

CITY DEVELOPMENT PLAN

Sitamau, District Mandsaur

Madhya Pradesh

City Development Plan

2013

Submitted To:



**Urban Administration & Development Department
Government of Madhya Pradesh**

Project Coordination:



**City Managers' Association Madhya Pradesh
(CMAMP)**

Submitted By:

Urban Management Centre (UMC)



CITY DEVELOPMENT PLAN

Sitamau, District Mandsaur
Madhya Pradesh

City Development Plan

2013

Submitted To:



Urban Administration & Development Department
Government of Madhya Pradesh

Project Coordination:



City Managers' Association Madhya Pradesh (CMAMP)

Submitted By:

Urban Management Centre (UMC)



Contact Details:

Manvita Baradi

Director, UMC

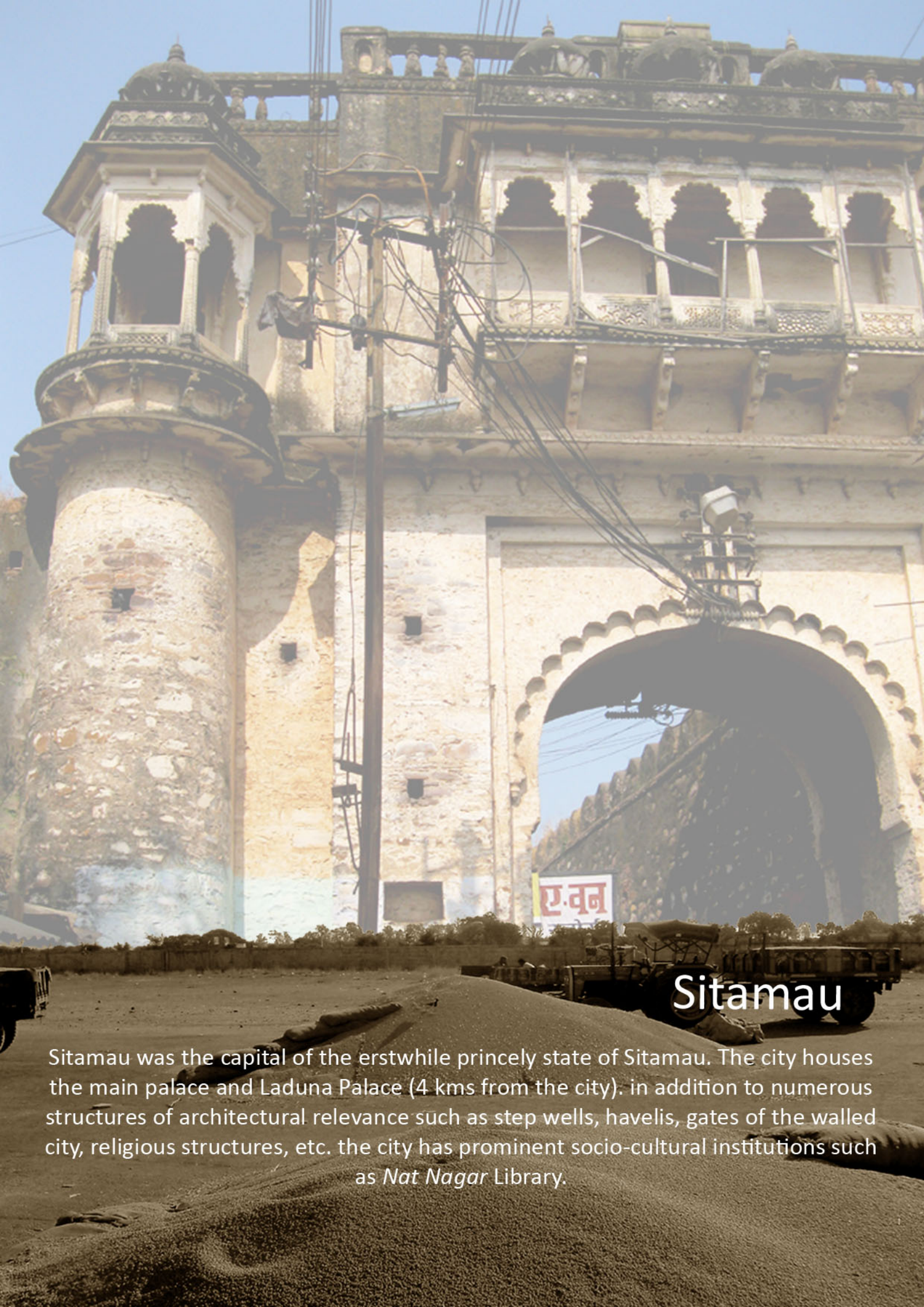
III Floor, AUDA Building, Usmanpura

Ashram Road, Ahmedabad, Gujarat

Tel: 91-79- 27546403/ 5303

Email: info@umcasia.org

Web: www.umcasia.org



Sitamau

Sitamau was the capital of the erstwhile princely state of Sitamau. The city houses the main palace and Laduna Palace (4 kms from the city), in addition to numerous structures of architectural relevance such as step wells, havelis, gates of the walled city, religious structures, etc. the city has prominent socio-cultural institutions such as *Nat Nagar Library*.

City Profile

Company Name		UMC		
ULB Name		Sitamau		
Whether the Sectoral Analysis report is as per UADD requisites		Yes		
Town Brief	Geographical location (Town)	Latitude	24 ⁰ 01	
		Longitude	75 ⁰ 21	
	Average rainfall (annual)	MM	746	
	Height above mean sea level	Mts	-	
	Municipal area (1991)	Sq kms	-	
	Municipal area (2001)	Sq kms	4.3	
	Municipal area (2011)	Sq kms	4.3	
	Date of Constitution of ULB	Date	1994	
	Historic importance	In one or two sentences	. The town was founded by a Mine Chief, Sataji in A.D.1465, who constructed the wall	
Population	Population Year 1981 (under Municipal boundary only)	Town level	9920	
	Population Year 1991 (under Municipal boundary only)		11456	
	Population Year 2001 (under Municipal boundary only)		12889	
	Population Year 2011 (under Municipal boundary only)		14361	
	Name of Population projection Method		Geometric Increase	
	Projected population adopted Year 2016		16856	
	Projected population adopted Year 2026		19653	
	Projected population adopted Year 2036		22914	
Land Use	Land Use	% Standard (as per UDPFI)	Land use (Tentative in Sq kms)	Land use (Tentative in percentage)
	Residential		0.4329	21.763%
	Commercial		0.0209	1.051%
	Public - semi public		0.0741	3.727%
	Agriculture		0.6028	30.302%
	Mixed Use		0.0034	0.168%
	Roads		0.1139	5.726%
	Green area		0.3110	15.635%
	Vacant Land		0.1579	7.938%
	Slum		0.0069	0.345%
	Heritage		0.0555	2.792%
	Recreational		0.0025	0.124%
	Water bodies		0.2075	10.429%
Total		1.9893		

City Profile (Ward Wise)

