project States is no different from this country overview.

1.4 Overall, the project is expected to have a positive impact on the environment, by promoting behavioural change for reduced environmental pollution and the protection of water sources.

### **2 Fresh water depletion**

2.1 Increasing population, more water-intensive consumption patterns and gross water pollution are resulting in a marked deterioration of the water environment. The use of groundwater continues to increase rapidly, resulting in falling water tables, especially in the many drought-prone areas of the country. According to reports published by the Ministry of Water Resources, groundwater resources in a number of blocks are already over-exploited, while in many more blocks exploitation is reaching the limits. The depletion of ground water and deteriorating water quality pose a serious threat to the sustainability of the fresh water resource, essential for agriculture, industries, domestic uses and for maintaining fresh water ecosystems.

2.2 National policy gives highest priority to water for drinking purposes under the National Water Policy Act (1987), and provides for the protection and improvement of the environment under the Environment (Protection) Act (1986). Of the project States, only Orissa has framed a State Water Policy. Rajasthan and Andhra Pradesh have initiated action to follow policy guidelines. Madhya Pradesh has drafted the State Water Policy and has started preparation of perspective plans for each river basin.

#### **UNICEF-WWF-DFID partnership on fresh water management**

2.3 The issue of the deteriorating fresh water environment is a concern of all ESAs involved in the water supply sector. While all agree on the need for action to arrest the current trend of reckless use and misuse, the degree to which each individual agency can influence policy and practice is limited. Working together to a common agenda will increase the potential for change beyond the sum of the potential results of individual efforts. Through this project, DFID will effectively join the UNICEF-WWF partnership, to

follow up at national and local levels on the recommendations of the national consultation on fresh water. This will be done both within and beyond the context of this project. Details of the scope of work on fresh water resource management to be taken up under this project are given in Annex 2.

### **3 Faecal pollution of borewell water**

3.1 The 1980s and 1990s recorded rapid increases in the number of wells drilled under the Rural Water Supply Programme. Until the late 1980s, the State Water Supply Agencies mostly used their own rigs to drill water wells. In later years, well drilling was increasingly contracted out to private sector drillers. While this resulted in a rapid expansion of the water supply infrastructure, the quality of installations deteriorated. Sample surveys have shown that the water of borewells, assumed to be nearly always safe, had faecal pollution in a significant proportion of the wells. Poor siting of wells, inadequate casing, the absence of sanitary sealing on the casing, poor quality platforms and improper drainage are resulting in this unnecessary pollution of clean groundwater.

3.2 Under this project, UNICEF and State Governments will support community action to improve and protect the environment of water supply sources. This protection includes the removal of obvious sources of pollution, improved drainage, repair and widening of the platform, and super-chlorinating wells.

3.3 UNICEF will work with the State Water Supply Agencies to conduct surveys to record the quality of newly constructed wells, documenting any shortcomings in well construction techniques and well siting procedures. Such surveys will encourage the water supply agencies to improve on-site supervision, particularly of drilling contractors.

### **4 Chemical pollution of borewell water**

4.1 The rapidly increasing use of groundwater and falling water tables is resulting in geo-chemical processes, which lead to a deterioration of the quality of groundwater. As a result, many borewells in all six project States have excess fluoride while in West Bengal thousands of tubewells yield water with excess arsenic. The project will support activities aimed at the promotion of alternative water supply technologies and water treatment in the affected areas, combined with community-based water quality surveillance of water supply points. The project will also support efforts to create community awareness of the causes and effects of chemical pollution of water sources.

### **5 Well rejuvenation**

5.1 Most of the State Water Supply Agencies attach little importance to the rejuvenation of borewells and tubewells when yields fall to unacceptable levels. The relative low cost and abundant financial resources tempt these agencies to abandon low yield wells and drill new wells. The practice of abandoning low yield wells is both environmentally unfriendly and economically unsound. UNICEF has been supporting efforts to introduce well rejuvenation and well servicing as a standard component of the Rural Water Supply Programme.

5.2 Through this project, the promotion of well rejuvenation and servicing will continue. UNICEF will facilitate and monitor the use of existing equipment, supply additional

hardware and train managers and users. UNICEF will advocate for the creation of budget lines in RWSP, dedicated to rejuvenation and servicing, which will help in institutionalising this aspect of the programme. UNICEF will also work with State Governments in formulating and refining procedures for proper well rejuvenation and servicing.

## **6 Pollution from home toilets**

6.1 The construction of unlined toilet pits in permeable soils with the pit bottom touching the water table poses a risk of polluting nearby shallow wells. UNICEF and the All India Institute of Hygiene & Public Health in Calcutta recently completed a project, which studied pollution travel from leach pits in different hydro-geological environments.

6.2 UNICEF and State Governments will revise and apply guidelines for the siting of water sources and home toilets, based on the recommendations of the pollution travel study. UNICEF will also take up additional work to find appropriate solutions, so as to protect water sources from pollution from leach pits, through the TC supplementary budget.

6.3 The project will create awareness of the potential risks of pollution of drinking water sources from toilet leach pits. Awareness of the risks and preventive measures will be created through awareness campaigns, through village motivators and Anganwadi Workers.

## **7 Adverse environmental impact of project interventions**

7.1 The potential for adverse impact on the environment through this project is limited. The project is primarily aiming to promote behaviour, which reduces the environmental pollution and which contributes to a more sustainable fresh water environment. The additional water supply points created with project assistance could result in stagnating wastewater when drainage is poorly done. Such pools could be a breeding place for mosquitoes, which increases the risk of malaria. The project will create awareness through the hygiene promotion effort, and mobilise communities to manage wastewater properly so that no stagnant pools are allowed to form.

## ANNEX 7: RISK APPRAISAL

### 1 Overview

1.1 Overall, the risk in the project is assessed as medium. The risks are well known in the sense that most existed in earlier UNICEF WES programmes. The probability of several of the risks identified and analysed below varies substantially from State to State. This is particularly true for risks, which relate to the involvement of PRIs (local government), where much hinges on the degree of decentralisation of power to lower levels. The project will include West Bengal, which has progressed remarkably in devolving powers to the district, block and village self-government bodies. The project will minimise the probability of several of these risks through emphasis on learning between States, in particularly through interaction with, and exposure to, the West Bengal experiences.

