

Environmental Monitoring Report Tranche 3

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IND: Rajasthan Urban Sector Development Investment Program

Prepared by Local Self Government Department

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I. INTRODUCTION

A. Background

1. Rajasthan Urban Sector Development Investment Program (RUSDIP) is intended to optimize social and economic development in 15 selected towns in the State, particularly district headquarters and towns with significant tourism potential. This will be achieved through investments in urban infrastructure (water supply; sewerage and sanitation; solid waste management; urban drainage; urban transport and roads), urban community upgrading (community infrastructure; livelihood promotion) and civic infrastructure (art, culture, heritage and tourism; medical services and health; fire services; and other services). RUSDIP will also provide policy reforms to strengthen urban governance, management, and support for urban infrastructure and services. The assistance will be based on the State-level framework for urban reforms, and institutional and governance reforms recommended by the Government of India (GoI) through the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) and Urban Infrastructure Development Scheme for Small and Medium Towns (UIDSSMT).

2. RUSDIP Phase II to be implemented over a seven year period beginning in 2008, and will be funded by a loan via the Multitranches Financing Facility (MFF) of the ADB. The Executing Agency (EA) is the Local Self-Government Department (LSGD) of the Government of Rajasthan (GoR); and the Implementing Agency (IA) is the Project Management Unit (PMU) of the Rajasthan Urban Infrastructure Development Project (RUIDP), which is currently in the construction stage (Tr-1 & Tr-2). Construction has also been started for Tr-3 sub-projects. Alwar, Jaisalmer and Jhalwar/ Jhalrapatan are the towns chosen to benefit from the first tranche of RUSDIP investment. While 12 other towns namely, Bharatpur, Karauli, Dholpur, Sawai Madhopur, Churu, Sikar, Barmer, Nagaur, Chittorgarh, Rajsamund, Bundi and Baran-Chabra are considered under tranche 2 and 3 (Tr-2 & 3).

3. This report presents environmental monitoring for only **Tranche 3** sub-projects.

B. Project Purpose

4. RUSDIP will improve infrastructure through the development, design and implementation of a series of subprojects, each providing improvements in a particular sector (water supply, sewerage, solid waste etc) in one town. RUSDIP has been classified by ADB as environmental assessment category B (some negative impacts but less significant than category A) and the impacts of subprojects were assessed through Initial Environmental Examination (IEE) reports prepared according to ADB Environment Policy (2009) and Environmental Assessment Guidelines (2003).

5. The nature of the sub-projects may change during their subsequent development, particularly during detailed design. This report is the Environmental Monitoring Report (EMR) to describe the implementation of the mitigation measures and monitoring recommended in the IEE and summary Initial Environmental Examination (SIEE).

C. Project Profile

6. Till 30th June 2011, **10 environmental sensitive** sub-projects under Tranche 3 have been awarded. Out of those 10 sub-projects, 2 packages each in Swai Madhopur, Bharatpur

and Chittoorgarh and 1 package each in Alwar, Karauli, Dholpur, and Baran have been awarded. Actual field work is commenced for **4 sub projects**. **Table 1** shows the project components, starting date of implementation, schedule date of completion etc.

Table 1: Sub-project status- Tranche 3

Locations	Sub-projects components (Package No.)	Starting date of Implementation	Projected months of completion (as per Work order)	Schedule date of completion (Extended date of completion)	Physical progress (%) as on 30.06.2011
Alwar	Fire Fighting station - {RUSDIP/TR-03/ ALW/FR/01}	18.03.2011	6	17.09.2012	10%
Karauli	Heritage site - Restoration of city wall gates at Karauli town {RUSDIP/TR-03/ KRL/HS/01}	25.03.2011	12	24.03.2012	Nil Work just awarded
Sawai Madhopur	Drainage: Rehabilitation and De-silting, strengthening and extension of the existing Drains at Sawai Madhopur Town {RUSDIP/ TR-03/ SMD/DR/01}	22.12.2010	18	21.01.2012	35%
Swai Madhopur	Heritage site -Restoration of Bheru Darwaja at Sawai Madhopur town. (RUSDIP/TR-03/SMD/HS/01)	31.3.2011	12	30.3.2012	No physical progress.
Bharatpur	Waste Water: Supply, laying, jointing, testing and commissioning of outfall sewer, various trunk sewers and lateral sewers connecting to outfall, along with all necessary manholes, appurtenances etc. at Bharatpur {RUSDIP/TR-03/ BPR/WW/01 (Lot 1)}	24.02.2011	30	23.08.2013	No Physical progress
Bharatpur	Fire Fighting station - Construction of fire station at Bharatpur town. (RUSDIP/TR-03/BPR/FR/01)	1.4.2011	12	31.3.2012	No Physical progress
Dholpur	Heritage site - Development of surroundings of Chopra temple at Dholpur town. (RUSDIP/TR-03/DLP/HS/01)	4.4.2011	9	3.01.2012	No physical progress

Locations	Sub-projects components (Package No.)	Starting date of Implementation	Projected months of completion (as per Work order)	Schedule date of completion (Extended date of completion)	Physical progress (%) as on 30.06.2011
Chittorgarh	Water Supply- Construction of intake well arrangement and WTP including supply, erection, Commissioning of equipments, OHSRs. Transmission Lines distribution lines, provision of Bulk meters, replacement of old pumping machinery etc (RUSDIP/TR-03/CHT/WS/01)	25.03.2011	24	24.03.2013	1%
Chittorgarh	Waste Water - Design construction supply erection testing commissioning and five years operation and maintenance of 5 MLD Sewage treatment plant near village Bhoikhera & Sewage pumping station including all civil, Electrical, Mechanical works at Chittaurgarh (RUSDIP/TR-03/CHT/WW-01 - Lot 02)	28.04.2011	24	27.04.2013	No physical progress
Baran	Water Supply: Construction of Intake well and WTP including supply, erection, commissioning of equipments, OHSRs, transmission lines, rehabilitation of existing WTP at Baran town {RUSDIP/TR-03/ BRN/WS/01}	25.02.2011	24	24.02.2013	26%

II. IMPLEMENTATION PROGRESS

A. Major Works and Progress

7. On date project works started in 7 towns under Tranche 3 for water supply, waste water, drainage, heritage site and Fire Fighting station sectors. **Table 2 shows** summary of the scope of works along with present work status. Also expected changes from the approved objectives, remedial measures for fulfillment of objective and key risks/ assumption for attainment of objectives are mentioned in the table.

8. Monitoring and reporting on Environmental and Social safeguard have been started. At present no as such adverse effect of project activities on social and environmental components.

Table 2: Major works and progress- Tranche 3

Locations	Sub-projects Components (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
Alwar	Construction of 2 Fire stations at Alwar Town. RUSDIP/TR-03/ALW/FR/01	Construction of 2 Fire Stations	Work has been awarded recently (on 18-Mar-11), no remarkable physical progress.	No change expected	--	-
Karauli	Restoration of city wall gates at Karauli town. RUSDIP/TR-03/KRL/HS/01	(A) Restoration of city wall 1. Mela Gate to Ganesh Gate 2. Ganesh Gate to Wazirpur Gate 3. Wazirpur Gate to Hindaun Gate (B) Restoration of city Gates 1. Nadi Gate 2. Mela Gate 3. Ganesh Gate 4. Hindaun Gate 5. Wazirpur Gate 6. Masalpur Gate	Work has been awarded recently (25-Mar-11), no physical progress	No change expected	--	-
Sawai Madhopur	Rehabilitation and De-silting ,strengthening and extension of the existing Drains at Sawai Madhopur town. RUSDIP/TR-03/SMD/DR/01	Construction and rehabilitation and de-silting of Drain – (2.6Km)	Desilting of Latiya nalla 1800 cum has done.	No change expected	o Effective monitoring and application of EMP	No risk
Sawai Madhopur	Restoration of Bheru Darwaja at Sawai	Construction and restoration of Bheru Darwaja	Work has been awarded recently on	No change expected	-	-