Ward #	Ward 1	Ward 2	Ward 3	Ward 4	Ward 5	Ward 6	Ward 7	Ward 8	Ward 9	Ward 10	Ward 11	Ward 12	Ward 13	Ward 14	Ward 15	Total
Name of ward	Bahadur ShahWard	Hanuman Ward	Shri HariMandir Ward	Peer Madar Ward	Gangur Ward	Ambedakar Ward	Shri Ganpati Ward	Panpuria Ward	Mahatma Gandhi Ward	Banjara Ward	Swami Vivekanand Ward	Shri Govardhan Ward	Shri Ram Ward	Shri Char Bhuja Nath Ward	Indra Gandhi Ward	
Ward Population (2011)	735	799	877	1251	983	1067	511	735	722	1030	822	1173	1012	951	1693	14361
Area (sq kms)	0.254	0.035	0.086	0.162	0.012	0.247	0.027	0.028	0.094	0.016	0.054	0.026	0.066	0.127	0.755	1.9893
Density (PPSqkm)	2897	23010	10145	7706	81975	4325	18981	25877	7681	65021	15334	44614	15329	7504	2241	7219
Male	390	404	470	787	450	595	302	330	394	550	480	530	560	478	788	7508
Female	345	395	407	464	533	472	209	405	328	480	342	643	452	473	905	6853
SC	Release of Census 2011 data awaited for ward wise information															1363
ST	Release of Census 2011 data awaited for ward wise information															86
BPL	Release of Census 2011 data awaited for ward wise information															1518
Sex ratio	885	978	866	590	1184	794	691	1227	833	873	713	1213	807	990	1148	913
Literacy rate (%)	Release of Census 2011 data awaited for ward wise information															82%
No. of Primary schools	Release of Census 2011 data awaited for ward wise information															15
No. of Primary Health Centre	Release of Census 2011 data awaited for ward wise information															1
No. of Households	160	174	191	272	214	232	111	160	157	224	179	255	220	207	368	3124
Primary occupation (Majority)	Agriculture	Commercial Activities	Agriculture	Agriculture	Agriculture	Agriculture	Business	Business	Agriculture	Business	Agriculture	Agriculture	Commercial Activities	Agriculture	Agriculture	Agriculture
Seconday occupation	Business	Business	Business	Business	Commercial Activities	Business	Commercial Activities	Commercial Activities	Commercial Activities	Commercial Activities	Business	Business	Business	Business	Commercial Activities	Business
Tertiary occupation	Commercial Activities	Commercial Activities	Commercial Activities	Commercial Activities	Business	Commercial Activities	Agriculture	Agriculture	Business	Agriculture	Commercial Activities	Commercial Activities	Commercial Activities	Commercial Activities	Business	Commercial Activities
No. of SS/LS industrial units	Release of Census 2011 data awaited															
No. of Commercial establishments	Release of Census 2011 data awaited															
No. of Slum pockets	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	2
Slum population	0	0	0	0	0	613	0	0	0	0	0	0	0	0	905	1518
No. of Slum Households	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	2
No. of Individual water connections in the ward	Release of Census 2011 data awaited for ward wise information															1949
No. of Community water connections	Release of Census 2011 data awaited for ward wise information															18
No. of Commercial water connections	Release of Census 2011 data awaited for ward wise information															253
No. of Tubewells	Release of Census 2011 data awaited for ward wise information															4
No. of Handpumps	Release of Census 2011 data awaited for ward wise information															80
No. of OHTs	Release of Census 2011 data awaited for ward wise information															1
% Coverage of piped water supply	Release of Census 2011 data awaited for ward wise information															62%
No. of Individual Toilets	Release of Census 2011 data awaited for ward wise information															-
No. of Individual Septic tanks	Release of Census 2011 data awaited for ward wise information															-
No. of Community Septic tanks	Release of Census 2011 data awaited for ward wise information															8
No. of Community toilets	Release of Census 2011 data awaited for ward wise information															32
% of population - Open defecation	Release of Census 2011 data awaited for ward wise information															40%
No. of Dust bins	Release of Census 2011 data awaited for ward wise information															20
Wardwise Waste generated (Kgs)	Release of Census 2011 data awaited for ward wise information															-
Road sweeping (1 time or 2 times)	Release of Census 2011 data awaited for ward wise information															1
Total no. of sanitary workers in the ward	Release of Census 2011 data awaited for ward wise information															49
Length of Pucca road (Mts)	Release of Census 2011 data awaited for ward wise information															2.75

Sectoral Analysis

		Existing Source			
		Source	Tubewell	Well	River/Lake
Physical Infrastructure	Water Supply	No. of Tubewell / River / Well	4	2	1
		Water Supplied by Tubewell / River / Well in MLD	-	-	-
		Total water supply in the town (MLD)	0.5		
		Existing Supply rate (LPCD) considering distribution losses	35		
		Water Charges per household per month (Rs.) Flat/Metered	30 (Flat)		
		% Coverage under paid water supply			
		Whether any treatment plant exists (Y/N),If yes mention capacity (MLD)	N		
		Proposed source (Surface)	Chambal River		
		Sewerage	Total sewage generation (MLD)	0.4	
	Whether any treatment plant exists (Y/N),If yes mention capacity		No		
	Total no. of individual septic tanks		-		
	Total no. of community septic tanks		-		
	Total no. of Sewage/Mud pumps available with the ULB		-		
	Frequency of Cleaning Individual Septic tanks		-		
	Drainage	Frequency of Cleaning Community Septic tanks	-		
		Name of natural nallah (Storm water drain)	-		
		Length of natural nallah (Storm water drain) Kms	-		
		Ultimate disposal point of nallah	Lake,Open Field		
		Length of road side drain (Kms)	2.5		
		Coverage of road side drainage w.r.t roads (%)	-		
	SWM	Ultimate disposal point of Road side drains	Lake,Open Field		
		Any treatment plant/procedure adopted	N		
		Per capita Solid waste generation (Considering Standards) (in gms)	225		
		Total SW generation (in Tons)	3.23		
		Frequency of SW collection by the ULB (1 time per day/2 times per day)	1		
		Collection efficiency of the ULB (%)	40		
		Any initiative for DTDC (Yes /No)	No		
		Any initiative for scientific disposal of waste	No		
		Name of dumping/ landfill site	No		
		Is the existing site Dumping site or allotted site for Scientific disposal	Y		
		Area of allotted landfill site for Scientific disposal	5 ha		
		Distance of the Dumping site/landfill site from main settlement area (Kms)	2		
		No. of Tractor trolleys/vehicles available with the ULB for carrying Solid waste to the LF site	1		
	If site for Scientific disposal is not allotted then whether formally requested by the ULB				
		Name of National Highway passing from or nearby from the town (NH-XYZ)	NH 79		

Sectoral Analysis

Physical Infrastructure	Roads	Distance of National Highway if nearby from the town (NH-XYZ) in Kms		30 kms
		Name of State Highway passing from or nearby from the town (SH-XYZ)		SH-14
		Distance of State Highway if nearby from the town (SH-XYZ) in Kms		0
		Total length of Pucca roads (Kms)	CC	0.5
			WBM	0.25
			Total (kms)	0.75
		Total length of Kuccha roads (kms)	(kms)	2.25
	Gap w.r.t Standards	(kms)	9.36	
	Traffic & transportation	Total no. of vehicles in the town		DNA
		Bus stand (yes/No)		Yes
		Any intracity mass transport mode (yes/no)		N
		Name of locations facing major traffic issues	1	Suvasra Road
			2	Mandsaur Road
			3	
	Name of the street beautified as per the instructions of UADD		-	
	Street lighting	Total no. of street lights		898
		No. of Streetlights under working condition		887
		No. of Streetlights having Tubes		306
		No. of Streetlights having CFL		780
		No. of Streetlights having Incandescent bulbs		62
		No. of Streetlights having LED		0
		No. of Streetlights having LPS		0
	Power	Location of Substation http://www.mptransco.nic.in	400 KV	-
			220KV	-
			132KV	-
		Total no. of residential connections		-
		Total no. of Commercial connections		-
		Any subsidy for BPL (Y/N)		-
		Duration of Electricity supply per day (in Hrs)		-