1.2 The present leadership of the U.P. State Water Supply Agency is comparatively less open to change towards more community participatory and decentralised approaches in rural water supply. Water quality monitoring is also given little attention.

1.3 While the present U.P. Agency leadership may appear less open to change, UNICEF's experience in working with the agency in a number of districts indicates that the attitude towards change of their staff at that level is not significantly different from the attitude of personnel of agencies in other States. Moreover, the State Water Supply Agency has one of the best staffed and best managed HRD units of all the State Water Supply Agencies in the county.

1.4 The status of the U.P. Agency, as a semi-autonomous body, is different from the Water Supply Agencies in other States. This could explain to some extent the apparent indifference among the leadership to pursue community-based, sustainable approaches.

1.5 The scale of the water supply and sanitation problems in U.P. surpasses those seen in the other three high-priority States. The rural population of U.P. alone almost equals the combined population of the other three States. The state has 650,000 handpumps, which need maintenance for which resources are inadequate. Water quality problems include fluoride and bacteriological pollution, which require urgent measures to improve the water quality monitoring system.

1.6 In U.P., UNICEF works with the Panchayati Raj Department in sanitation and with the Water Supply Agency in water supply. Both agencies are open to cooperation by NGOs. Integration is facilitated at district level.

1.7 Aware of the limitations of the State Water Supply Agency, UNICEF will, in this project, follow a three-pronged approach. First, UNICEF will broaden its cooperation with the State Panchayati Raj and Rural Development Departments. Second, UNICEF will work to expose the leadership of the U.P. Water Supply Agency more to community participatory approaches in water supply and sanitation, both in India and in the region. Third, UNICEF will employ one additional project officer and one or two short-term consultants to improve internal capacity to cope more effectively with the challenges posed by U.P.

1.8 Thus, while the risk in the State of Uttar Pradesh is considered to be comparatively higher than in the other states, UNICEF plans to take adequate precautions, which should result in effective functioning in this State. If, at the time of the mid-term review, project purpose is not likely to be achieved in this State, then funds will be reallocated to the other States.

## 2 Purpose to goal risks

**Risk 1:** State government WES policies remain target driven, based on hardware provision. (medium probability : low impact)

2.1 Gol stated commitment to 50 per cent home toilet coverage by 2002 is very ambitious. The pressure on state governments to meet the target may reinforce the emphasis on coverage rather than use of toilets. But Gol is aware that this target is unlikely to be met, and CSRP policy guidelines support the "package approach" to rural sanitation, which is not target-driven. Thus, while targets for toilet coverage will remain, policy is focusing more on use of these facilities. UNICEF will continue its advocacy at state government levels that hygiene promotion and health education should be the core element of the rural sanitation programme.

2.2 The national norm for safe rural water supply coverage implicitly gives top priority to the expansion of numbers of borewells, and not the community use of facilities. Potential use of facilities is restricted by the significant proportion of borewells out of order at any one point in time. There is no monitoring system of actual use of facilities. The project cannot influence the target approach per se, but it can mitigate its impact on project purpose to a modest extent through continuing demonstration of, and advocacy for, alternative technology options for safe water supplies, reflecting community preference in areas not yet reached by RWSP. Community participatory surveys of the use of government water supply facilities in fully covered areas will support the rights of those who, for whatever reason, cannot use these facilities.

**Risk 2:** Inadequate funding available for O&M and IEC to effect change. (low probability : medium impact)

2.3 State governments may allocate 10 per cent of central government funding for rural water supplies to O&M, and 10 per cent of central government funding for rural sanitation to IEC and other promotional activities. Actual expenditure is typically less than required.

2.4 Until the State Water Supply Agencies hand over responsibility for O&M of rural water supplies to local government bodies, their lack of funding for O&M will impair successful functioning of O&M.

2.5 UNICEF will advocate and support the gradual transfer of responsibility and funding for O&M to local bodies, including the generation of local funds for O&M, supplementing funds received from State/district government. This will ease the fund constraints for O&M.

2.6 Current State Government IEC budgets are too small to deliver an integrated approach to hygiene education, water and sanitation. But the amount of funds required for this is relatively modest, and there is a good degree of mutual trust

between UNICEF and individual State Governments. It is therefore expected that the required counterpart funds will be forthcoming over the life of the project. The success of the Integrated WatSan demonstration projects will be a factor in helping to persuade governments to make separate budget provision for IEC at the end of the project, and thus ensure its sustainability.

**Risk 3:** Partnerships with civil society and NGOs develop too slowly to facilitate required scale of community participation in all stages of the project cycle. **(low probability : medium impact)**

2.7 UNICEF is working with NGOs in its current WES programme, and has established an effective modus operandi. There are well-organised community groups throughout the project States, e.g women's groups, literacy groups etc., some of which the project will link with through greater UNICEF programme convergence. But any change in the style of partnership between the project and NGOs/CBOs over and beyond that of UNICEF's present programme would have to be acceptable to State Governments, which are UNICEF's prime partners.

**Risk 4:** Continuing declines in water tables and pollution result in deteriorating quality and quantity of safe drinking water supplies, posing risk to human health. **(medium probability: high impact)**

2.8 Heavily subsidised water and traditional water use rights have stimulated the overexploitation of fresh water resources by irrigated agriculture and industry. In many parts of India a fresh water crisis is already emerging, varying in scale and intensity at different times of the year. There are signs that this problem is receiving more attention at national and state levels, but this has not yet been translated into action. The project's ability to address this overarching, national, problem from the standpoint of a drinking water intervention is small. Its support to policy dialogue on freshwater resources management at state level is judged to be the limit of what can reasonably be achieved by the project in a politically sensitive area. This risk is better managed in separate fora, in partnership with DFID and other concerned donors.

**Risk 5:** National calamities e.g. droughts or floods, causes reorientation of Government WES priorities and diversion of resources. **(low probability : low impact)**

2.9 Floods occur on some scale every monsoon. Droughts are less frequent but can have a much more severe and longer lasting impact. In the case of very serious calamities UNICEF can consider providing additional resources to mitigate the effects of the disaster. The risk is considered to have low probability and low impact.

### **3 Output to purpose risks**

3.1 There are five risks that threaten the establishment of effective government IEC programmes, (Output 1) which will be the riskiest, most difficult part of the project to achieve.