Locations	Sub-projects Components (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type remedial measures needed	of	Key assumptions and risks that affect attainment of the objectives
	Madhopur town. RUSDIP/TR-03/SMD/HS/01		31-Mar-11, no physical progress				
Bharatpur	Supply, laying, joining, testing and commissioning of outfall sewer, various Trunk sewers and lateral sewers connecting to out fall, along with all necessary manholes, appurtenances, etc. at Bharatpur town. {RUSDIP/TR-03/BPR/WW/01(Lot-1)}	Supply, laying, joining, testing and commissioning of outfall sewer, various Trunk sewers and lateral sewers connecting to out fall, along with all necessary manholes, appurtenances.	NTP issued on 24.02.2011. Confirmatory survey has been completed. EC's has been issued. Inspection of 2.5 km of dia 200/250 mm at Newai has been done. 50 % drawing after confirmatory survey has been issued. No physical progress	No change expected	-	-	-
Bharatpur	Construction of fire station at Bharatpur town. (RUSDIP/TR-03/BPR/FR/01)	Construction of fire station building and its associated facilities	Work has been recently awarded on 1-Apr-11. No physical progress	No change expected	-	-	-
Dholpur	Development of surroundings of Chopra temple at Dholpur town. (RUSDIP/TR-03/DLP/HS/01)	Development of parking area. Widening and reconstruction of existing approach road (200m) up to temple premises Construction of new loop road (50 m) along parking area	LOA issued on 5.3.11,NTP issued on 4.4.11. No physical Progress	No change expected	-	-	-
Chittorgarh	Water Supply- Construction of intake well arrangement and	<ul style="list-style-type: none"> • Construction of intake well at Ghasunda Dam, • Raw and clear water 	Foundation stone laid by Hon'ble Chief Minister of Rajasthan on 31-05-2011	NIL	Implementation of EHS Management		Health and Safety

Locations	Sub-projects Components (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
	WTP including supply, erection, Commissioning of equipments, OHSRs. Transmission Lines distribution lines, provision of Bulk meters, replacement of old pumping machinery etc (RUSDIP/TR-03/CHT/WS/01)	<ul style="list-style-type: none"> pumping mains Water Treatment Plant at Sengwa and Berda Clear Water reservoir at 3 locations, Sengwa, Berda and Padan pole Construction of 7 ELSRs and 1 GLSR Distribution network laying 	at Sengwa. Following works are in progress as on 30.06.2011 <u>The ESR Madhuwan 450 K.L.(18 meter staging)</u> <ul style="list-style-type: none"> Excavation in foundation completed PCC laid reinforce & concerting in foundation raft completed Reinforcement shuttering of column/ staging in progress. 		system through proper training and monitoring is required Complete utilisation of PPEs	
Chittorgarh	Waste water- Design construction supply erection testing commissioning and five years operation and maintenance of 5 MLD Sewage treatment plant near village Bhoikhera & Sewage pumping station including all civil, Electrical, Mechanical works at Chittaurgarh (RUSDIP/TR-03/CHT/WW-01 - Lot 02)	<ul style="list-style-type: none"> Construction of STP of 5 MLD at Bhoikhera Construction of sewage pumping station Laying of sewage pipe line 	Foundation stone laid by Hon'ble Chief Minister of Rajasthan on 31-05-2011 Following works are in progress as on 30.06.2011 Site leveling work & site clearance work in progress	NIL	Work just started	Work just started
Baran	Water Supply - Construction of Intake well and WTP including supply, erection,	<ul style="list-style-type: none"> Construction of Intake well cum pump house Construction of WTP(21MLD capacity) 	<ul style="list-style-type: none"> Out of 25.06 Km DI rising pipe line 20 Km pipe supplied and 5.0Km pipe line of 	Nil	Safety in trench excavation works and safety during pipe	Health and Safety

Locations	Sub-projects Components (Package No.)	Listing of works under the package	What type of works continued at present	Expected changes from approved scope	Fulfillment of objectives- Type of remedial measures needed	Key assumptions and risks that affect attainment of the objectives
	commissioning of equipments, OHSRs, transmission lines, rehabilitation of existing WTP at Baran town (RUSDIP/TR-03/BRN/WS/01)	<ul style="list-style-type: none"> • Construction of CWR(1nos.) of 2500 kl capacity at the WTP campus, 1 CWR of 900kl capacity, 1 no CWR of 500 kl capacity(iv) Construction of Intermediate pumping station at Baran existing headworks and Civil lines. • Construction of 3 nos of OHSRs's at Baran existing HW (1000kl), Civil Line(750 kl), Mela Ground (750kl) • Laying of 3 km Raw water rising main of 600mm dia from Intake well to WTP. • Laying 10 km Clear water pumping main of 600mm dia from WTP to Baran HW. • Laying 13 km Clear water rising main from existing HW to CWR and OHSRs • Providing and laying of Distribution pipeline of 37km (UPVC) in different zones 2000 nos of additional metered households connections and rehabilitation of existing 10600 nos. households meters.	600mm dia laid.		laying is needed, utilisation of PPE is needed	

III. ENVIRONMENTAL PROCEDURE REVIEW

A. Environmental Legal Requirements

9. **Annexure 1** lists those Acts; Rules, Policies and Regulations currently in force in India and deal with environmental issues that could apply to infrastructure development. However, because of the relatively minor negative impacts of most of the types of the subproject likely to be developed under RUSDIP, it is expected that most subproject should not fall within the scope of these legal instruments. Subprojects and activities that will need to comply with certain laws are:

- (i) Any components that require the acquisition of forest land;
- (ii) Any construction activities located in areas covered by the Arvalli Range Notification in Alwar;
- (iii) Water Treatment Plants (WTP) and Sewage Treatment Plants (STP);
- (iv) Composting and landfill facilities;
- (v) Common waste management facilities, including composting, landfills, transfer stations;
- (vi) Common waste management facilities within 10 km of the boundary of protected areas (such as National Parks, Sanctuaries, Notified areas and Biosphere Reserves);
- (vii) Mobile diesel generators

10. The specific requirements to ensure compliance by these components and subprojects are shown in **Table 3**.

Table 3: Action Required Ensuring Subprojects Comply with National Environmental Laws

Component	Applicable Legislation	Compliance	Action Required
1. All components that require acquisition of forest land	Forest (Conservation) Act 1980; Wildlife (protection) Act 1972	Approval from Ministry of Environment and Forests (MoEF)	Identify non- forest land and formulate an afforestation program
2. Water Treatment Plant (WTP) and Sewage Treatment Plant (STP)	Water (Prevention and Control of Pollution) Act 1974	Consent for Establishment (CFE) and Consent for Operation (CFO) from RSPCB	Based on project review and site inspection RSPCB provides CFE before construction, and stipulate the disposal standards to be met during operation. After completion of construction, CFO is issued confirming compliance with the CFE conditions, if any
		Renewal of CFO during operation (STP)	Based on the performance of the STP and its compliance with the disposal standards CFO is renewed every year
3. All composting and landfill facilities	Municipal Solid Wastes (Management and handling) Rules 2000	Authorization of proposed site by RSPCB	Authorization is issued based on land use in and around the site and groundwater condition
	Water (Prevention and Control of Pollution) Act 1974; Air(Prevention and Control of Pollution) Act	CFE and CFO from RSPCB	Same as for STPs (above)

Component	Applicable Legislation	Compliance	Action Required
	1981		
4. Common waste management facilities including composting, landfills and transfer stations	Environment (Protection) Act 1986: Environmental Impact Assessment Notification 2006, amended in 2009 Category B	Requires environmental clearance from State Environment impact Assessment Authority (SEIAA)	Based on preliminary information and site visits, if required, project will be categorized as B1 or B2. B1 projects require EIA study for approval
5. Common waste management facilities within or 10 km outside the boundary of protected areas such as National Parks, Sanctuaries, Notified Areas and Biosphere Reserve	Environmental Impact Assessment Notification, 2006 Category A	Requires environmental clearance from the federal Ministry of Environment and Forests (MoEF)	Conduct EIA study Category A and B1 projects require public consultation as part of EIA
6. Mobile diesel generators	Air (Prevention and Control of Pollution) Act 1981	CFE and CFO from RSPCB	CFO renewal every year based on performance

B. Compliance with Environmental Regulations

11. For the new tranche (Tr-3) environmental clearance processes have already initiated and application send to concerned agency. **Table 4** shows the present status.