Sectoral Analysis

Heritage & tourism	Heritage & tourism	Name of Heritage site/s		Girdavar Bhavan, Shri Ram Vilas Palace, Ancient Royal Chatris
		Ownership/agency		Private
		Prevailing Heritage Act/s		
		Name of Tourist site/s		Shri Modi Mataji Mandir
		Ownership/agency		Sitamau Nagar Parishad
	Total no. of Pilgrims/ Tourists visiting town per day		-	
	Environment	Name of River/Lake/Forest range/Any specific species		Talab
		Prevailing Environmental Act/s		AMASR Act, 2010
Areas facing threats				
Social Infrastructure	Health	No. of Primary Health centres/Dispensary		1
		No. of Hospitals	Government	1
			Beds	30
			Private	1
			Beds	-
		Multispeciality hospital if any (Y/N)		NO
	Name of Nearby town referred for Treatment	Name of town	Mandsaur	
		Distance (Kms)	30	
	Education	No. of Primary schools		15
		No. of Secondary/High schools		16
		No. of Colleges		0
		No. of ITI		1
	Social security schemes	No. of Beneficiaries under SJSRY (Street Vendor)		11
		No. of Beneficiaries under Haath thela/Rickshaw chalak yojna		29
		No. of Rain Basera/Night Shelter		0
Ownership of Rain Basera (with ULB/Rental)		0		
No. of Beneficiaries under Gharelu Kamkaji Mahila Yojana		4		
Name of other Social security schemes			Name of Scheme	Beneficiaries
			Deendayal antodaya	-
		Widow pension	50	

Sectoral Analysis

Slums & Urban Poor

Ward No	Name of Slum pocket/ reference name	Notified/ Un-notified	Ward population	Slum population	Individual water connections	No. of Community taps	No. of Handpumps	No. of Individual toilets	No. of Community toilets	No. of Pucca houses	No. of Semi pucca houses	No. of Kuccha houses	No. of Permanent pattas distributed	No. of Temporary pattas distributed	No. of Primary school in the slum pocket	No. of Primary Health centres in the slum pocket	Beneficiaries under social security schemes	Any interventions under IHSDP (Y/N)
1	-	Release of Census 2011 data awaited	828	-	Release of Census 2011 data awaited for ward wise information	Release of Census 2011 data awaited for ward wise information	Release of Census 2011 data awaited for ward wise information	Release of Census 2011 data awaited	Release of Census 2011 data awaited for ward wise information	Release of Census 2011 data awaited	Release of Census 2011 data awaited	Release of Census 2011 data awaited	Release of Census 2011 data awaited for ward wise information	Release of Census 2011 data awaited for ward wise information	Release of Census 2011 data awaited	Release of Census 2011 data awaited	Release of Census 2011 data awaited	Release of Census 2011 data awaited
2	-		824	-														
3	-		668	-														
4	-		769	-														
5	-		918	-														
6	harijan basti		1152	613														
7	-		671	-														
8	-		623	-														
9	-		907	-														
10	-		885	-														
11	-		848	-														
12	-		888	-														
13	-		784	-														
14	-		1698	-														
15	ayodhya basti		1898	905														
Total			14361	1518	1949	18	77	-	32	-	-	-	80	7	-	-	-	-

Reforms Action Plan

Reforms	Achieved (Y/N)	Timeline to achieve reforms till 2015				Any City specific Strategies adopted	Preliminary estimate (if any) for implementation	Implementing agency
		2012-13	2013-14	2014-15	2015-16			
Full migration of double accounting System	N	25%	50%	75%	100%	With rapid training and capacity building programmes throughout; taking assistance from Divisional Offices of UADD for improvements.		ULB
Property tax reforms, 85% coverage ratio and 90% collection ratio	N	75%	90%	100%	100%	Preparing data base for property tax collection on GIS; incentivising early payment of taxes; levying late fees; Setting up camps/ centres in various locations for tax collection		ULB
Levy of user charges : full recovery of O & M charges for sewerage, water supply and SWM	N	50%	60%	90%	100%	Water Supply - NRW/Water Audit study to help improve cost recovery; Sewerage - Minimal O&M expenditure for Decentralised Sewage Manangement, can be collected through decentralised system and integrated with single billing system with other ULB charges; SWM - same as sewerage.		ULB
Internal earmarking of basic services to urban poor	N	100%	100%	100%	100%	Immediate allocation of funds in annual budget for urban poor.		ULB
E-governance	N	25%	100%	100%	100%	Immediate setting up of helpline/ complaints phone number; Launching ULB's website enabling online payments for taxes and user charges; setting up civic centres in the city.		ULB
Provision of basic services to urban poor including security of tenure at affordable prices, improved housing, water supply, sanitation	N	100%	100%	100%	100%	Immediate provision of services to slum areas through in-situ upgradation.		ULB

Table of Contents

<i>List of Tables</i>	5
<i>List of Figures</i>	7
<i>i. List of Abbreviations</i>	9
<i>ii. Preamble</i>	11
<i>iii. Disclaimer</i>	13
<i>iv. Executive Summary</i>	14
PART A	24
1. Introduction	25
1.1. <i>City Development Plan: Introduction, Framework and Process</i>	25
2. City Profile of Sitamau	31
2.1. <i>Geographic Profile</i>	31
2.2. <i>Demographic Profile</i>	37
2.3. <i>Economic Profile</i>	39
2.4. <i>Urban Planning</i>	41
3. Infrastructure Assessment	43
3.1. <i>Water Supply</i>	44
3.2. <i>Waste Water Management</i>	52
3.3. <i>Sanitation</i>	59
3.4. <i>Storm Water Drainage</i>	64
3.5. <i>Solid Waste Management</i>	68
3.6. <i>Roads& Transportation</i>	74
3.7. <i>Street Lighting</i>	79
3.8. <i>Urban Poor</i>	82
3.9. <i>Public Amenities, Open Spaces and Water Bodies</i>	85
3.10. <i>Heritage & Tourism</i>	88
3.11. <i>Health& Education</i>	93
3.12. <i>Emergency Services(Fire Services)</i>	96
3.13. <i>Additional Projects under this CDP</i>	98
4. Institutional Framework	100
4.1. <i>Institutional Analysis of Urban Development in Madhya Pradesh</i>	100
4.2. <i>Analysis of Institutional Structure and Capacities at Sitamau Nagar Parishad</i>	103
PART B	108

5. City Vision, Sector Goals and Strategy Formulation	109
5.1. City Vision.....	109
5.2. Sector Goals	110
6. Prioritisation of Sectors.....	120
7. Capital Investment Plan and Financial Operating Plan	121
7.1. Introduction.....	121
7.2. Capital Investments.....	121
7.3. Funding Sources for Investments	124
7.4. Phasing of Investments	132
8. Financial Operating Plan of Sitamau.....	134
8.1. Introduction.....	134
8.2. Step I - Revenue Income and Expenditure Assessment	135
8.2.1. Total Income/Expenditure Account for Sitamau Nagar Parishad	136
8.2.2. Revenue Account for Sitamau Nagar Parishad	136
8.2.3. Capital Account for Sitamau Nagar Parishad	142
8.3. Key Performance Ratio Analysis.....	143
8.4. Step II –Assumptions used for FOP.....	145
8.5. Step III- Investment Capacity and Sustenance- Financial Operating Plan	146
9. Way Forward	149
Bibliography	150
Annexures	152