**Risk 6:** IEC and HRD cells are under-funded, with too few skilled staff. **(low probability : high impact).**



3.2 The funding point is covered under Risk 2 at Purpose to Goal level. Many states have a long-standing ban on the recruitment of additional staff. However, from 1997 most States have managed to provide at least the minimum staffing needed for their IEC and HRD Cells. Unfortunately, staff is often drawn from the engineering cadres, who lack the necessary knowledge or experience in rural development, resulting in a target driven approach towards communication, training and community group formation that carries little impact. The existence of RGNDWM (national) IEC strategy guidelines will support UNICEF in advocating for full staffing in the IEC-cum-Sanitation Cells. UNICEF will strengthen the social development expertise in the cells through recruitment of consultants to work closely with the IEC and HRD Cell staff, and through in-service training of the staff of these Cells.

**Risk 7: Weak coordination between relevant Government departments, NGOs and CBOs. (medium probability : medium impact)**

3.3 The involvement of numerous agencies and manifold tiers of government hierarchy causes problems of coordination in the water supply and sanitation sector. The success of the IEC programme depends on the timely provision of water and sanitation facilities, and their being kept in good working order. UNICEF will capitalise on its good working relationship with government and its presence on the ground to facilitate closer coordination between the different actors involved in the WatSan areas. The main mechanism for achieving this will be through project support at district level to the District Coordinating Committees. But it will also promote inter-sectoral team working and sharing of forward work plans between line departments.

**Risk 8: State Governments may find the cost of scaling up IEC activities not commensurate with perceived benefits. (low probability : high impact)**

3.4 Hygiene behavioural change may take a long time to achieve, because traditional mindsets are so entrenched. State Governments may see little apparent benefit from the IEC programme in the short to medium term, and be reluctant to expand its coverage. There may also be competing demands for state budgetary resources, which are seen to have higher priority than IEC. To minimise this risk, the project focus will be on the younger generations where the likelihood of change is greatest. It will also closely monitor the execution of District IEC Plans of Action so that any remedial action can be taken as quickly as possible. The promotion of the "package approach" by central government will help to keep it on the WES agenda.

**Risk 9: Frequent transfer of senior State Government officials weakens Government support for demonstration projects. (high probability : low impact)**

3.5 Frequent transfers of civil servants are a "fact of life". Good working relationships between UNICEF field staff and government officials are both a strength and a weakness of the project approach. In implementation, the project will depend on formal as well as informal systems.

In demonstration projects, UNICEF will seek Government restraint on the transfer of district officials. When government staff changeovers occur, UNICEF field level staff will familiarise them with the demonstration projects as early as possible. This process will be aided by the existence of a signed Plan of Action, and the LogFrame, which will ensure transparency and continuity when transfers take place.

3.6 In each project district, a District Coordination Committee will be set up, to meet quarterly, which will provide a formal mechanism by which to champion demonstration projects.

**Risk 10:** IEC activities may not be sufficiently focused to achieve sustained improvements in hygiene behaviour. **(low probability : high impact)**

3.7 There is no "blueprint" for changing hygiene behaviour. The "package approach" is based on best practice, but cannot say under which circumstances it is likely to be most successful or how long IEC activities will need to be undertaken to achieve changes in hygiene behaviour. There is inevitably a process of trial and error involved. In this project, UNICEF and the State Governments will attempt to manage this risk by participatory monitoring of the IEC programme in the Integrated WatSan demonstration areas, so that the elements of the package can be modified as required. Additionally it will develop a low-cost, community-based, system for monitoring diarrhoeal incidence to inform its approach.

3.8 The risk to the development and demonstration of replicable models of improved water and sanitation facilities and hygiene behaviour in schools (Output 2) is:

**Risk 11:** Reluctant SCERTs are slow to introduce curriculum change and teacher training required for the school sanitation model. **(low probability : medium impact)**

3.9 Departments of Education and State Councils for Education Research and Training (SCERTs) may assign higher priority to academic areas of the educational curriculum. UNICEF has support at the national level for the proposed curriculum changes and has the successful example of Orissa, where the new curriculum is in the process of being introduced in all primary schools. It will advocate strongly for similar action in the other project States, supported by exchange visits between States, where useful.

3.10 There are two risks to achieving the widescale promotion of home toilets on an increasingly commercially viable basis, (Output 3).

**Risk 12:** Lack of political will to reduce subsidies on home toilets for the poor and promote lower technology options. **(low probability : medium impact)**

3.11 Most project States still favour the high technology, high-cost twin-pit option, and an 80 per cent subsidy. Some external donors are actively promoting the same approach. With the expected revision of the CRSP guidelines, expected before end-1998, donors will be under pressure to fall in line with Gol policy. States are expected to gradually revise their own policy on subsidies, and technical options eligible for subsidy, over the short to medium term. UNICEF will encourage and support State Governments towards reducing subsidies, through dialogue with senior administrators and politicians and exposure to successful low/no cost sanitation projects in their State or elsewhere. Subsidies to support vulnerable groups to have home toilets are not necessarily bad, as long as the level and use of the subsidies result in toilet use rather than mere construction.

**Risk 13:** Low demand for toilets threatens viability of non-subsidised approach. **(low probability : high impact)**

3.12 Project experience of the effective demand for home toilets is limited. Although the approach is working well in West Bengal there may be unique factors or circumstances, such as the relatively high literacy rate in the CDD–WatSan areas. UNICEF will support Government in bringing intensive IEC for water supply and sanitation, which will promote the use of home toilets, including a range of lower cost options. The project design includes a network of trained masons and sanitation motivators linked to the RSMs/Production Centres, all working to promote the construction of toilets, particularly self-financed units where the potential market is huge. These intensive efforts should result in very substantial increases in the demand for self-financed home toilets, thus contributing to the sustainability of the non-subsidised approach.

3.13 There are two risks to achieving the expansion of safe sustainable rural water supplies through state governments' acceptance of technical alternatives to present norms, and through the development of community based O&M systems (Output 5)

**Risk 14:** Slow devolvement of powers to Panchayat Raj institutions delays their ability to raise revenues and contribute to village water supply O&M costs. **(medium probability : medium impact)**

3.14 The pace of decentralisation, made possible under the 73<sup>rd</sup> Constitutional Amendment, differs between the project States, but has generally been slow to date. There are no timetables for the next steps, although the devolution process will continue. UNICEF will continue to advocate strongly, at all levels and on all fronts, in support of speedier, yet responsible, transfer of powers to the PRIs. UNICEF will continue to support the training of PRI representatives as they are elected, and to assist the community-based institutions e.g. Water Committees, self-employed mechanics, as State Governments commence their piloting of well-planned decentralised O&M of water supplies.