Table 4: Present Status of Environment and Forest & Other Clearances (upto 30.06. 2011) - Project 3 (Tranche 3)

City	Work (Package No.)	Applicable Legislation/ Type of clearance	Clearance given by and date	Subject / Issue	Remarks/ Action needed
Bharatpur (Tr-3)	Solid Waste (RUSDIP/TR-03/BPR/SW/01)	EIA notification 2006 Municipal Solid Wastes (Management and handing) Rules 2000 Authorization of proposed site from Rajasthan State Pollution Control Board		EC applied to SEAC for categorization and Authorization. Presentation and Discussion in SEAC meeting held on 26.08.10. SEAC asked to submit the replay by 13.12.10. The same has been submitted to SEAC	Pending
Nagaur (Tr-3)	Solid Waste (RUSDIP/TR-03/NGR/SW/01)	EIA notification 2006 Municipal Solid Wastes (Management and handing) Rules 2000 Authorization of proposed site from Rajasthan State Pollution Control Board		EC applied to SEAC for categorization and Authorization. Presentation and Discussion in SEAC meeting held on 26.08.10.	Pending As per SEAC requirement NABET registered consultant has been engaged for EC
Churu (Tr-3)	Solid Waste (RUSDIP/TR-03/CHU/SW/01)	EIA notification 2006 Municipal Solid Wastes (Management and handing) Rules 2000		EC applied to SEAC for categorization and Authorization.	Pending As per SEAC requirement NABET registered consultant has been

City	Work (Package No.)	Applicable Legislation/ Type of clearance	Clearance given by and date	Subject / Issue	Remarks/ Action needed
		Authorization of proposed site from Rajasthan State Pollution Control Board			engaged for EC
Baran (Tr-3)	Solid Waste (RUSDIP/TR-03/BRN/SW/01)	EIA notification 2006 Municipal Solid Wastes (Management and handling) Rules 2000 Authorization of proposed site from Rajasthan State Pollution Control Board	Environmental Clearance obtained from SEIAA on 16.10.10 vide No. Cat-7(i)B1-(291)	Consent to Establish for landfill site	Consent to Establish to be obtained before starting of construction - Pending
Baran (Tr-3)	Water Supply (RUSDIP/TR-03/BRN/WS/01)	Water (Prevention and Control of Pollution) Act. 1974/ Consent to establish of 21 MLD WTP from Pollution Control Board Consent to operate will be required before operation	Consent to Establish obtained from Pollution Control Board – Order No. 2010-2011/Kota/89 dated 21.02.11 Consent valid upto 31.01.2014		Complied
Bundi (Tr-3)	Solid Waste (RUSDIP/TR-03/BND/SW/01)	EIA notification 2006 Municipal Solid Wastes (Management and handling) Rules 2000 Authorization of proposed site from Rajasthan State Pollution Control Board	Environmental Clearance obtained from SEIAA on 16.10.10 vide No. Cat-7(i)B1-(291)	Consent to Establish for landfill site	Consent to Establish to be obtained before starting of construction- Pending
Rajsamand (Tr-3)	Solid Waste (RUSDIP/TR-03/RSM/SW/01)	EIA notification 2006 Municipal Solid Wastes (Management and handling) Rules 2000 Authorization of proposed site from Rajasthan State Pollution Control Board	Environmental Clearance obtained from SEIAA on 16.10.10 vide No. Cat-7(i)B1-(291)	Consent to Establish for landfill site	Consent to Establish to be obtained before starting of construction - Pending
Chittorgarh (Tr-3)	Waste Water - Design construction supply erection testing commissioning and five years operation	Water (Prevention and Control of Pollution) Act. 1974/ Consent to	Observations from RPCB received, compliance is being prepared	Consent to Establish for STP	Pending

City	Work (Package No.)	Applicable Legislation/ Type of clearance	Clearance given by and date	Subject / Issue	Remarks/ Action needed
	and maintenance of 5 MLD Sewage treatment plant near village Bhoikhera & Sewage pumping station including all civil, Electrical, Mechanical works at Chittaurgarh (Package no. RUSDIP/TR-03/CHT/WW-01 - Lot 02)	establish of 5 MLD STP from Pollution Control Board Consent to operate will be required before operation			

C. Compliance of Environmental Loan Covenants

12. The status of compliance of ADB's major Environmental Loan Covenants shown below:

Project Specific Covenants	Status / Issues
Environmental	
1. The EA shall ensure that: (LA Sched 5 Para 13) (a) the project is carried out and all subproject facilities designed, constructed, operated, maintained, and monitored in compliances with the environmental law and regulations of the Borrower, the state, ADB's Environmental Policy (2002, 2009), and the EARF;	Under compliance in accordance with ADB Environmental Policy and Environmental Assessment Guidelines
2. (b) Subproject encroaching any National Park or its buffer zone shall not be included in the Project; however, Subproject in or close to the wildlife sanctuary or any other environmentally sensitive area may be allowed subject to the EA obtaining all statutory clearances;	No as such encroachment recorded till date. If it happens in future, environmental clearance will be taken up as per Govt. procedure
3 (c) an IEE as required, including an EMP with budget identifying the cost of its implementation as incorporated in the related bid document if any, when adequate public consultation for each sub-project, in accordance with the EARF shall be submitted to ADB for review and approval before award of related contract. In case of any EIA or SIEE for sub-project classified as A or B sensitive, this shall be subject to the 120 day public disclosure requirement under ADB's Environmental Policy (2009)	An IEE have been prepared for each sub-project where EMP, budget for application of EMP and issues of public consultation are enclosed. Budget and EMP components are incorporated in the bid document All the reports approved by ADB. At present all the sub-projects are classified as class B (only IEE will be required) As per National rules EIA will be required for landfill site handling more than 50 MT/day municipal solid waste
4 (d) all mitigation measures identified in the IEE, SIEE, EIA or SEIA and the related EMP, as applicable, for each sub-project, shall be incorporated in sub-project design, and carried out during construction, and O & M, and disclosed to the stakeholders;	Under compliance: IEE screening of potential environmental impact and mitigation measures applied according to project location, specific sector development and associated design requirements. EMP's prepared and regularly monitored for compliance of stated mitigation measures. During construction process within the city consultation with local communities on environmental issues are considered Last EMP Quarterly Report submitted on March 2011
5 (e) if there are any changes in specific locations or alignments of	In case of changing of location, IEE and EMP will be

Project Specific Covenants	Status / Issues
any sub-project facilities after completion of the process of IEE (or EIA) or due to detailed design or implementation that has an impact on the environmental assessment carried out thus far, then additional environmental assessment shall be carried out in accordance with ADB's Environmental Policy (2009) and the EARF, and prior approval of ADB obtained before further physical implementation of the sub-project;	revised.
6 (f) all environmental clearances required by applicable laws, and regulations at Borrower, State, or local levels shall be obtained in a timely manner, prior to commencement of civil works for the relevant subproject	Under compliance: All necessary clearances presently under pursuance. Specific clearance details are now compiled for appropriate contract packages. Clearance Plan prepared to a scheduled timeframe, which is monitored for submissions to the various agencies in obtaining the necessary clearances.
7 (g) semi-annual progress reports on the implementation of the EMPs, measures under the IEE/EIA, and the environmental monitoring shall be carried out as a part of the project. Implementation for review and disclosure in accordance with ADB's Public Communications Policy (2005)	Quarterly progress report on application of EMP is being prepared regularly Field monitoring continued as per monitoring plan During construction process within the city consultation with local communities on environmental issues has already initiated and continued in most of the locations

D. Environmental Organization and Management

13. Environmental issues of the project coordinated by an Environmental Specialist within the IPMU/ IPMC, who ensures that all subprojects, comply with environmental safeguards. An Environmental Monitoring Specialist (EMS) who is part of the DSC team implement the Environmental Monitoring Plan from each IEE to ensure that mitigation measures are provided and protect the environment as intended. **Figure 1** shows institutional responsibility for implementation of environmental safeguard monitoring at different level.