List of Tables

Table 1 India: Urban Population 1901 – 2011.....	25
Table 2 Contribution of Indian Cities to GDP.....	26
Table 3 Mandsaur District - Sub divisions, Area, Population and Habitation	31
Table 4 Projected Population Values	38
Table 5 Class wise Krishi Upaj Mandis in Mandsaur District.....	39
Table 6 Arrivals at Sitamau upaj mandi.....	40
Table 7 Economic SWOT analysis of the city	40
Table 8 Existing Land use of Sitamau	41
Table 9 Type of Land use and percentages.....	41
Table 10 Ward wise Area, Population & Population Density of Sitamau	42
Table 11 Existing situation- Water Supply	44
Table 12 List of Existing Water Supply Sources in Sitamau	45
Table 13 List of Existing Water Storage Reservoirs in Sitamau	46
Table 14 Performance of Sitamau Nagar Parishad in Water Supply Services as per SLB	47
Table 15 Demand Gaps in Water Supply Infrastructure till 2036.....	47
Table 16 SWOT Analysis- Water Supply	48
Table 17 Salient Features of the water augmentation scheme	49
Table 18 Gaps in Augmentation of water supply scheme	49
Table 19 Proposed Infrastructure Improvements in Water Supply	50
Table 20 Proposed Studies & Programmes in Water Supply	51
Table 21 Total Investment required in Water Supply Sector.....	51
Table 22 Existing situation- Waste Water	52
Table 23 Performance of Sitamau Nagar Parishad in Waste Water Services as per SLB	53
Table 24 Demand Gaps in Waste Water Infrastructure till 2036	54
Table 25 SWOT analysis- Waste water	54
Table 26 Zone wise estimated population for waste water generation.....	55
Table 27 Proposed Infrastructure Improvements in Waste Water	57
Table 28 Proposed Studies & Programmes in Waste Water.....	58
Table 29 Total required investment – Waste Water (Conventional system).....	58
Table 30 Total required investment – Waste Water (DWMS)	58
Table 31 Existing and Projected demand and gap of Physical infrastructure	59
Table 32 SWOT Analysis - Sanitation.....	60
Table 33 Proposed Infrastructure Improvements in Sanitation.....	62
Table 34 Proposed Studies & Programmes in Sanitation	63
Table 35 Total required investment - Sanitation	63
Table 36 Existing situation- Storm Water Drainage	64
Table 37 Performance of Sitamau Nagar Parishad in Storm Water Drainage Services as per SLB.....	65
Table 38 Demand Gaps in Storm Water Drainage Infrastructure till 2036	65
Table 39 SWOT Analysis - Storm Water Drainage.....	65
Table 40 Proposed projects for Storm Water Drains under Other Schemes	66
Table 41 Proposed Infrastructure Improvements in Storm Water Drains.....	67
Table 42 Proposed Studies & Programmes Storm Water Drains	67
Table 43 Total required investment - Storm water drainage	67
Table 44 Existing situation- Solid waste management.....	69
Table 45 Performance of Sitamau Nagar Parishad in Solid Waste Management Services as per SLB.....	70
Table 46 Gap calculation for Solid Waste Management	70
Table 47 SWOT analysis- Solid Waste Management.....	71
Table 48 Identification of gaps as per the demand based on SLBs	73
Table 49 Proposed Infrastructure Improvement in SWM	73

Table 50 Proposed Studies & Programmes in SWM.....	73
Table 51 Total required investment - Solid waste management	73
Table 52 Existing Situation- Roads	74
Table 53 Gap Calculation for Roads and Transportation.....	76
Table 54 Demand of other Transport Infrastructure till 2036	76
Table 55 SWOT Analysis - Roads and Transportation	76
Table 56 Proposed Infrastructure Improvement in Roads and Transportation	77
Table 57 Proposed Studies & Programmes in Roads and Transportation	78
Table 58 Total required investment - Roads & Transportation	78
Table 59 Number of Street lights in Sitamau.....	79
Table 60 Demand Gap in Street Lighting Infrastructure till 2036.....	79
Table 61 SWOT analysis- Street Lighting	80
Table 62 Proposed projects for improvement of Street lighting service delivery under CDP to be undertaken by 2036.....	81
Table 63 Few more proposed projects for improvement of Street lighting service delivery	81
Table 64 Total required investment for Street Lighting	81
Table 65 Wardwise slum population.....	82
Table 66 Proposed Infrastructure Improvements for Urban Poor	84
Table 67 Proposed Studies & Programmes for Urban Poor.....	84
Table 68 Total required investment for the service provision to urban poor.....	84
Table 69 Land under Public Amenities, Open Spaces and Water Bodies	85
Table 70 Existing number of service sector	85
Table 71 Demand Gap in Public Amenities and Open Spaces till 2036	86
Table 72 Proposed projects on the need for public amenities, open spaces and conservation of water bodies under CDP to be undertaken by 2036	87
Table 73 Few more proposed projects for the need of Public amenities water bodies, open spaces	87
Table 74 Investment required for Public amenities, open spaces & water bodies	87
Table 75 Proposed Projects for Improvements of Heritage and Tourism	92
Table 76 Existing Situation of Health facilities in Sitamau.....	93
Table 77 School Details	93
Table 78 Demand Gap in Health Infrastructure till 2036.....	94
Table 79 Demand Gap in Education Infrastructure till 2036.....	94
Table 80 SWOT Analysis for Health & Education Services.....	94
Table 81 Proposed projects for Improvement of Health & Education Services	95
Table 82 CDP Proposal for Education Facilities.....	95
Table 83 Studies and Programmes for Educational facilities under CDP and block cost estimate.....	95
Table 84 Proposed projects for emergency services in Sitamau under CDP to be undertaken by 2036	97
Table 85 Proposed projects for emergency services in sitamau	97
Table 86 Amount required for the emergency facilities.....	97
Table 87 Proposed Projects for Administrative and Other Services and Block Cost Estimate	99
Table 88 Details of Staffing - Sitamau ULB	103
Table 89 Details of Temporary/contractual/daily wages staff	104
Table 90 Status of mandatory municipal reforms in Sitamau Nagar Parishad	106
Table 91 Proposed Reforms Action Plan	107
Table 92 Prioritization of sectors	120
Table 93 Category wise Investment Requirements in Ideal Scenario	121
Table 94 Sector wise Investment based on Infrastructure; and Studies & Programmes	123
Table 95 Priorities of Stakeholder's during the stakeholder workshop 02.....	132
Table 96 Preliminary Phasing Principles.....	133
Table 97 Phase wise Investment Requirements for Sitamau	133

Table 98 Financial Performance of Nagar Parishad.....	135
Table 99 Total Receipt, Expense, Surplus, Deficit and Revenue Utilization Ratio for Sitamau	136
Table 100 Revenue Account at a Glance	137
Table 101 Summary of Revenue Income	138
Table 102 Tax Collection Efficiency for Sitamau Nagar Parishad	139
Table 103 Tax collection efficiency	139
Table 104 Tax collection efficiency-arrears	140
Table 105 Capital receipt, expence, surplus, deficit and utilization ratio of Sitamau	142
Table 106 Key Performance Ratios	143
Table 107 Key Assumptions.....	145
Table 108 List of steering committee members participated in the meeting.....	171
Table 109 Participants - Workshop 01	172
Table 110 Participants - Workshop 02	174
Table 111 List of Members in the State Level Meeting	177
Table 112 List of Members in 1st workshop	179

List of Figures

Figure 1 Stage wise Process of CDP Preparation.....	27
Figure 2 Key activities to be undertaken during Inception Stage	28
Figure 3 Processes involved in preparing City Profile, Sector Analysis, Vision, Strategy& Prioritisation	29
Figure 4 Various levels of Stakeholders' Consultation and Review by District and State Administration.....	30
Figure 5 Ancient Palace in Sitamau	33
Figure 6 Location of Sitamau City	35
Figure 7 Satellite Image of Sitamau	35
Figure 8: District Information on Climate	36
Figure 9 Population Growth Trend.....	37
Figure 10 Krishi Upaj Mandi at Sitamau	39
Figure 11 Existing Water Supply System in Sitamau	44
Figure 12 Location of ESR, Open Well	45
Figure 13 ESR, Sump and Open well.....	46
Figure 14 Households connected to Open Drain	52
Figure 15 Sewage Water flowing into Water body	52
Figure 16 Proposed locations for DWMS units in Sitamau for catering needs of the projected population (for the year 2036)	56
Figure 17 Existing Community Toilets in Sitamau	59
Figure 18 Existing public Toilets and OD Spots	60
Figure 19 Open Drains along the Road.....	64
Figure 20 Open Drains clogged with waste	64
Figure 21 Dumping of Waste along water body.....	69
Figure 22 Dumping Site	69
Figure 23 Location of Dumping Site	70
Figure 24 Inner Roads in Sitamau	74
Figure 25 Main Roads in the Town.....	75
Figure 26 Harijan Basti in Sitamau	82
Figure 27 Social Infrastructure in Sitamau.....	85
Figure 28 Heritage Structures in Sitamau	88
Figure 29 Heritage Monuments in Laduna	89
Figure 30 Vernacular Architecture of the town	89
Figure 31 Tourist circuit in district Madsaur	91