**Risk 15:** State and District level officials unwilling to embrace change. **(medium probability : medium impact)**

3.15 Project implementation requires new ways of working, e.g. involving communities in the choice of safe water points, and, in parallel, advocating the acceptance of a wider range of technical options by Central and State Governments. UNICEF will continue the dialogue with the RGDWSM to advocate for national policy change, which would make such approaches possible. At state level it will implement demonstration projects, which will practice community participation including a degree of sharing of capital costs for alternative safe water supplies or water treatment. State governments may be willing, over the project period, to make this standard practice in RWSP.

#### **4 Minimum Level of Success**

4.1 The thrust of the project is on demonstrating the effectiveness of an *integrated* WatSan strategy, and helping to support the development of government capacity to deliver this. The minimum level of success for the project is therefore defined as being able to demonstrate that there has been a measurable improvement in hygiene behaviour in all Integrated WatSan demo project districts, after two or more years of implementation, and the embedding of effective government IEC programmes in at least four of the six project States.

**Table 11: Impact-Probability Matrix**

	<b>Low probability</b>	<b>Medium probability</b>	<b>High probability</b>
<b>Low impact</b>	5	1	9
<b>Medium impact</b>	2, 3, 11, 12	7, 14, 15	
<b>High impact</b>	6, 8, 10, 13	4	

## ANNEX 8: STAKEHOLDER ANALYSIS

**Table 12: Project Stakeholders Analysis**

The following table presents an analysis of the primary and secondary stakeholders in the project. This analysis is based on UNICEF's intimate knowledge of the relative strengths and weaknesses of the wide range of partners, with whom UNICEF has worked in the rural water supply and sanitation sector for several decades.

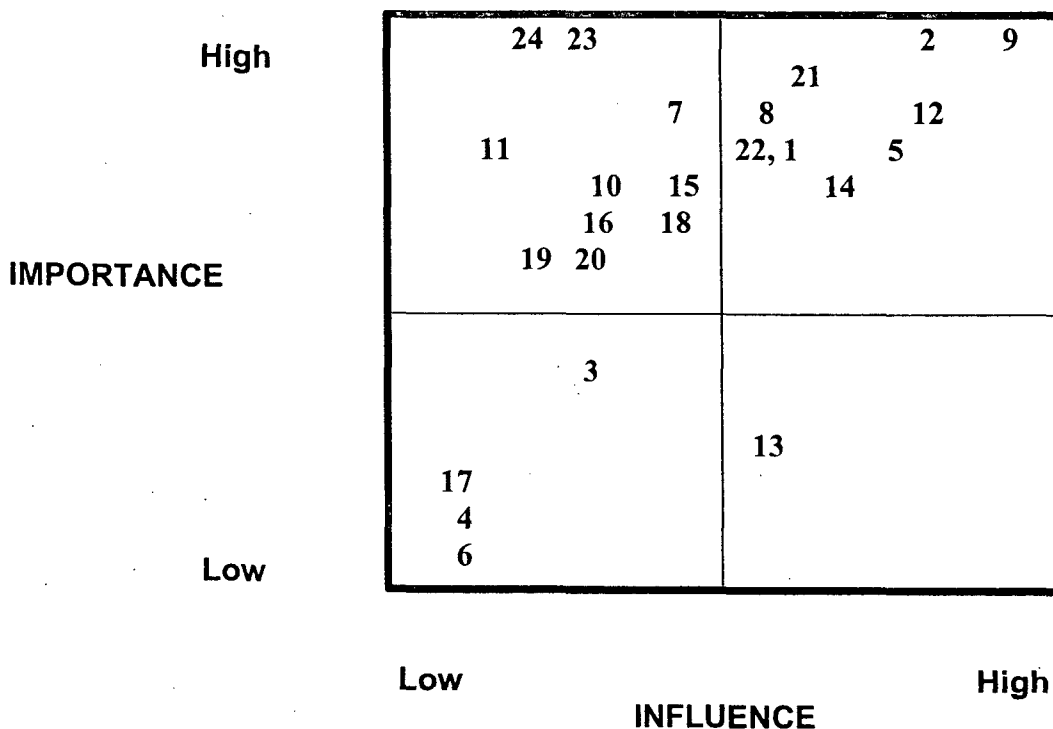
Secondary Stakeholders	Interests	Likely impact of the project on stakeholder interest	Relative priorities of interest
Rajiv Gandhi National Drinking Water Mission Ministry of Rural Areas and Employment Ministry of Urban Affairs and Employment	<ul style="list-style-type: none"> <li>• Achieve the national WatSan goals</li> <li>• Capacity building</li> <li>• Learning from demonstration projects for policy development and wider replication in Government programmes</li> <li>• Opportunities to meet WatSan professionals from other countries</li> <li>• Learn new aspects in workshops, etc.</li> </ul>	<p>(+) (+/-) (+)         (+) (+/-)</p>	(1)
State Water Supply Agencies State Ground Water Organisations	<ul style="list-style-type: none"> <li>• Additional hardware</li> <li>• Assistance to keep rigs/HFUs/TMCs going</li> <li>• Association with international organisations</li> <li>• Training opportunities</li> <li>• Interaction with colleagues from other States</li> <li>• Vehicles</li> </ul>	<p>(+) (+/-)  (+/-)  (+/-) (+)  (+/-)</p>	(2)
State Rural Development and Panchayati Raj Departments	<ul style="list-style-type: none"> <li>• Achieve the State WatSan goals</li> <li>• Capacity building</li> <li>• Learning from demonstration projects for wider replication</li> <li>• Opportunities to interact with other WatSan professionals from other States and countries</li> <li>• Learn new aspects in workshops, etc. More funds, which can be flexibly used</li> <li>• Strengthening of Panchayati Raj, to make it work better</li> <li>• Opportunities to work on new ideas/approaches</li> <li>• Vehicles</li> </ul>	<p>(+) (+) (+)  (+)  (+)  (+)  (+)  (+/-)</p>	(1)
State Pollution Control Boards State Irrigation Departments	<ul style="list-style-type: none"> <li>• Association with UN assisted project</li> <li>• Supporting multi-sectoral studies</li> </ul>	<p>(+)  (+)</p>	(3)
State IEC and HRD Cells	<ul style="list-style-type: none"> <li>• Giving training</li> <li>• Working with other agencies to develop strategy/Plans of Action</li> <li>• Enhanced status</li> <li>• More funds, which can be flexibly used</li> <li>• Supply of audio-visual equipment</li> <li>• Vehicles</li> </ul>	<p>(++)  (+)  (?) (+)  (+) (+)</p>	(1)