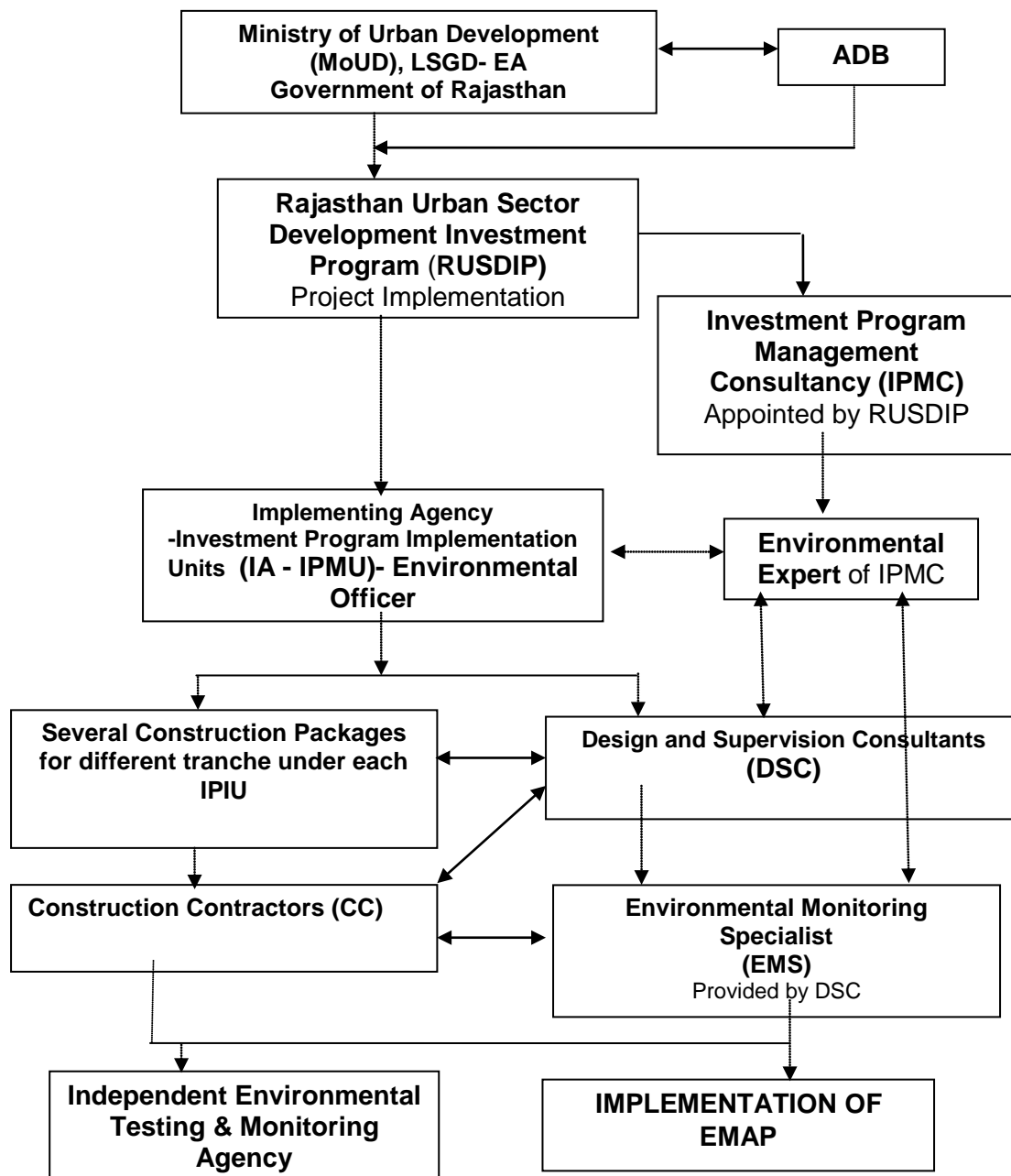
14. EMP shows that most of the mitigation activities are the responsibility of the Construction Contractors (CC) employed to build the infrastructure during the construction stage or the O&M Contractors employed to conduct maintenance or repair work when the system is operating. Responsibility for the relevant measures assigned to the Contractors via the contracts through which they are appointed, so they legally required taking the necessary action. There are also some actions that need to be taken by LSGD in their role as project proponent, and some actions related to the design that would be implemented by the DSC.

15. A program of monitoring would be conducted to ensure that all parties take the specified action to provide the required mitigation, to assess whether the action has adequately protected the environment, and to determine whether any additional measures may be necessary. This would be conducted by a qualified Environmental Monitoring Specialist (EMS) from the DSC. The EMS responsible for all monitoring activities and reporting the results and conclusions to the IPMU, and recommend remedial action if measures are not being provided or are not protecting the environment effectively. The EMS may be assisted by environmental specialist in particular technical fields, and junior or medium-level engineers who can make many of the routine observations on site. Post-construction monitoring will be conducted by the relevant Government Agency (GA) to whom responsibility for the infrastructure will pass once it begins to operate¹.

¹ In the operational period some infrastructure will be the responsibility of the Municipal Boards/Councils, whilst others will be the responsibility of the appropriate branch of the State government (such as PWD, PHED, etc)

16. EMP shows that most of the mitigation measures are fairly standard methods of minimizing disturbance from building in urban areas (maintaining access, planning work to avoid sensitive times, finding uses for waste material, etc), and experienced Contractors should be familiar with most of the requirements. Monitoring of such measures normally involves making observations in the course of site visits, although some require more formal checking of records and other aspects. There are also be some surveys of residents, as most of the measures are aimed at preventing impacts on people and the human environment.

Figure 1: Institutional Responsibility- Environmental Organisation RUSDIP



IV. IMPLEMENTATION STATUS OF MITIGATION MEASURES

17. At present there are **10 environmental sensitive sub-projects** have been awarded under Tr-3 to the contractors. Field activities are ongoing for **4 sub-projects**. EMP has been implemented in **3 sub-projects**. The detail mitigation measures against impacts on air, water, soil environment and safety aspects are shown in **Annexure 2**. Overall compliance status of EMP application and actions needed are discussed below and shown in **Table 5**.

18. For implementation of EMP, arrangement of human safety, procurement of PPE, arrangement of sprinkler system are under process or started. Training has been given to the contractors, DSC's monitoring specialist and IPIU representative on environmental safeguard requirement. Moreover instruction is given to contractors to follow the specified clause of BID document to mitigate environmental and social impacts.

19. "Pollution under Control certificate" for the engaged vehicles have been obtained partly. Rest under procurement.