Figure 32 Schools in Sitamau	93
Figure 33 Governance Structure for Urban Development in Madhya Pradesh	102
Figure 34 Existing Structure of Sitamau Nagar Parishad	103
Figure 35 Phase wise Investment Requirement for CDP under Ideal Scenario	122
Figure 36 of Implementing, Funding & O&M Agencies	124
Figure 37 Total Income Expenditure of Sitamau Nagar Parishad at a Glance	136
Figure 38 Revenue Account at a Glance	137
Figure 39 Sources of Revenue Income 3 years Average	138
Figure 40 Tax Collection Process in Sitamau Nagar Parishad based on Nagarpanchayat Act 1961	140
Figure 41 Calculating cost of water per kilo litre	142
Figure 42 Capital Expenditure Utilisation	143
Figure 43 Phasing of Investment based on the Capacity of Nagar Parishad	148
Figure 44 Navsari and its proximity to Arabian Sea	158
Figure 45 Kodinar before cleaning of river (left) & after cleaning and construction of dams (right)	159
Figure 46 Rain water harvesting from roof of a school building (left) & Water recharge through well-shaft (right)	159
Figure 47 Initiatives in Solid Waste Management, Khedbrahma	162
Figure 48 Processing the Vermi compost (left) & Door to door campaign (right)	162
Figure 49 Tamil Nadu - ZERO Garbage Town - Namakkal	163
Figure 50 Pitra Parvat situation before the initiative (left) & a variety of plants beginning to take roots (right)	164
Figure 51 Citizens Monitoring Road Construction (left) & Road cordoned off by community for curing	165
Figure 52 Drum beating exercise	166
Figure 53 Operator at Jan Suvidha Kendra (left) & Message received by complainant about his complaint	168
Figure 54 Before design street light (left) & After design based street light (right)	169
Figure 55 Participants in workshop	173
Figure 56 Participants in Workshop 02	175
Figure 57 State Level Meeting 01 held on May 18, 2012 at UADD, Bhopal	178
Figure 58 Photographs of Stakeholder Workshop 03	180

i. List of Abbreviations

BPL	Below Poverty Line
CC	Cement Concrete
CDP	City Development Plan
CFL	Compact Fluorescent Light
CI	Cast Iron
CIP	City Investment Plan
CIP	Capital Investment Plan
CMO	Chief Municipal Officer
CPHEEO	Central for Public Health, Engineering & Environment Organisation
DM&C	District Magistrate & Collector
DMP	Disaster Management Plan
DNA	Data Not available
DPC	District Planning Committee
DPR	Detailed Project Report
DWMS	Decentralised Waste Water Management Service
ESR	Elevated Storage Reservoir
EWS	Economically Weaker Section
FOB	Foot Over-Bridge
FOP	Financial Operating Plan
GDP	Gross Domestic Product
GIS	Geographical Information System
GoMP	Government of Madhya Pradesh
GSR	Ground Level Service Reservoir
GUDC	Gujarat Urban Development Company
ha	Hectares
IEC	Information, Education & Communication
IMC	Indore Municipal Corporation
INR	Indian National Rupees
ITI	Industrial Training Institute
JnNURM	Jawaharlal Nehru National Urban Renewal Mission
kg	Kilogram
km	Kilometre
LIG	Low Income Group
lpcd	Litres per capita per day
m	metre
MPEB	Madhya Pradesh Electricity Board
ML	Million Litres
MLD	Million Litres per Day
mm	Millimetres
MP	Madhya Pradesh
MPEB	Madhya Pradesh Electricity Board
MSW	Municipal Solid Waste
MT	Metric Tons
NA	Not Applicable

ND	Not Defined
NGO	Non Government Organisation
NH	National Highway
NRW	Non Revenue Water
NUHM	National Urban Health Mission
O&M	Operation & Maintenance
OD	Open Defecation
PA	Personal Assistant
PHED	Public Health & Engineering Department
PPP	Public Private Partnership
ROB	Road Over-Bridge
RTO	Regional Transport Office
SC	Scheduled Caste
ST	Scheduled Tribe
SH	State Highway
SLB	Service Level Benchmark
sqkm	Square Kilometre
sqm	Square Metre
STP	Sewage Treatment Plant
SWD	Storm Water Drain
SWM	Solid Waste Management
SWOT	Strength Weakness Opportunity Threat
TCB	Training & Capacity Building
TCPD	Town & Country Planning Department
ToR	Terms of Reference
TPD	Transport Planning Division
UADD	Urban Administration & Development Department
UDPFI	Urban Development Plans Formulation & Implementation
UGD	Under Ground Drainage
UIDSSMT	Urban Infrastructure Development Scheme for Small & Medium Towns
ULB	Urban Local Body
UMC	Urban Management Centre
USD	United Stated Dollar
VMC	Vadodara Municipal Corporation
w	Watts
WTP	Water Treatment Plan

ii. Preamble

The Urban Administration and Development Department (UADD), Government of Madhya Pradesh (GoMP) invited tenders for the preparation of the City Development Plans of 253 Nagar Parishads and 6 Nagar Palikas in Madhya Pradesh in September, 2011. The proposal of Urban Management Centre (UMC) was accepted by UADD and was then principally selected for the preparation of the City Development Plans of Garoth, Malhargarh, Narayangarh, Bhanpura, Sitamau, Shamgarh and Nagri Cities in Mandsaur District.

Subsequently, UMC conducted numerous site visits, meetings and conference calls between November 2011 and July 2013 for the purposes of data collection, field visits, interaction with ULB officials, citizens, focussed groups and stakeholder workshops. In addition to data collection, detailed site visits were conducted at the following locations to assess the status of municipal services:

- Existing water supply source, pumping stations, water treatment plant(s), reservoirs, location of valves, households/ neighbourhoods where municipal water is supplied.
- Waste collection points in residential, commercial, special (including meat, vegetable markets & mandis) areas; formal and informal open dumping sites in and around the city, including water bodies
- Natural water bodies including nalas, river, lakes, ponds, etc. to assess the environmental degradation caused due to lack of municipal services in the city.
- Public toilets, urinals and open defecation (OD) sites
- Areas facing problems such as congestion, encroachments, etc.
- Areas providing formal and informal public transport services to the city
- Home/ cottage industries in the city
- Special areas such as railway station, railway colonies, etc.
- Outgrowths of the city

Other site visits included areas such as the slums, residential areas, water bodies, municipal civic centre/ camps, retail and wholesale markets, health and educational institutions, etc.

The purpose of these detailed field visits was to establish a qualitative relationship between the statistical details provided by the ULB with the actual ground realities, which in many cases, were found to be negating each other. Based on the verification of collected data, UMC conducted studies to summarise the findings and prepare proposals to fill any gaps in the municipal services. These proposals were presented to all stakeholders through the 2nd Stakeholder Workshop conducted in January 2012. Based on the citizen's feedback, their vision for development of their city over the next 25 years, and their priorities, the proposals were then refined and a broad sector wise investment was estimated for the next 25 years.

This was followed by a Report on City Profile, Sector Analysis, City Vision and Priority Projects which presented

- a) Sector wise assessment of municipal services
- b) Stakeholder's vision for development of their cities over the next 25 years
- c) Stakeholder's priorities for development
- d) Proposals under this CDP for fulfilling the gaps in municipal services for the next 25 years
- e) A broad cost estimate for all the proposals

Post submission of the Stage 2 Report, State Level Meeting 01 was organised by UADD to review the progress of the CDPs. During the State Level Meeting, general as well as city specific comments were provided by UADD

UMC also conducted Stakeholder Workshop 03 at the city level during this stage presenting the proposed projects and investment requirements to the stakeholders present. Further suggestions received during the workshop have been incorporated in the CDP.