Secondary Stakeholders	Interests	Likely impact of the project on stakeholder interest	Relative priorities of interest
District and Block Panchayats (elected bodies) and Administrations (civil servants) District Coordination Committee	<ul style="list-style-type: none"> <li>Improved quality of planning</li> <li>Additional funds, which can be flexibly used</li> <li>Status</li> <li>Achieve district goals</li> <li>Association with UN assisted project</li> <li>Involvement in new approaches/strategies</li> <li>Training opportunities</li> </ul>	<ul style="list-style-type: none"> <li>(+)</li> <li>(+/-)</li> <li>(?)</li> <li>(+)</li> <li>(+)</li> <li>(+)</li> <li>(+)</li> </ul>	(1)
Participating NGOs	<ul style="list-style-type: none"> <li>Capacity building</li> <li>Social services; fulfil NGO objectives</li> <li>Increased staff</li> <li>Audio-visual equipment / vehicles</li> <li>Recognition</li> <li>Publicity</li> </ul>	<ul style="list-style-type: none"> <li>(+)</li> <li>(+)</li> <li>(-)</li> <li>(+/-)</li> <li>(?)</li> <li>(?)</li> </ul>	(1)
WatSan Committees	<ul style="list-style-type: none"> <li>Status; ability to influence</li> <li>Decision making; control</li> <li>Training opportunities</li> </ul>	<ul style="list-style-type: none"> <li>(+/-)</li> <li>(+/-)</li> <li>(+)</li> </ul>	(2)
Anganwadi/health workers/ sanitation motivators/ handpump mechanics and caretakers	<ul style="list-style-type: none"> <li>Training opportunities</li> <li>Recognition; enhanced social position</li> <li>Possibility of some financial incentive</li> <li>Increased job satisfaction</li> </ul>	<ul style="list-style-type: none"> <li>(+)</li> <li>(+)</li> <li>(-)</li> <li>(+/-)</li> </ul>	(1)
Political leaders	<ul style="list-style-type: none"> <li>Enhanced prospects for re-election</li> <li>Association with UN-aided project</li> <li>Better services for their constituency</li> </ul>	<ul style="list-style-type: none"> <li>(+/-)</li> <li>(+)</li> <li>(+)</li> </ul>	(3)
Gram Panchayats and Nagar Palikas elected representatives	<ul style="list-style-type: none"> <li>Enhanced prospects for re-election</li> <li>More influence among the electorate</li> <li>Increased social service for the people</li> </ul>	<ul style="list-style-type: none"> <li>(+/-)</li> <li>(+/-)</li> <li>(+)</li> </ul>	(1)
School students, teachers and PTA members	<ul style="list-style-type: none"> <li>A more joyful way of learning/teaching a routine subject</li> <li>Improved, cleaner school environs</li> <li>Easier access to better supply of water at the school</li> <li>Recognition for some additional responsibilities (for teachers)</li> <li>Training opportunities / development of skills</li> <li>Opportunities to work creatively</li> <li>Improve community hygiene</li> </ul>	<ul style="list-style-type: none"> <li>(+)</li> <li>(++)</li> <li>(+)</li> <li>(+/-)</li> <li>(+)</li> <li>(+)</li> <li>(+)</li> </ul>	(1)
Municipality officials	<ul style="list-style-type: none"> <li>Less harassment from urban poor/unserved</li> <li>Better city image</li> <li>Training opportunities</li> <li>Provide social service to people</li> </ul>	<ul style="list-style-type: none"> <li>(?)</li> <li>(+)</li> <li>(?)</li> <li>(+)</li> </ul>	(3)
Contractors/ Private entrepreneurs / RSM managers	<ul style="list-style-type: none"> <li>More contracts, more work, more sales, more profits</li> <li>Skill development</li> </ul>	<ul style="list-style-type: none"> <li>(+)</li> <li>(+)</li> </ul>	(3)
Training institutions	<ul style="list-style-type: none"> <li>Additional audio-visual equipment</li> <li>Association with UNICEF assisted projects</li> <li>Involvement in other institutions for developing training modules, etc.; improved quality resulting from such association</li> <li>Additional work, additional income</li> <li>Opportunity to combine classroom work with field work</li> </ul>	<ul style="list-style-type: none"> <li>(+)</li> <li>(+)</li> <li>(+)</li> <li>(+/-)</li> <li>(+)</li> </ul>	(3)

Secondary Stakeholders	Interests	Likely impact of the project on stakeholder interest	Relative priorities of interest
DFID WESG, New Delhi	<ul style="list-style-type: none"> <li>Progress towards achieving poverty eradication objective</li> <li>Get maximum out of DFID investments</li> <li>Mutual programmatic improvements</li> </ul>	(+) (++) (+)	(2)
UNICEF Field Offices	<ul style="list-style-type: none"> <li>Enable support to the State Government in achieving WatSan goals; and the goals for reducing child mortality and morbidity</li> <li>Learn lessons for replication</li> </ul>	(+) (+)	(2)
UNICEF New Delhi	<ul style="list-style-type: none"> <li>Ability to support GoI to achieve the ultimate goal of reducing child mortality and morbidity</li> </ul>	(+)	(2)

Primary Stakeholders	Interests	Likely impact of the project on stakeholder interest	Relative priorities of interest
Rural, and urban poor women	<ul style="list-style-type: none"> <li>Less disease, less expense on treatment</li> <li>Less drudgery</li> <li>Convenient, more reliable water supply</li> <li>Convenience and privacy (of toilets and baths)</li> <li>Better nutritional status</li> <li>Learn facts for life</li> <li>Increased income (for some)</li> </ul>	(+) (+) (+) (+) (?) (+) (?)	(1)
Rural, and urban poor children	<ul style="list-style-type: none"> <li>Less disease; better nutritional status</li> <li>More energy, better learning abilities</li> <li>Improved cognitive skills</li> <li>More opportunity for girls to go to school</li> </ul>	(+) (+) (+) (+)	(1)