Table 5: Compliance Status with Environmental Management and Monitoring Plans as stipulated in the Environmental Documentation – Tranche 3

Sites	Name of Sub Project	EMP being Implemented (Yes / No)	Overall Status of EMP Implementation (Excellent/Satisfactory/Partially Satisfactory/Below Satisfaction/Poor/Very Poor)	Actions Proposed/Additional Corrective Measures Required
Alwar	Construction of 2 Fire stations at Alwar Town. RUSDIP/TR-03/ALW/FR/01	No	-	-
Sawai Madhopur	Drainage: Rehabilitation and Desilting, strengthening and extension of the existing Drains at Sawai Madhopur Town {RUSDIP/ TR-03/ SMD/DR/01}	Yes	Satisfactory	<ul style="list-style-type: none"> o Implementation of EMP through training and monitoring o Complete utilisation of PPE
Chittorgarh	Water Supply- Construction of intake well arrangement and WTP including supply, erection, Commissioning of equipments, OHSRs. Transmission Lines distribution lines, provision of Bulk meters, replacement of old pumping machinery etc (Package no RUSDIP/TR-03/CHT/WS/01)	Yes	Partially Satisfactory	<ul style="list-style-type: none"> o Complete utilisation of PPEs, o Deployment of EHS proficient personnel, o Proper maintenance of construction equipments
Baran	Water Supply- Construction of Intake well and WTP including supply, erection, commissioning of equipments, OHSRs, transmission lines, rehabilitation of existing WTP at Baran (RUSDIP/TR-03/BRN/WS/01)	Yes	Partially Satisfactory	<ul style="list-style-type: none"> o Implementation of EMP through training and monitoring o Complete utilisation of PPE o Prepare and submit EMP from contractor side o Nominate one trained person for the responsibility of HSE at work sites

V. ENVIRONMENTAL MONITORING AND EVALUATION

20. For effective monitoring, selected environmental parameters have been identified as indicators which may be qualitatively and quantitatively measured and compared over a period of time in order to assess/ensure the compliance of EMP. The environmental performance indicators are physical, biological and social characteristics identified as most important in affecting the environment at critical locations all along the sub-project corridors. The parameters identified as performance indicators are:

- (i) Air, noise and water quality
- (ii) Compliance to EMP
- (iii) Compliance to local/state/national environmental regulations

21. As per the requirement of environment compliance it is necessary to test old filter media of WTP before disposal.

22. Instruction is given to the contractors to do chemical testing for following parameters.

Parameter	
pH	Copper, mg/l
Total salt content (%)	Zinc, mg/l
Arsenic, mg/l	Nickel, mg/l
Mercury, mg/l	Cyanide, mg/l
Lead mg/l	Chloride, mg/l
Cadmium, mg/l	Fluoride, mg/l
Total Chromium, mg/l	Phenolic Compounds, mg/l
Hexavalent Chromium, mg/l	

23. Handling and disposal plan for water treatment plant sludge of Jhalawar and STP sludge of Jaisalmer have been developed as per Detailed Project Report and presented in June 2009 Quarterly report. Now sludge handing plan need to be developed for rest of the sewerage package.

- (i) After starting of construction work for STP, WTP air pollutants should be measure at core and buffer zone of the proposed STP. WTP site. If any water body exists near the STP, WTP physico-chemical properties of the water should be measure as part of base line environment. Environment monitoring parameters are shown in **Annexure 3**.
- (ii) Also during construction of landfill site monitoring in respect to air, noise, and water quality are required. Parameters are given in **Annexure 3**.
- (iii) At bridge construction site monitoring of ambient air quality and water quality (in case of River Bridge) are also necessary. Environment monitoring parameters are shown in **Annexure 3**.
- (iv) At pipe laying area air and noise quality monitoring should be done as per scope of work depicted in **Annexure 3**.
- (v) At drainage project site soil erosion needs to be observed. Similar observation is recorded at different excavated area.

24. The parameters for environmental monitoring has been revised and notified via 16th November 2009 notification of MoEF. The contract of IPMU with the agencies engaged for environmental monitoring was as per the previous requirement of MoEF. Because of the

addition of new parameters for environmental monitoring in new notification like PM_{2.5} etc by MoEF, the contract with the agency responsible for environmental monitoring needs to be revised. The quotations have already been invited and will be finalized shortly. Due to the above reason monitoring could not be carried out in report quarter.

VI. MAJOR PROJECT ISSUES AND PROBLEMS

25. Field activity of the sub-projects under Tranche-3 is under progress. Till date no as such major issues and problems arise at the project locations.

VII. CONSULTATIONS AND RECOMMENDATIONS

26. For protection of local environment during construction phase application of mitigation measures started as per specified EMP. Public consultation during construction/implementation phase have been carried out. The issues and public opinion are shown in **Annexure 4**. The general recommendations as per present observations are given in **Table 6**.

27. As per ADB's new safeguard policy the project authority will establish a mechanism to receive and facilitate resolution of affected persons' concerns, complaints and grievances about the project's environmental performance. The grievances mechanism should be scaled to the risks and adverse impacts of the project. It will be addressed affected peoples' concerns and complaints promptly, using an understandable and transparent process that is gender responsive, culturally appropriate, and readily accessible to all the affected people at no cost and without retribution. The affected people will be informed by appropriate mechanism.

28. During implementation process performance monitoring fact sheet will be prepared against each possible environmental impacts and which will be attached with the monitoring report.

Table 6: Recommendations and Suggestions

S. No.	Issues	Recommendations & Suggestions
1	Execution of works non-compliant to EMP	Effective implementation of Environmental Management Plan has to be ensured by Contractors where the present status is partial satisfactory Environmental Safety Officers to be mobilized by Contractors for all sub-projects to carry out the environmental monitoring, reporting and other related jobs which need an expert input.
2	Procedural delays in obtaining clearances	Applications route through different offices within the same department and despite rigorous follow up more than 4-5 months are taken by concerned authorities to grant permission/ clearance. Undue time for clearance may lead to the extension of works and levy heavy idling charges. To expedite the clearance process a time frame has to be fixed with respective departments and is being followed at all levels.
3	Debris disposal	In some cases the proper debris disposal need to be carried out.

29. The action plan considered for satisfactory environmental compliance as per the present sub-project activities are given in **Table 7**.

Table 7: Action plan consider for Satisfactory Environmental Compliance

Action	To be taken by	Time frame
Instruction to contractors and monitoring for <ul style="list-style-type: none"> o Proper disposal of debris and quick disposal of excavated surplus earth material o Complete use of PPE o Restoration of road/lane after pipe laying – at earliest o Camp site management o Water sprinkling at dry period o Collection of PUC certificate o Use of safety tape/ barricade/ caution board 	IPIU, DSC, Contractors	Continuous
Testing of old filter media before disposal- applicable for rehabilitation of WTP sub-projects	Contractor, IPIU, DSC	After execution of work and before disposal of filter media
Generation of base line data on air quality, noise and water (surface & ground) at pipe laying site, STP site, bridge construction site and landfill site	Contractor, IPIU	Need major attention. Pending for long time
Public consultation during construction	IPIU, DSC, Capacity building team	Done and to be continued
Follow up action for environmental clearances/ consent	IPMU, IPIU	At earliest

ANNEXURE - 1

The Government of India has formulated various policy guidelines; acts and regulations aimed at the sustenance of environment in general, which are briefly summarized and applicable acts with the projects, are described in the following sub-sections.

Environmental Legislation and Pollution Control Acts

Sl. No.	Sources	Legislation
1	Water Pollution	The Water (Prevention and Control of Pollution) Act, 1974, as amended in 1988
2	Air Pollution	The Air (Prevention and Control of Pollution) Act, 1981, as amended by Amendment Act, 1987
3	Noise Pollution	The Noise Pollution (Regulation and Control) Rules, 2000
4	Environment	The Environment (Protection) Act, 1986
5	Public Liability	The Public Liability Insurance Act, 1991 The Public Liability Insurance Rules, 1991
6	Hazardous Waste	<ul style="list-style-type: none"> ➤ Hazardous Waste (Management and Handling) Rules, 1989 ➤ Batteries (Management and Handling) Rules, 2001 ➤ Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 ➤ Emergency Planning Preparedness and Response for Chemical Disasters Rules, 1995 ➤ Manufacturing, Use, Import, Export and Storage of Hazardous Microorganisms, Genetically Modified Engineered Organisms or Cell Rules, 1993 ➤ Hazardous Microorganisms and Genetically Modified Organisms (Manufacture, Use Import Export and Storage) Rules, 1999 ➤ Bio- Medical Waste (Management and Handling) Rules, 2000
7	Municipal Solid Waste	Municipal Solid Waste (Management and Handling) Rules, 2000 Recycled Plastics Manufacturing and Usage Rules, 1999
8	EIA Notification	The Ministry of Environment and Forests has revised the EIA notification, 1994, and issues the revised EIA notification on 14 th September 2006
9	Use and Management of Explosive	The Explosives Act, 1884 and The Explosives Rules, 1983

▪ **The Environment Protection act, 1986 and the EIA Notification, 1994**

The Environmental (Protection) Act, 1986 is the umbrella legislation providing for the protection of environment in the country. This Act provided for the Environment (Protection) Rules, which have been formulated under the act “The Environmental Impact Assessment Notification, 1994 and the Amendments / Revised EIA notification on 14th September 2006”.and Year 2009.