Simultaneous to the Stakeholder Workshop 03, 1st District Level Presentation was conducted with the District Collector and Magistrate of Mandsaur district on August 06, 2012 and feedback received during this presentation has been incorporated in the CDP.

To review the draft CDP State Level Meeting 02 was organised by UADD and the feedback was provided. Based on the suggestions received, UMC prepared the Final CDP. This CDP presents the entire scope of work including city profile, sector analysis, city vision, priority projects, capital investment plan, financial operating plan and implementation mechanism for the proposals made under this CDP.

iii. Disclaimer

The scope of this report is to present the results of our detailed analysis and understanding. Our conclusions are based upon information drawn from research of the relevant region, data collected from the Urban Local Body (ULB), discussions with the respective ULB and our sector knowledge. No representation or warranty, express or implied, is given by Urban Management Centre (UMC) or any of its respective partners, officers, employees, or agents as to the accuracy or completeness of the information, data or opinions provided to UMC by third parties.

In the course of our assignment, we were provided with both written and verbal information between November 2011 and July 2013. Nothing has come to our attention to cause us to believe that the facts and the data provided by the ULBs are not true or not correct. However, no responsibility is assumed for the authenticity of the information furnished by the ULB. It is believed to be reliable and has not been independently verified by UMC.

We have neither carried out an audit or due diligence of the city nor a viability assessment of the assets of the ULB. No investigation of the title of the tangible and intangible assets has been made and the ULB's claim to the assets has been assumed to be valid. No consideration has been given to liens or encumbrances, which exist against the assets. Therefore, matters of a legal nature relating to the title of the assets have not been considered.

In case this document is to be made available or disclosed to any third party, this disclaimer along with all the limiting factors must be issued to the concerned party. The fact that UMC assumes no liability whatsoever, if for the reason any party is led to any loss for acting upon this document, must also be brought to the notice of the concerned party.

iv. Executive Summary

1. Background

In order to encourage systematic and planned development of small and medium cities and towns, Government of Madhya Pradesh (GoMP) has initiated the preparation of City Development Plan (CDP). The CDP presents both a vision of a desired future for the city and the urban local body's (ULB) organization, as well as mission statements on how the ULB, together with other stakeholders, intends to work towards achieving this long-term vision in the next five years. In the current scenario, CDP is not only a prerequisite for accessing Central and State funds, but also plays a key role in developing a strategic framework to translate vision into actions and actions into outcomes.

The Urban Administration and Development Department (UADD), Government of Madhya Pradesh (GoMP) invited tenders for the preparation of the City Development Plans of 253 Nagar Parishads and 6 Nagar Palikas in Madhya Pradesh in September, 2011. The proposal of Urban Management Centre (UMC) was accepted by UADD and was then principally selected for the preparation of the City Development Plans of Garoth, Malhargarh, Narayangarh, Bhanpura, Sitamau, Shamgarh and Nagri Cities in Mandsaur District.

The following sections illustrate the summary of CDP.

- Section 1 : illustrates the profile of Sitamau city
- Section 2 : describes SWOT analysis and stakeholder vision for Sitamau
- Section 3 : provides sector prioritisation
- Section 4 : gives an overview of infrastructure services
- Section 5 : identifies projects and investment needs along with phasing.

2. Sitamau City Profile

Sitamau is a tehsil Headquarter of Mandsaur District, is situated in the region of Malwa Patidar, the city is picturesquely situated on a small hill. Formerly it was the capital of the erstwhile state, Sitamau. The main object of interest of the town is its old castle, resembling in a curious way the famous Winder Castle of England.

Most of Sitamau inhabitants are engaged in agriculture and a few are involved in business. It has some small scale commercial shops available along main Bazaar Road. A few people are also involved in the tourism sector since the town has an ancient palace and other heritage.



Sitamau is connected to SH 14 and 30km away from Mandsaur, nearest railway station is at Mandsaur, 30kms away from Sitamau.

Sitamau receives relatively less rainfall as compared to the average amount of rainfall received by the entire Madhya Pradesh.



Sitamau shows a population growth rate of 11.42 % in the last decade as per the figures of Census 2011. Sitamau had average 82% literacy, which is higher than the national average of 60.5%. The population from 0 to 6 years is 14.21%. The total workers in the city are 32.08%.

Most of Sitamau inhabitants are engaged in agriculture but few are involved in business as well. Some people also travel to nearby towns for their employment.

The town has a mandi of class D which is situated along the Mandsaur road.



Besides the strong agricultural base the town has potential of tourism due to rich historic architectural structures and it also has a potential of Eco tourism in the town.

For the preparation of land-use map for the city, the information was collected from the ULB staff in the form of a revised ward map, old map of Sitamau and verbal opinion regarding different areas of Sitamau.

3. Stakeholder Vision and SWOT Analysis

In order to get a comprehensive overview of the existing situation and suggest well-rounded and pragmatic solutions it is important to avail participation from all the relevant stakeholders. The same was envisaged for the preparation of CDP and hence, consultations were made an important part of the methodology and planned at all the critical stages.

Stakeholder Vision for Development of Sitamau

“At present in Sitamau , there is no filtration plant for treatment of drinking water, so it was suggested to add one”

“Sitamau shoul designate an area for formal market, so that tax could be levied from the merchants and revenue could be increased”

“Sitamau should include the historical structures near the town to include into the heritage of the city”

“The city should restore the heritage structures and try to increase tourism, which will also add to the city revenues”

“To purchase new lands to accommodate the city outgrowth”

Based on the vision statements provided by stakeholders, the vision for the development has been summarised as below:

To present Sitamau as a model city promoting adaptive reuse of heritage buildings while providing ancillary strength to industrial setups in and around Mandsaur.

SWOT Analysis

Sectoral SWOT analysis was carried out for Sitamau to better assess the position of the city with respect to future growth and development

Strength

Sitamau has a strong agricultural base and strong & active mandi helps in the trading of agro products in large volumes. Besides the city has a good connectivity with the nearby towns. As far as water resource is concerned, Gandhi Sagar Dam is in the proximity to the city and is a perennial source of water that can be used for water supply for the city. Due to its architectural heritage, the city has potential for tourism that can help in the growth of revenues.

Weakness

Growth of industries in the region is very slow. There is a lack of infrastructure facilities along with this tourist facilities are also very poor in the region. Quality of water supply service is very poor and inadequate. Waste water management and sanitation conditions are in a very poor condition.

Opportunity

Domestic tourism has been increased and the city has a potential for the development of agro processing industries.

Threat

Absence of a development plan poses a threat of haphazard development in the region and inadequate facilities for tourists can hinder the tourism development in the region.

4. Sector Priority

The sector priorities have been computed by weighing each sector based on the above listed parameters and sub parameters. Computation of the same has set the prioritisation of sectors for CDP in Sitamau as follows:

High Priority	Solid Waste Management
	Sanitation
	Slums & Urban Poor
	Parks, Open Spaces & Water Bodies
Medium Priority	Water Supply
	Heritage & Tourism
	Public Space/ Amenities
	Education
	Health
Low Priority	Sewerage
	Storm Water Drainage
	Street Light
	Transportation & Mobility
	Roads

5. Status of Infrastructure Services

Water Supply

Sitamau Nagar Parishad supplies a mere 0.5 MLD of water daily. For this demand, water is drawn from 4 bore wells and 2 open wells. But due to absence of another perennial source, ground water is used for municipal water supply. The average ground water availability is at a depth of 50-60 feet. During summer season, due to shortage of water, the Nagar Parishad has to purchase water from water tankers and supply to the town. Apart from this Gandhi Sagar dam water can be used as water source in future.

The city provides the water drawn from above source without any treatment to the city. Occasional chlorination is done at sumps during monsoon months.