Classification of stakeholders according to relative influence and importance



1. Rajiv Gandhi National Drinking Water Mission; Ministry of Rural Areas and Employment; Ministry of Urban Affairs and Employment.
2. State Governments
3. State Water Supply Agency
4. State Ground Water Organisation
5. State Rural Development and Panchayati Raj Departments; State Urban Development Departments
6. State Pollution Control Boards/State Irrigation Departments
7. State IEC-cum-Sanitation Cells
8. State HRD Cells
9. District and Block Panchayats (elected bodies) and Administrations (civil servants); District Coordination Committee
10. Participating NGOs
11. WatSan Committees
12. Anganwadi/health workers/ sanitation motivators/handpump mechanics and caretakers
13. Political leaders
14. Gram Panchayats / Nagar Palikas elected representatives
15. School students, teachers and PTA members
16. Municipality officials
17. Contractors/ Private entrepreneurs
18. RSM managers
19. Training institutions
20. DFID WESG New Delhi
21. UNICEF Field Offices
22. UNICEF-Delhi
23. Rural and urban poor women
24. Rural and urban poor children



## ANNEX 9: DETAILED PROJECT BUDGET

### 1 General

1.1 The 1999-2002 Child's Environment programme has an approved budget of US\$ 48 million, of which US\$ 20 million will come from UNICEF's General Resources and US\$ 28 million from Supplementary Funding. UNICEF and Gol have agreed to direct about 45 per cent of UNICEF resources for the programme to six high-priority States: Bihar, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and Assam. These States are home to 47 per cent of the nation's children, with the poorest indicators for child survival and development rights. Another 30 per cent of resources will be devoted to seven other states with UNICEF Field Offices, and 25 per cent will be for the remaining States and national-level activities.

1.2 This project will fully fund the Gol-UNICEF Child's Environment programme in four of the high-priority States (Orissa, Rajasthan, Madhya Pradesh and Uttar Pradesh) and most of the programme in West Bengal and Andhra Pradesh. The budget for this project has been developed along the sub-project structure agreed for the Child's Environment programme. The detailed budget is shown in table 14. As shown in the budget summary in table 13, the project funds will be apportioned to four high-priority States, two medium-priority States, national level and programme management on a 65 : 26 : 4 : 5 ratio.

1.3 The project includes a provision for UNICEF staff support at national and State levels, which will absorb about 13 per cent of the project budget (see tables 13 and 14).

**Table 13: Project budget summary**

Sub-Project	States						National level	Total
	Ori	Raj	M.P.	U.P.	W.B.	A.P.		
Intensive IEC for WatSan (LFA output 1)	95	95	95	85	65	65	21	521
Alternative delivery system (LFA # 3)	280	280	310	200	250	210	40	1,570
School sanitation (LFA output 2)	750	750	750	750	660	660	49	4,369
Integrated WatSan (LFA output 4)	1,250	1,600	1,250	890	1,250	880	-	7,120
HRD (LFA output 1, 2, 3, 4)	20	20	20	20	18	16	-	114
<b>Sub-total Env. Sanitation</b>	<b>2,395</b>	<b>2,745</b>	<b>2,425</b>	<b>1,945</b>	<b>2,243</b>	<b>1,831</b>	<b>110</b>	<b>13,694</b>
Water supply options (LFA output 5)	210	210	220	210	180	180	-	1,210
Water quality (LFA output 5)	250	250	250	250	200	200	95	1,495
Sustainability of w/s (LFA output 5)	300	300	300	300	265	265	105	1,835
Fresh water resource managem. (LFA # 6)	150	150	150	150	120	110	40	870
Emergency preparedness (LFA output 5)	20	20	20	20	20	20	-	120
<b>Sub-total Rural W/S</b>	<b>930</b>	<b>930</b>	<b>940</b>	<b>930</b>	<b>785</b>	<b>775</b>	<b>240</b>	<b>5,530</b>
Child-friendly technologies (LFA # 7)	220	220	220	220	190	190	35	1,295
Networking (LFA output 7)	60	60	60	60	45	45	25	355
<b>Sub-total Urban Env.</b>	<b>280</b>	<b>280</b>	<b>280</b>	<b>280</b>	<b>235</b>	<b>235</b>	<b>60</b>	<b>1,650</b>
Community-level monitoring (LFA # 8)	80	70	80	70	60	60	20	440

Monitoring and support (LFA # 1 thru 8)	-	-	-	-	-	-	265	265
Guinea worm eradication (LFA goal)	-	50	-	-	-	-	-	50
<b>Sub-total MIS/Surveillance</b>	80	120	80	70	60	60	285	755
Staff support	560	750	670	345	345	345	435	3,450
<b>TOTALS</b>	4,245	4,825	4,395	3,570	3,668	3,246	1,130	25,079
Programme management	-	-	-	-	-	-	1,321	1,321
<b>GRAND TOTAL</b>								26,400

1.4 The budget shown in table 13 and 14 is evidently indicative and some deviation will inevitably occur as implementation progresses. To make maximum use of the project resources, the proportion of project funds allocated to the respective projects (environmental sanitation, rural water supply, urban environment and MIS/surveillance) will be allowed to deviate by up to five per cent from their current percentage of total (52%, 21%, 6%, 3%).

1.5 Experience has taught that the capacity to implement varies from State to State. In allocating funds to States, past capacity has been taken into account and future potential has been carefully assessed. To make best use of project funds, the allocations for individual States will be allowed to deviate by up to 20 per cent from the current percentage of budget total.

1.6 The procedures for the release of, and accounting for, the £ 16.5 million in DFID funds for this project will be in accordance with the standard agreement for DFID financial support to UNICEF programmes.

1.7 Regarding the procedures for the use of the £ one million in Technical Cooperation (TC) support to strengthen the capacity of UNICEF, DFID and UNICEF will work jointly on mutually agreeable terms-of-references for the technical cooperation to be provided from time to time.