▪ **The Forest (Conservation) Act, 1980**

The Forest (Conservation) Act, 1980 pertains to the cases of diversion of forest area and felling of roadside plantation. Depending on the size of the tract to be cleared, clearances are applied for at the following levels in the governments:

- If the area of forests to be cleared or diverted exceeds 20 ha (or, 10ha in hilly area), the prior permission of the Central Government is required;
- If the area of forest to be cleared or diverted is between 5 to 20 ha, the Regional Office of Chief Conservator of Forests is empowered to approve;
- If the area of forest to be cleared or diverted is below or equal to 5 ha, the State Government can give permission;

- and If the area to be clear-felled has a forest density of more than 40%, permission to undertake any work is needed from the Central Government, irrespective of the area to be cleared.

- **The Wildlife (Protection) Act, 1972**
The Wildlife Protection Act has allowed the government to establish a number of National Parks and Sanctuaries over the past 25 years, to protect and conserve the flora and fauna of the state.

- **The Water and Air (Prevention and Control of Pollution) Acts 1974**
The water (Prevention and Control of Pollution) Act, 1974 resulted in the establishment of the Central and State level Pollution Control Boards whose responsibilities include managing water quality and effluent standards, as well as monitoring water quality, prosecuting offenders and issuing licenses for construction and operation of certain facilities. The SPCB is also empowered to set air quality standards and monitor and prosecute offenders under the air (Prevention and Control of Pollution) Act, 1981.

ANNEXURE – 2

**APPLICATION OF EMP
 (April to June 2011)**

Sr. No.	Project Town	Packages
TR-3		
1	Alwar	Fire Fighting station - {RUSDIP/TR-03/ ALW/FR/01}- EMP application not started
2	Sawai Madhopur	Drainage: Rehabilitation and De-silting, strengthening and extension of the existing Drains at Sawai Madhopur Town Package No. :RUSDIP/ TR-03/ SMD/DR/01
3	Chittorgarh	Water Supply- Construction of intake well arrangement and WTP including supply, erection, Commissioning of equipments, OHSRs. Transmission Lines distribution lines, provision of Bulk meters, replacement of old pumping machinery etc. Package No. : RUSDIP/TR-03/CHT/WS/01
4	Baran	Water Supply: Construction of Intake well and WTP including supply, erection, commissioning of equipments, OHSRs, transmission lines, rehabilitation of existing WTP at Baran town Package No.: RUSDIP/TR-03/ BRN/WS/01

ALWAR

Alwar Fire Station

Project	: Construction of 2 Fire station at Alwar Town
Package No	: RUSDIP/TR-03/ALW/FR/01
Progress	: Work has been awarded recently (on 18-Mar-11) so not much progress has been done except site clearance/preparation and material storage at site
Physical progress	10 % as on 30.06.2011 EMP application will be started soon

Sawai Madhopur Drainage

Project:	Construction of OHSRs ,CWRs, Pump houses and rising & distribution lines.
Package No:	RUSDIP/TR-03/SMD/DR/01
Progress:	- Desilting of Latiya nalla 1800 cum has done.
Physical progress	- 35 % as on 30.06.2011

Sr. No.	Environmental components related to project activities	Compliance		Explanation (in case of done or not done justification necessary)
PRECONSTRUCTION STAGE				
		YES	NO	
1	Site preparation work completed by IPIU including necessary clearance	YES		Clearance is not required from Pollution Control Board as it does not fall under the purview of the EIA notification, 2006.No additional and is required..
CONSTRUCTION STAGE				
2	Establishment of temporary camps with sanitary and solid waste management arrangement		NR	Local labors are employed, so there is no requirement for the establishment of shelter houses or temporary housing for the labors.
3	Removal of overburden and excavated material from working site and use / preservation of the same – as per mitigation	YES		De-silted overburden material has been stock-piled on the nearby grounds which will then be used either by cut and fill method or be used to refill the low lying areas in the proximity of the

Sr. No.	Environmental components related to project activities	Compliance	Explanation (in case of done or not done justification necessary)
	measures		site.
4	Water sprinkling at construction site for arresting dust	YES	Sprinkling of water is being done regularly
5	Materials carrying vehicle are covered	YES	Material carrying activities have been started and vehicles are covered which helps in arresting the fugitive dust emissions.
6	All vehicles and equipments mobilized to construction site and producing emission, have Pollution Control Board certification	YES	Most of the vehicles which are used in the mobilization activities to and fro from the construction site have PUC certification.. Strict instructions have been given to the contractor to use only PUC certified vehicles.
7	At sensitive locations enclosures provided around generator set and concrete mixture or other noise producing machinery		NO Instructions have been given to the contractor to provide the enclosures and to minimize the noise levels. The contractor has also confirmed that soon the said arrangements will be provided.
8	Regular maintenance of noise producing equipment done	YES	Regular maintenance of the equipments is being done. Oiling of the equipments is done as per the requirement.
9	Arrangement of drainage of waste water and arresting solid waste from waste water generated at construction site		NA Instruction given to the contractor & contractor is ready to make the necessary arrangement soon
10	Felling of trees done (if necessary) with mitigation measures i.e. planting of three trees for each tree fell.		NR No tree has been removed.
11	Local flooding from watering of excavation, flushing pipes etc.		NA No excavation is required , de-silting has been done
12	Ensure use of Personal Protective Equipment like helmet, gumboot, gloves, safety tape, nose musk and earplugs at work place	YES	During site visit most of the workers were found using safety equipments like helmets, gloves etc as per the requirement of the site.
13	Provide Health and Safety training to all personnel and implement H & S plan	YES	The Health and safety training has been imparted to the Contractor who in turn has provided the same to the local labours also. It is instructed to the contractor to ensure the implementation of the H&S plan strictly.
14	Plan truck routes to avoid Town, narrow or congested roads, important or fragile buildings, religious and tourist sites	YES	The transportation activities are carried out during lean hours. The routes are selected in such a way that their movement does not hamper the daily traffic.
15	Plan transport of waste to avoid peak traffic and tourist season	YES	Transportation of waste material is being done in off peak hours.
16	Suitable short term traffic diversion and implementation of traffic management plan at construction site		NA Works will be carried out without causing any congestion to the existing traffic condition.
17	Consideration of public safety - as per prescribed mitigation measures	YES	Necessary safety measures are being adopted. Barricading & safety tapes are being used. Training has been given to contractor for implementation of public safety arrangement at work sites
18	Employ at least 50% of workforce from communities near sites	YES	At present most of the workforce is hired from local areas.
19	Continuous monitoring on implementation of mitigation measures	YES	Regular monitoring and quarterly reporting will be continued

NA- Not applicable, NR- Not required

CHITTORGARH

Chittorgarh Water Supply

Project	: Water Supply works at Chittorgarh
Package No	: RUSDIP/TR-03/CHT/WS/01
Progress	: <u>The ESR Madhuvan 450 K.L.(18 meter staging)</u> <ul style="list-style-type: none"> • Excavation in foundation completed • PCC laid reinforce & concreting in foundation raft completed • Reinforcement shuttering of column/ staging in progress
Physical progress	: 1.0% as on 30.06.2011