The total number of residential properties in Sitamau is 3,124, while the number of residential water connections is 1,800. Almost 42% of households are either dependent on other sources of water supply or collect water from public stand posts/hand pumps or buy water.

Although, no study has been conducted, NRW has been estimated at 64 percent using thumb rule calculations based on pipe sizes and duration of water supply which is very high and needs to be controlled. Besides, ULB does not have any map showing distribution network and other water supply utilities.

The water supply augmentation scheme of Sitamau town under UIDSSMT was prepared in 2007-08. This augmentation scheme is based on the surface source on river Chambal with a provision for construction of one Anicut, Intake-well cum pump house, treatment plant, raw water pumping main, clear water pumping main and laying of new distribution pipe lines.

Waste Water Management

Sitamau has no sewerage system. Untreated sewage flows into storm water drains that run along the roads throughout the city. About 50% of households have individual toilets in Sitamau. Some houses have soak pits or septic tanks, while many do not have any disposal system. The city generates around 0.40MLD of waste water daily. There is no mechanized facility (municipal or private) available in the city to clean septic tanks or for fecal sludge management.

Sewage water flowing into open drains, flowing waste water in storm water drains makes the city vulnerable to epidemics, especially during monsoons. Hence, all waste water collected through storm water drains and *nalas* is disposed-off untreated in natural drain flowing in the centre of the city. At present, there is no scheme to provide waste water collection and/or treatment facilities in the city.

Decentralised Waste Management System (DWMS) has been proposed in the city as an alternative technology for waste water management.

Sanitation

The city has 90 seats of public convenience in the city. But the condition is very bad and rendered non-functional due to no maintenance only one toilet near the bus stand is in working condition. There are severe gaps in providing adequate sanitation services. Open defecation is observed in the town causing public health risks and environmental threats. The status of sanitation is further exacerbated due to no septic tanks or soaks pits for safe treatment and disposal from the public toilets. This CDP proposed to provide individual toilets to all households and augment public toilets, especially at public places.

Storm Water Drainage

There is no planned storm water drainage system in the town. Small and medium surface drains constructed along the roads carry household wastewater and discharge it to water body and open fields. The situation is aggravated due to dumping of solid waste in the drains thereby blocking the flow. The city has only 2.5 km of pucca drains. Many areas of the city area unserved by storm water drains.

This CDP proposes to fulfil the gaps in storm water drains, desilting of natural drains and eliminating any spots prone to water-logging.

Solid Waste Management

The city generates an estimated 3.23 MT of municipal solid waste. The major components of solid waste generated comprise waste from households, commercial establishments, and institutional buildings etc. No door to door collection is undertaken in the city. The waste is transported to open dump site through tractor-trolleys and is disposed untreated.

This CDP proposes to provide infrastructure and technical support for improvement of MSW services in the city including door to door collection, transportation, treatment and disposal as per the norms.

Roads and Transportation

Sitamau is located at a distance of 30 km from Mandsaur. It is connected to the rest of the state by SH 14. Sitamau has a road network of 5kms within the municipal limits. Mandsaur Suwasara Road (SH-14) passes from the city, in the absence of a bypass for the city it creates congestion in the city areas.

The town has a dedicated bus stand but it is not properly managed. It is congested and informal parking also exists on the road that approaches to bus stand. The town has no dedicated parking facilities.

Sitamau faces severe gaps in services in roads and transportation. With increasing vehicles and road users, the road infrastructure is proving to be inadequate for the city.

The city needs public transport facilities like bus stand, parking, footpaths and additional roads on the periphery of the city. These improvements have been taken up under this CDP.

Streetlight

There are around 1025 street lights in the city, the lights are provided only along the main roads and hence there are some portions of the town require proper lighting. The street lights are switched on and switch off manually and no timer device has been installed for street light operation. Madhya Pradesh Electricity Board (MPEB) undertakes repairs and replacement as no technically qualified staff is available with the ULB.

The city needs additional street lights for additional roads along with energy saving initiatives like automatic timer devices and energy efficient lights like LED and Solar lamps. These improvements have been taken up under this CDP.

Public Amenities, Open Spaces and Water Bodies

Sitamau has around 4 percent of existing land use under public amenities category while 16 percent is under green areas or waste land. In addition to these, around 10 percent of area is under water bodies while another 8 percent area lies vacant. Overall apart from vacant lands, around 30 percent of land is available for public amenities, open spaces and water bodies. The city has 1 public garden and 1 public library. The city has 1 graveyard and 1 crematorium.

The city needs additional public amenities and public spaces such as library, night shelters, sports complex, parks, exhibition ground and appropriately developed water bodies. These improvements have been taken up under this CDP.

Health and Educational Facility

The city houses 1 state government hospital with a capacity of 30 beds and 1 PHC. Quantitatively, the facilities suffice the health infrastructure requirements of the city but the citizens have expressed qualitative inadequacy of these facilities.

Similarly, there are adequate education facilities based on the size of the city, the quality of these institutions has been reported poor by the citizens. The city has 12 *Aanganwadis*, 20 primary schools, 10 secondary schools and 6 higher secondary schools.

Services for Urban Poor

Presently 49% of households in Sitamau are considered living Below Poverty Line (BPL) in the town. Almost 7590 people are under BPL category.

Ward no.6 has slum population, the condition of infrastructure in these areas is not adequate. The water supply is through stand posts and also through individual connections. The major issue in these areas was in the sanitation sector. There is one public toilet which is not maintained and rendered dysfunctional. In-situ upgradation has been suggested for this settlement in this CDP.

Emergency Services

Sitamau Nagar Parishad owns 1 fire engine (heavy transport vehicle category) for emergency services with 1 driver deputed for the same. The size of the fire engine makes the Sitamau Gaon area inaccessible to the engine in case of any fires. Hence, a substantial population of the city is not served by this service. The city does not have a fire station and there is absence of appropriate equipments, gear and trained staff to handle any emergency situations. Although a Disaster Management Plan (DMP) at district level is present, the city is not aware about it and the city does not have a DMP of its own. Improvements such as purchase of smaller fire engine, construction of a fully equipped fire station have been proposed under this CDP.

Heritage and tourism

Sitamau has no existing list of heritage monuments in the city. However, during visits to the city UMC officials came across several potential sites, monuments and structures in Sitamau. The description of few identified monuments, structures and importance of its vernacular architecture alongwith appropriate interventions to redevelop these sites has been given in this CDP.

Mapping, listing and grading of these heritage structures as per prevailing norms should be done in the city, so that proper interventions could be made to conserve them. Apart from this, development of 'crafts village' and preparation of 'Heritage and Tourism Management Plan' have also been proposed in this CDP.

Administrative and Other Projects

The city also needs to initiate E-Governance and computerisation, database creation, asset management plan and training & capacity building of its administrative staff in order to provide efficient municipal services to the city. Such improvements have been taken up under this CDP.

6. Proposed Projects and Investment Needs

Investment needs of every sector are divided into two categories – infrastructure projects; and studies & programmes. While infrastructure projects include implementation costs of projects on ground, the studies & programmes include preparation of studies, reports, conducting IEC campaigns, training programmes, etc.