1.8 DFID's commitment is in Pound Sterling. Significant falls in the exchange rate of Pound Sterling against the US Dollar during the project period will require UNICEF to supplement the DFID contribution in the six project States with General Resources funds. In case of a significant rise in the exchange rate, UNICEF and DFID will decide on the utilisation of the extra resources for the project.

## 2 Government contributions

2.1 Government will fund the following:

- (1) recurring costs for Government personnel, premises, warehouses and transportation;
- (2) adequate personnel for implementation, at National, State and District levels, as well as in municipal areas;
- (3) regular field visits by Central Government and State Government staff to demonstration projects;
- (4) most of the hardware required for demonstration projects;

- (5) costs of geo-physical investigations, water well drilling, platform and well construction and handpumps to IS standards;
- (6) costs of piped water supply schemes;
- (7) part of construction of school toilet blocks;
- (8) limited subsidies to households below the poverty line, for home toilets;
- (9) CRSP funds for IEC, improvement of water sources and sanitary complexes for women;
- (10) recurring costs for operation and maintenance of water supply systems, gradually reducing over time as Gram Panchayats generate their own funds;
- (11) setting up district water quality laboratories;
- (12) use of available public sector extension agencies/media, including electronic and print media;
- (13) costs of immunisation, esp. measles which is a major cause of severe and life threatening diarrhoea in children;
- (14) health care and education infrastructure.

### 3 NGOs

3.1 NGOs will contribute as partners within the context of demonstration projects implemented by State Government agencies.

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Table 14

Project / sub-project structure	Linked to LFA output	Operational details	Expected results	Unit	Unit Costs (US\$)	Line Costs (US\$)	Sub-project Costs (US\$)	Project Costs (US\$)	% of total cost
<b>Project 1: ENVIRONMENTAL SANITATION AND HYGIENE</b>									
<b>Sub-Project 1-1: Intensive IEC for WatSan</b>	1	4 districts per State	Support State IEC-cum-Sanitation Cells	6	20,000	120,000			
			Support to District IEC Cells / campaigns	20	10,000	200,000			
			IEC materials for 6 States	6	20,000	120,000			
			Mobility support to 6 State Cells	6	8,500	51,000			
			Evaluation and documentation	6	5,000	30,000			
			<b>Sub-proj 1-1 total:</b>				<b>521,000</b>		2%
<b>Sub-Project 1-2: Alternative Delivery System</b>	3	One RSM/PC in 20% of all blocks	New RSMs; incl. site surveys	300	3,000	900,000			
			New Production Centres	100	2,500	250,000			
			(Re-)training of RSM/PC managers	400	25	10,000			
			New and old masons trained	5,000	30	150,000			
			New and old motivators trained	10,000	15	150,000			
			New Sanitary Parks	10	8,000	80,000			
			Evaluation and documentation	6	5,000	30,000			
			<b>Sub-proj 1-2 total:</b>				<b>1,570,000</b>		5%
<b>Sub-Project 1-3: School sanitation</b>	2	2 districts in each State; in the intensive WatSan districts; 500 schools in each district.	School toilets and urinals; incl water storage	5,400	185	999,000			
			India Mark III (50 mm)/TARA pumps	4,000	175	700,000			
			Anganwadi toilet-cum-bathing place	6,000	130	780,000			
			Training/orientation	6,000	40	240,000			
			Awareness creation activities	6,000	70	420,000			
			Incentives for schools/GPs (per district)	12	5,000	60,000			
			Communication materials in schools	6,000	20	120,000			
			Learning/IEC material development and	6	40,000	240,000			
			NGO support	6	20,000	120,000			
			Visits by officials from other districts	6	10,000	60,000			
			Evaluation and documentation	6	5,000	30,000			
			SCERT support	6	20,000	120,000			
			Replication to 64,000 pry schools	6	80,000	480,000			
			<b>Sub-proj 1-3 total:</b>				<b>4,369,000</b>		17%
<b>Sub-Project 1-4: Integrated WatSan, with CDD and nutrition</b>	4	Orissa: 3 old districts M.P.: 1 old; 1 new district Rajasthan: 2 old; 1 new district U.P.: 2 old districts W.B.: 1 old; 1 new district A.P.: 1 new district	Training in 'old' districts	9	25,000	225,000			
			Training in 'new' districts	4	80,000	320,000			
			Social mobilisation in 'old' districts	9	40,000	360,000			
			Social mobilisation in 'new' districts	4	140,000	560,000			
			CDD&nutrition related activity in 'old' distri	9	10,000	90,000			
			CDD&nutrition related activity in 'new' dist	4	50,000	200,000			
			VLOM handpumps in 'old' districts	3,000	175	525,000			
			VLOM handpumps in 'new' districts	9,000	175	1,575,000			
			Environmental protection of handpumps	12,000	20	240,000			
			Sanitation in 'old' districts	9	120,000	1,080,000			
			Sanitation in 'new' districts	4	305,000	1,220,000			
			IEC material (dev & supply)	13	25,000	325,000			
			Project support in 'old' districts	9	10,000	90,000			
			Project support in 'new' districts	4	40,000	160,000			
			Visits by officials from other districts	6	20,000	120,000			
			Evaluation and documentation	6	5,000	30,000			
			<b>Sub-proj 1-4 total:</b>				<b>7,120,000</b>		27%
<b>Sub-Project 1-5: Human resources development</b>	1, 2, 3, 4	In each State	Equipment for State HRD Cells	6	10,000	60,000			
			Training of HRD Cell master trainers	36	1,500	54,000			
			<b>Sub-proj 1-5 total:</b>				<b>114,000</b>		0%
<b>Project 1 total:</b>							<b>13,694,000</b>		<b>52%</b>