S. No.	Environmental components related to project activities	Compliance		Explanation (in case of done or not done justification necessary)
		YES	NO/N A/NR	
PRECONSTRUCTION STAGE				
		YES	NO/N A/NR	
1	Site preparation work completed by IPIU including necessary clearance	Yes		Site handing over letter from IPIU is already submitted
CONSTRUCTION STAGE				
2	Establishment of temporary camps with sanitary and solid waste management arrangement		No	The temporary camps have been made for outside labours .Camps have no sanitary and solid waste management facilities
3	Use waste sand and stone form sewerage subproject and material dug to create bridge pier foundation.		NA	At present sewerage work is not started.
4	Above excavation of material to fill access ramps – which affect drainage, air & soil quality topography at extraction site.		NR	Excavation earth is kept at site for back filling
5	Proper storage of materials including fuels, unless it may affect water quality of river during construction.		NR	There is no river near the existing work site at Madhuvan Colony
6	Water sprinkling at construction site and stockpile for arresting dust.		NO	Water sprinkling is not being done
7	Materials carrying vehicle are covered.	Yes		During the haulage of cement bags the vehicles are covered to avoid spillage and dust emissions to the environment
8	All vehicles and equipments mobilized to construction site and producing emission, have pollution control board certification .		NO	Mostly equipments and vehicles are on contract on demand basis from sub contractors
9	At sensitive location enclosures provided around generator and concrete mixture or other noise producing machinery.	Yes		Enclosures are provided in concrete mixtures, generators are used occasionally
10	Regular maintenance of noise producing equipment done		NO	Maintenance record is not evidenced at work site
11	Avoidance use of pneumatic drills that may lead to noise ,dust	Yes		Pneumatic drills are not used at this time
12	Arrangement or drainage of waste water and arresting solid waste from waste water generated at construction site – protection of		NR	Presently no waste water is generated at this site

S. No.	Environmental components related to project activities	Compliance	Explanation (in case of done or not done justification necessary)
	land and water body		
13	Felling of trees done (if necessary) with mitigation measures i.e. planting of three trees for each tree felled.	No	No tree cutting done till date
14	Maintain safe passage of vehicles and pedestrians at all times	NR	No interference with the present road as the work premises have enough space for construction works
15	Keep road partly closed to a minimum frequency and duration.	NR	Road closure not required
16	Ensure use of personal protective equipments like helmet, gumboot, gloves, safety belt, nose mask and earplugs at working place.	Yes	Partially implemented, workers are not using PPEs regularly
17	Provide health and safety training to all personnel and implement H & S plan	Yes	Training for Health and Safety of workers is done by DSC, contractor has no personnel responsible for the purpose
18	Plan truck routes for haulage of construction materials to avoid narrow or congested roads important or fragile buildings, religious and tourist sites.	NR	No such situation exists at this site
19	Plan transport of waste to avoid peak traffic and tourist season.	NR	Presently there is no major generation of waste materials at the construction sites.
20	Suitable short term traffic diversion and implementation of traffic management plan at construction site	NR	Works are being carried out without causing any congestion to the existing traffic condition.
21	Increase workforce in inhabited/congested areas to finish work quickly.	NR	Presently the major works are at government land premises and increasing of work force will be considered when necessary.
22	Determine location of water pipes, electricity pylons, etc and design scheme to avoid damage during construction	Yes	Survey works carried out prior to start of work and plan has been made to avoid damage to utilities
23	Consult town authority and avoid existing infrastructure	Yes	Presently the major works are at government land premises, town authorities are consulted in advance
24	Consideration of public safety as per prescribed mitigation measures	Yes	Presently the work is in Government land and no interference of public at site, through Instruction has been given to contractor for implementation of public safety arrangement at work sites.
25	Plan work with town authorities – work when traffic is light	Yes	Works are being carried out without causing any congestion to the existing traffic condition.
26	Request archaeological authorities to assess potential of all sites	Yes	Conversation is done with Archaeological authorities prior to start of work
27	Include state and town historical authorities as stakeholders	Yes	Consultation with Archaeological department is done, there is no any historical monument near work site
28	Develop and apply archaeological protocol to protect chance finds	NR	There is no any historical or archaeological monument near work site
29	Inform community about type of work in advance and address their concerns	Yes	Presently the major works are at government land premises and nearby community is well aware about the project
30	Maintaining schedule of the work- Conduct excavation and ground works in dry season to avoid accumulation of rain water at dug	Yes	Work planning is done accordingly; excavation and back filling was completed before rainy season hence no accumulation of rain water is expected.

S. No.	Environmental components related to project activities	Compliance	Explanation (in case of done or not done justification necessary)
	areas and wash soil off stockpiles		
31	Employ at least 50% of workforce from communities near sites	Yes	Most of the workforce is hired locally.
32	Continuous monitoring on implementation of mitigation measures	Yes	Continuous monitoring is being carried out on implementation of Environmental safeguards /Health & Safety norms at the work sites. Also the preparation and submission of Monthly/Quarterly Environmental Monitoring Report is in practice.

Note: NA- Not applicable, NR- Not required

BARAN

Baran Water Supply

Project	: Construction of Intake well and WTP including supply, erection, commissioning of equipments, OHSRs, transmission lines, rehabilitation of existing WTP at Baran town
Package No	: RUSDIP/TR-03/BRN/WS/01
Progress	: Out of 25.06Km DI rising pipe line 20 Km pipe supplied and 5.0Km pipe line of 600mm dia laid. 26% as on 30.06.2011
Physical progress	:

S. No.	Environmental components related to project activities	Compliance	Explanation (in case of done or not done justification necessary)
PRECONSTRUCTION STAGE			
		YES NO/NA/NR	
1	Site preparation work completed by IPIU including necessary clearance	YES	Site preparation works completed, NTP issued by EE RUSDIP Baran on date 25.02.11, Ltr no.-2923-44 to contractor
CONSTRUCTION STAGE			
2	Establishment of temporary camps with sanitary and solid waste management arrangement		NA No temporary camp established
3	Use waste sand and stone form sewerage subproject and material dug to create bridge pier foundation.		NA No sewerage project in Baran
4	Above excavation of material to fill access ramps – which affect drainage, air & soil quality topography at extraction site.		NA At present the pipe laying is being done in agricultural fields.
5	Proper storage of materials including fuels, unless it may affect water quality of river during construction.		NA No storage of materials at site is being done
6	Water sprinkling at construction site and stockpile for arresting dust.		NA At present the pipe laying is being done in agricultural fields.
7	Materials carrying vehicle are covered.		NA At present the pipe laying is being done in agricultural fields. No transportation of excavated soil is required
8	All vehicles and equipments mobilized to construction site and producing emission, have pollution control board certification .		No Contractors are said to submit the PUC
9	At sensitive location enclosures provided around generator and		NA No use of Generators or concrete mixtures at present as only pipe laying is being done in

S. No.	Environmental components related to project activities	Compliance	Explanation (in case of done or not done justification necessary)
	concrete mixture or other noise producing machinery.		agricultural fields.
10	Regular maintenance of noise producing equipment done	NA	No any noise producing equipment is being used except the ordinary vehicles like trucks and hydra
11	Avoidance use of pneumatic drills that may lead to noise ,dust	NA	No pneumatic drills are being used
12	Arrangement of drainage of waste water and arresting solid waste from waste water generated at construction site – protection of land and water body	NA	At present the pipe laying is being done in agricultural fields.
13	Felling of tress done (if necessary) with mitigation measures i.e. planting of three trees for each tree fill.	No	At present the pipe laying is being done in open agricultural fields.
14	Maintain safe passage of vehicles and pedestrians at all times	NA	At present the pipe laying is being done in agricultural fields.
15	Keep road partly closed to a minimum frequency and duration.	NA	At present the pipe laying is being done in agricultural fields.
16	Ensure use of personal protective equipment like helmet, gumboot, gloves, safety belt ,nose musk and earplugs at working place .	No	Workers are using proper PPEs in the pipe laying works
17	Provide health and safety training to all personnel and implement H & S plan	No	The contractor has not mobilized the HSE personnel to train the workers, training is planned by DSC in future
18	Plan truck routes for haulage of construction materials to avoid narrow or congested roads important or fragile buildings ,religious and tourist sites.	NA	At present the pipe laying is being done in agricultural fields, for which access road is available with no traffic laod
19	Plan transport of waste to avoid peak traffic and tourist season.	NA	No needs of transportation of waste as at present the pipe laying is being done in agricultural fields.
20	Suitable short term traffic diversion and implementation of traffic management plan at construction site.	NA	Not required as at present the pipe laying is being done in agricultural fields.
21	Increase workforce in inhabited/congested areas to finish work quickly.	NA	At present the pipe laying is being done in agricultural fields.
22	Determine location of water pipes, electricity pylons , etc and design scheme to avoid damage during construction	NA	At present the pipe laying is being done in agricultural fields.
23	Consult town authority and avoid existing infrastructure	Yes	Town authority is consulted in advance, there is no any existing infrastructure present at work site as at present the pipe laying is being done in agricultural fields.
24	Consideration of public safety as per prescribed mitigation measures	NA	At present the pipe laying is being done in agricultural fields., there is no interference of public at work sites
25	Plan work with town authorities – work when traffic is light	Yes	Town authority is consulted in advance
26	Request archaeological authorities to assess potential of all sites	Yes	Archaeological authorities are consulted to assess potential of all sites
27	Include state and town historical	Yes	State and town historical authorities are considered