The total infrastructure investment anticipated for Sitamau is INR 13,403 lakh while INR 2,622 is anticipated for studies and programs making the total investment need for the city to be INR 16,025. A sector wise breakup is provided below:

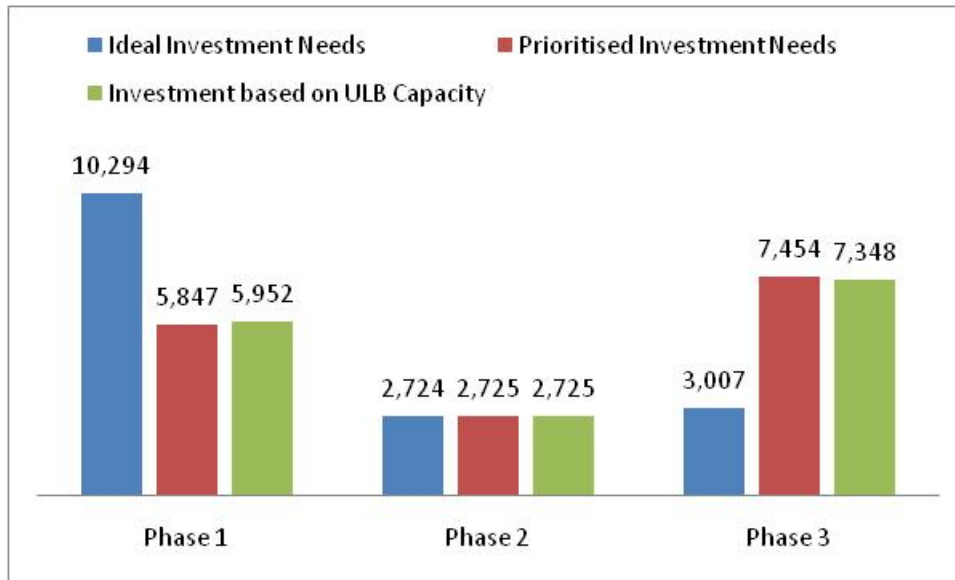
Sector	Infrastructure Projects	Studies & Programmes	Total
Category A: Municipal Investments			
Water Supply	1,236	332	1,568
Waste Water	1,291	280	1,571
Urban Roads, Traffic & Transportation	6,472	370	6,842
Storm Water Drains	1,257	280	1,537
Street Lighting	439	185	624
Solid Waste Management	172	280	452
Sanitation	657	280	937
Urban Poor/ Slums' Improvement	-	80	80
Open Spaces & Water Bodies	555	125	680
Public Amenities & Other Projects	620	-	620
Administrative Projects, Training & Studies	250	130	380
Emergency Services	58	155	213
Total Requirement (A)	13,008	2,497	15,505
Category B: Non-municipal Investments			
Heritage & Tourism	100	-	100
Education Facilities	185	63	248
Health Facilities	110	63	173
Total Requirement (B)	395	125	520
TOTAL INVESTMENT (A+B)	13,403	2,622	16,025

All figures are INR in lakhs

Sitamau Nagar Parishad is capable of spending INR 74.4 lakh per annum for O&M of projects proposed under this CDP. Hence for Phase I, the O&M capacity of Sitamau Nagar Parishad is INR 297.6 lakhs. Based on this calculation, the Nagar Parishad is capable of making a capital investment of INR 5,952¹ lakh. According to the CIP, the investment requirements for Phase I considering sector prioritization is INR 5,847 lakh, which is well under what the Nagar Parishad can invest.

A comparison between ideal investment requirements, investments needs based on citizen priorities and investment needs based on actual capacity of the ULB have been shown below:

¹ Considering the Nagar Parishad can invest 20 times its O&M capacity for four years



All figures are INR in lakhs

Based on the financial capacity of the ULB, the final proposed phasing of investments has been done on the basis of following ratios:

Priority	Phase 1	Phase 2	Phase 3
Essential	100%	100%	100%
High Priority	100%	100%	100%
Medium Priority	50%	100% + 50% of Phase 1	100%
Low Priority	50%	50%	100% + 50% of Phase 1 + 50% of Phase 2

The resultant final proposed phasing is as follows:

Priority	Sector	Phase 1	Phase 2	Phase 3	Total
Essential	Emergency Services	113.0	50.0	50.0	213.0
	Administrative Projects, Training & Studies	280.0	50.0	50.0	380.0
High Priority	Solid Waste Management	227.3	113.8	110.7	451.8
	Sanitation	519.4	201.7	216.1	937.2
	Slums & Urban Poor	20.0	30.0	30.0	80.0
	Parks, Open Spaces & Water Bodies	240.0	240.0	200.0	680.0
Medium Priority	Water Supply	499.3	785.5	283.4	1,568.2
	Heritage & Tourism	50.0	50.0	-	100.0
	Public Space/ Amenities	155.0	310.0	155.0	620.0
	Education	28.8	73.8	145.0	247.5
	Health	31.3	56.3	85.0	172.5
Low Priority	Sewerage	532.4	116.8	921.7	1,570.9
	Storm Water Drainage	502.1	126.9	908.3	1,537.3
	Street Light	179.2	62.8	382.3	624.3
	Transportation & Mobility	2,469.1	457.0	3,916.3	6,842.4
TOTAL INVESTMENT (A+B)		5,846.7	2,724.5	7,453.8	16,025.0
		36%	17%	47%	

Under the ideal scenario, the investment requirements for Phase 1 considering sector prioritization are INR 10,294 lakh, which is beyond the capacity of the Nagar Parishad. According to the Financial

Operating Plan, Sitamau Nagar Parishad is capable operating and maintaining project worth INR 5,952 lakh.

The phasing of investment based on the above principles indicates that only 36% of the total investment can be undertaken in Phase 1, while the remaining 17% percent and 47% percent can be undertaken in Phase 2 and 3 respectively.

Based on the above investment, the financial operations of the ULB for Phase 1 have been shown below:

Revenue	CAGR	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Receipt	26.85%	426.40	540.87	686.07	870.26	1103.89	1400.23
Expenditure	12.83%	335.69	378.77	427.38	482.22	544.10	613.92
Surplus/ Deficit		90.71	162.10	258.70	388.04	559.79	786.32
Operating ratio		0.79	0.70	0.62	0.55	0.49	0.44
Capital							
Receipt	16.13%	31.49	36.57	42.47	49.32	57.27	66.51
Expenditure	28.63%	77.89	100.19	128.87	165.77	213.23	274.29
Surplus/ Deficit		-46.40	-63.62	-86.40	-116.45	-155.96	-207.78
Capital Utilisation ratio		2.47	2.74	3.03	3.36	3.72	4.12
Opening Balance							
		67.22	111.53	210.01	382.30	653.89	1057.72
Total inflow		457.89	577.44	728.54	919.57	1161.16	1466.74
Total Outflow		413.58	478.96	556.25	647.99	757.33	888.20
Net surplus / Deficit		111.53	210.01	382.30	653.89	1057.72	1636.26

The projects proposed under this CDP and the resultant investment needed are based on 2012 rates and shall be revised periodically as and when needed.

Table 14 Indian standard specifications for drinking water (IS: 10500)

Parameter	Requirement desirable Limit	Remarks
Colour	5	May be extended up to 50 if toxic substances are suspected
Turbidity	10	May be relaxed up to 25 in the absence of alternate
pH	6.5 to 8.5	May be relaxed up to 9.2 in the absence
Total Hardness	300	May be extended up to 600
Calcium as Ca	75	May be extended up to 200
Magnesium as Mg	30	May be extended up to 100
Copper as Cu	0.05	May be relaxed up to 1.5
Iron	0.3	May be relaxed up to 1
Manganese	0.1	May be extended up to 0.5
Chlorides	250	May be extended up to 1000
Sulphates	150	May be extended up to 400
Nitrates	45	No relaxation
Fluoride	0.6 to 1.2	If the limit is below 0.6 water should be rejected, Max. Limit is extended to 1.5
Phenols	0.001	May be relaxed up to 0.002
Mercury	0.001	No relaxation
Cadmium	0.01	No relaxation
Selenium	0.01	No relaxation
Arsenic	0.05	No relaxation
Cyanide	0.05	No relaxation
Lead	0.1	No relaxation
Zinc	5.0	May be extended up to 10.0
Anionic detergents (MBAS)	0.2	May be extended up to 1
Chromium as Cr⁺⁶	0.05	No relaxation
Poly nuclear aromatic hydrocarbons	--	--
Mineral oil	0.01	May be extended up to 0.03
Residual free chlorine	0.2	Applicable only when water is chlorinated
Pesticides	Absent	--
Radio active	--	--