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Table 14

Project / sub-project structure	Linked to LFA output	Operational details	Expected results	Unit	Unit Costs (US\$)	Line Costs (US\$)	Sub-project Costs (US\$)	Project Costs (US\$)	% of total cost
<b>Project 2: RURAL WATER SUPPLY</b>									
<b>Sub-Project 2-1: Water supply options</b>	5	W/s options; as far as possible in the integrated WatSan districts	HRF/SSFs (ponds and tanks)	100	300	30,000			
			Rooftop rainwater harvest tanks	1,000	300	300,000			
			Protection of open wells	600	100	60,000			
			Spring protection	300	300	90,000			
			Surface rainwater harvesting (Kundis)	50	6,000	300,000			
			Technical training (persons)	100	100	10,000			
			Social mobilisation (villages)	50	1,000	50,000			
			District mapping of the unreached	10	8,000	80,000			
			Supply of geophysical equipment	4	65,000	260,000			
			Evaluation and documentation	6	5,000	30,000			
			<b>Sub-proj 2-1 total:</b>				<b>1,210,000</b>		<b>9%</b>
<b>Sub-Project 2-2: Water quality</b>	5	CBWQS in 2-3 districts in 6 states; as far as possible in integrated WatSan districts	Support State Fluorosis Control Cells	6	25,000	150,000			
			Community-based w/q surveillance (villag	1,800	300	540,000			
			Standardisation of field test kit	1	35,000	35,000			
			Evaluation and documentation	6	5,000	30,000			
		Domestic fluoridation and arsenic removal	District w/q labs strengthened	50	7,500	375,000			
			Households practicing home water treatm	4,000	50	200,000			
		Community iron removal	Operational R&D on home treatment	6	10,000	60,000			
			Handpumps equipped w. iron removal pla	500	450	225,000			
			Evaluation and documentation	6	5,000	30,000			
			<b>Sub-proj 2-2 total:</b>						
<b>Sub-Project 2-3: Sustainability of water supplies</b>	5	Decentr. O&M: 3 districts in 6 States	Training modules and materials (States)	6	30,000	180,000			
			Training/orientation (GPs)	2,000	30	60,000			
			Tools supplied (GPs)	2,000	80	160,000			
			Evaluation and documentation	6	5,000	30,000			
			Plastic risers and rods standardised	1	100,000	100,000			
		Well rejuvenation in 6 States	New hydro-fracturing units (no tanker)	7	125,000	875,000			
			New truck/tractor mounted compressors	7	35,000	245,000			
			Guideline/manual on well rejuvenation	1	10,000	10,000			
			Service training for HFU/TMCs (calls)	400	300	120,000			
			Training of engineering staff	100	100	10,000			
			Evaluation and documentation	6	7,500	45,000			
			<b>Sub-proj 2-3 total:</b>				<b>1,835,000</b>		<b>7%</b>
<b>Sub-Project 2-4: Fresh water resources management</b>	6	One demo project in one watershed	Fresh water situation analysis	6	20,000	120,000			
			Protection of drinking water sources	6	75,000	450,000			
			Capacity building	6	5,000	30,000			
			State-level fresh water status maps	6	20,000	120,000			
			Support for use of GIS in w/s devolpm.	6	25,000	150,000			
			<b>Sub-proj 2-4 total:</b>				<b>870,000</b>		<b>3%</b>
<b>Sub-Project 2-5: Emergency preparedness</b>	5	In each State	Preparation of generic action plans	6	10,000	60,000			
			Training of UNICEF/Govt staff	60	1,000	60,000			
			<b>Sub-proj 2-5 total:</b>				<b>120,000</b>		<b>0%</b>
						<b>Project 2 total:</b>	<b>5,530,000</b>		<b>21%</b>

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Table 14

Project / sub-project structure	Linked to LFA output	Operational details	Expected results	Unit	Unit Costs (US\$)	Line Costs (US\$)	Sub-project Costs (US\$)	Project Costs (US\$)	% of total cost
<b>Project 3: URBAN WATER SUPPLY AND ENV. SANITATION</b>									
<b>Sub-Project 3-1:</b> <i>Child-friendly technologies and approaches</i>	7	2-3 urban poor settlements per State	State-level studies	6	20,000	120,000			
			Demo projects	15	75,000	1,125,000			
			Development of City Action Plans	10	5,000	50,000			
					<b>Sub-proj 3-1 total:</b>		<b>1,295,000</b>		
<b>Sub-Project 3-2:</b> <i>Networking</i>	7	In each State	Workshops at State and national level	7	25,000	175,000			
			Networking with NGOs	6	30,000	180,000			
					<b>Sub-proj 3-2 total:</b>		<b>355,000</b>		
							<b>Project 3 total:</b>	<b>1,650,000</b>	<b>6%</b>
<b>Project 4: MIS AND SURVEILLANCE</b>									
<b>Sub-Project 4-1:</b> <i>Community-level monitoring</i>	8	In 5-6 integrated WatSan districts	Generic action plan developed	1	15,000	15,000			
			Baseline surveys	6	25,000	150,000			
			District action plans developed	15	5,000	75,000			
			GP workers trained	3,000	50	150,000			
			State-wide MIS systems operational	2	10,000	20,000			
			Evaluation and documentation	6	5,000	30,000			
					<b>Sub-proj 4-1 total:</b>		<b>440,000</b>		<b>2%</b>
<b>Sub-Project 4-2:</b> <i>Monitoring and support</i>	1 thru 8	At national level	Maintain HMS, TMS, SPMS, RIMS	6	10,000	60,000			
			Project baseline survey	1	80,000	80,000			
			Surveys on utilisation of support	3	35,000	105,000			
			Evaluation and documentation	1	20,000	20,000			
					<b>Sub-proj 4-2 total:</b>		<b>265,000</b>		<b>1%</b>
<b>Sub-Project 4-3:</b> <i>Guinea worm eradication</i>	GOAL	Rajasthan	International certification	1	50,000	50,000			
					<b>Sub-proj 4-3 total:</b>		<b>50,000</b>		<b>0%</b>
							<b>Project 4 total:</b>	<b>755,000</b>	<b>3%</b>
<b>STAFF SUPPORT</b>	(9)		3 Intern. Prof. Officers (man-years)	14	110,000	1,540,000			
			5 National Prof. Officers (m.yr)	20	45,000	900,000			
			4 Professionals on TFTA (m.yr)	20	24,000	480,000			
			1 National Prof. Officer (m.yr) - Delhi	5	45,000	225,000			
			2 Support staff (m.yr) - Delhi	10	12,500	125,000			
			Consultancy support (national expertise)	1	150,000	150,000			
			Computer equipment for staff	12	2,500	30,000			
							<b>Staff Support:</b>	<b>3,450,000</b>	<b>13%</b>
							<b>Progr. Management:</b>	<b>1,321,000</b>	<b>5%</b>
<b>PROGRAMME MANAGEMENT</b> (5% of total budget)									
							<b>PROJECT TOTAL US\$:</b>	<b>26,400,000</b>	<b>100%</b>