S. No.	Environmental components related to project activities	Compliance		Explanation (in case of done or not done justification necessary)
	authorities as stakeholders			as stakeholders in the planning phase during preparation of DPR and IEE
28	Develop and apply archaeological protocol to protect chance finds		NA	There are no any archaeologically important sites near the work sites
29	Inform community type of work in advance and address their concerns	Yes		Public consultation from DSC and CAPP has done and being done regularly to address their concerns, affected persons are being given proper compensation
30	Maintaining schedule of the work- Conduct excavation and ground works in dry season to avoid accumulation of rain water at dug areas and wash soil off stockpiles	Yes		The work is being done only in dry season, work is stopped in rainy season
31	Employ at least 50% of workforce from communities near sites	Yes		Mostly labours are being hired locally
32	Continuous monitoring on implementation of mitigation measures	Yes		Continuous monitoring on implementation of mitigation measures being done by IPIU and DSC

Note: NA- Not applicable, NR- Not required

ANNEXURE – 3

ENVIRONMENTAL MONITORING SCHEDULE

Monitoring	Project Type	Parameters	Frequency	No. of location	Remarks
Ambient Air Quality Monitoring					
Air quality parameters	STP, WTP, pump house	SPM, RSPM (PM ₁₀ & PM _{2.5}), SO ₂ , NOx and CO	4 days 24 Hrs basis Semi-annually	2 locations nearby STP, WTP, pump house site	
	Intake location	SPM, RSPM (PM ₁₀ & PM _{2.5}), SO ₂ , NOx and CO	2 days 24 Hrs. basis- Semi-annually	1 location nearby the project site	
	Bridge, Drainage	SPM, RSPM (PM ₁₀ & PM _{2.5}), SO ₂ , NOx and CO	3 days 24 Hrs basis Semi-annually	2 locations nearby bridge	
	Landfill	SPM, RSPM (PM ₁₀ & PM _{2.5}), SO ₂ , NOx and CO	3 days 24 Hrs basis Semi-annually	4 locations (one at center and rest at 3 locations 120 degree apart)	
	Pipe laying area	SPM, RSPM (PM ₁₀ & PM _{2.5}), SO ₂ , NOx and CO	3 days 24 Hrs basis Semi-annually	3 locations nearby working zone	
	Heritage site	SPM, RSPM (PM ₁₀ & PM _{2.5}), SO ₂ , Ammonia, H ₂ S, NOx and CO	2 days 24 Hrs basis Semi-annually	2 locations nearby working zone	
	Fire Fighting station	SPM, RSPM (PM ₁₀ & PM _{2.5}), SO ₂ , NOx and CO	2 days 24 Hrs basis Semi-annually	2 locations nearby working zone	
Ambient Noise Level Monitoring					
Sound Pressure Level	STP, WTP, pump house	L _{eq}	One time in six months (day & night)	3 nearby locations	
	Intake location	L _{eq}	One time in six months(day & night)	2 nearby locations	
	Bridge	L _{eq}	One time in six months(day & night)	5 nearby locations	
	Landfill	L _{eq}	One time in six months(day & night)	4 nearby locations	Preferably near air quality measuring sites
	Pipe laying area	L _{eq}	One time in six months(day & night)	3 nearby locations	
	Heritage site	L _{eq}	One time in six months(day & night)	3 nearby locations	
	Fire Fighting station	L _{eq}	One time in six months(day & night)	2 nearby locations	

Monitoring	Project Type	Parameters	Frequency	No. of location	Remarks
Water Quality Monitoring					
Surface water Quality parameters	STP, WTP	General: Turbidity NTU, pH, Total Suspended Solid, TDS, Total Hardness as CaCO ₃ , DO, Organic Matters: BOD, COD, Nutrients: Nitrate, Metals: Chloride, Sulphate, Na, K, Ca, Mg, Fe, Mn, Cd, As, Cr, Cu, Mg, Pb, Selenium, Al, Zn, Bo, Fluorine, Cl (residual free), Other Organics: Phenolic Compound, Cyanide, Phosphate (mg/l)	one time in six months	2 locations (pond, river, nala)	(if location exist)
	Intake location	Turbidity in NTU, pH, Total Suspended Solid, TDS, Total Hardness as CaCO ₃ , DO, BOD, COD	One time in six months	2 locations unpstream and downstream	
	River bridge, Drainage channel	As above	One time in six months	At least 2 location (pond, river, nala)	upstream and downstream
	Landfill site	As above	One time in six months	At least 2 location (pond, river, nala)	if location exist
Ground water Quality parameters	Landfill site, STP	pH, Total Dissolved Solid, Total Hardness as CaCO ₃ , Dissolved Oxygen, Alkalinity as mg/l, Cl, Sulphate, Nitrate, Fe, Mg, Cd, As, Cr, Co, Mg, Pb, Zn, Fluoride Phenolic Compound, Phosphate (mg/l)	One time in six months	At least 3 location (tube well/ hand pump/ bore well)	

**PUBLIC CONSULTATION ON ENVIRONMENTAL ISSUES
 DURING CONSTRUCTION/ IMPLEMENTATION**

Chittorgarh Water Supply

PLACE OF CONSULTATION	Madhuvan Colony , Chittorgarh
DATE OF CONSULTATION	30.06.2011
PROJECT NAME	Chittorgarh Water Supply
PACKAGE NO.	RUSDIP/ TR-03/ CHT / WS/ 01
NAME OF THE FIELD SUPERVISORS	Abhay Srivastava
NAME OF THE PERSONS	Ram Sewak, Satish Bhuria
ADDRESS	Resident of Madhuvan Colony

S.No.	POINTS DISCUSSED	REMARKS
01.	Whether dust control measures are taken up by contractor as and when required?	Water sprinkling is not done at work site
02.	Whether traffic movement affected during construction?	Yes, sometimes material is placed on the road
03.	Is there any problem due to influx of outside people (laborer)?	No problem due to the construction labors as they reside in workers camps.
04.	Is there any problem, if storage area is in public place?	No such problems and all materials stored inside the construction site campus.
05	Is there any problem during transportation of materials?	No, there is no affect to the existing traffic conditions as the colony road is not so busy
06.	Is there any problem due to the running of concrete mixture/ hot mix plant or movement of equipment like JCB?	Concrete mixtures cause noise and smoke which creates problem to residents
07	Whether construction work affects local drainage system/ water supply system?	No such impacts to the existing systems.
08	Whether movement of locals/pedestrian affected during construction?	No hindrances caused to the movement of locals/pedestrians.
09	Whether generated noise affects the normal life of locals?	Yes but up to bearable limit
10	Overall opinion on construction (Excellent/ Satisfactory/ Below satisfaction/ Poor)	Satisfactory