सत्यमेव जयते

नर्मदा व तापी बेसिन संगठन

NARMADA & TAPI BASIN ORGANIZATION

केन्द्रीय जल आयोग

CENTRAL WATER COMMISSION

गाँधीनगर (गुजरात)

GANDHINAGAR (GUJARAT)

गाद आँकड़े वार्षिकी (तलछट पदार्थ सहित)

SEDIMENT DATA YEAR BOOK (INCLUDING BED MATERIAL)

(2012-13)

माही, साबरमती, तापी एवं अन्य पश्चिम प्रवाही नदियाँ

Mahi, Sabarmati, Tapi & Other West Flowing Rivers

प्रकाशक **PUBLISHED BY**

जल विज्ञानीय प्रेक्षण परिमण्डल **Hydrological Observation Circle**

नर्मदा व तापी बेसिन संगठन **Narmada & Tapi Basin Organization**

केन्द्रीय जल आयोग **Central Water Commission**

गाँधीनगर (गुजरात) **Gandhinagar (Gujarat)**

मार्च 2014 **March 2014**

आमुख

भूक्षरण, पर्यावरण संतुलन को प्रभावित करने वाला एक मुख्य घटक है। यह अन्य कारकों जैसे जलवायु, भौगोलिक स्थिति, वनस्पति तथा भूमि के प्रकार तथा प्रकृति आदि पर निर्भर करता है। तीव्र वर्षा के फलस्वरूप, क्षरित भूमि के कण बहते हुए जल के साथ नदियों में चले जाते हैं। इस तरह नदियेां में गाद की मात्रा में वृद्धि होती है। अतः गाद की मात्रा की उपस्थिति के अनुसार किसी नदी बेसिन में होने वाले भूक्षरण का गुणात्मक अनुमान लगाया जा सकता है। नदियों में पहुँचने वाली क्षरित मिट्टी अर्थात गाद निलंबित भार के रूप में पानी के साथ बहती है तथा नदी की स्थलाकृति तथा बहाव के अनुसार जगह –जगह तल में बैठ जाती है। इस तरह भूक्षरण नदियों के बहाव एवं प्रवृत्ति को भी प्रभावित करता है। नदी में पाए जाने वाले गाद कणों के शैल वर्गीय अभिलक्षण तथा आकार, जल संसाधन परियोजनाओं कें नियोजन का एक अभिन्न अंग है। उपरोक्त तथा अन्य कारणों से गाद की मात्रा का प्रेक्षण तथा आकलन बहुत महत्वपूर्ण हो जाता है।

जल विज्ञानीय प्रेक्षण परिमंडल, गाँधीनगर, नर्मदा व ताापी बेसिन संगठन के अन्तर्गत केन्द्रीय जल आयोग की एक क्षेत्रीय ईकाई है जिसके अन्तर्गत माही मंडल़ गाँधीनगर एवं तापी मंडल सूरत द्वारा मध्य प्रदेश, महाराष्ट्र,राजस्थान एवं गुजरात से होकर पश्चिम की ओर बहने वाली नदियों पर **16** अधिसूचित कार्यस्थलों पर नदियों के तलछट पदार्थ एवं गाद के नमूने एकत्रित किए जा रहे हैं। नमूनों का परीक्षण / विश्लेषण भारतीय मानक ब्यूरो द्वारा निर्धारित रीति एवं मानकों के अनुसार किया जाता है।

इनमें से तलछट के नमूनों का परीक्षण तथा विश्लेषण़ मण्डल मुख्यालय स्थित, स्तर–II (Level –II) प्रयोगशालाओं में किया जाता है। निलंबित गाद के नमूनों का परीक्षण तथा विश्लेषण कार्यस्थल स्थित प्रयोगशालाओं में किया जाता है। निलंबित गाद तथा तलछट पदार्थ की नदियों में उपस्थिति के प्रभावी प्रबोधन हेतु, माही, साबरमती, तापी एवं पश्चिम की ओर प्रवाहित मुख्य नौ नदियों पर स्थापित कुल **14** कार्य स्थलों के वर्ष **2012-13** के आँकडे इस वार्षिकी द्वारा प्रकाशित किए जा रहे हैं। शेष **2** कार्य स्थलों के आँकडे जो नर्मदा नदी से संबंधित हैं , नर्मदा बेसिन संगठऩ, केन्द्रीय जल आयोग़, भोपाल को भेज दिए जाते हैं जहाँ से उनका प्रकाशन किया जाता है। इसके अतिरिक्त, प्रेक्षण तकनीक, विश्लेषण रीति आदि का वर्णन इस वार्षिकी में उल्लेखित हैं।

आशा है इस वार्षिकी में दी गयी सूचना एवं संकलित आँकड़े जल संसाधन परियोजनाओं के नियोजन, अभिकल्पन, विकास एवं अन्य जलवायवीय अध्ययनों के लिये उपयोगी होंगे।

वार्षिकी में प्रकाशित आँकडों के संकलन, विश्लेषण तथा प्रकाशन का कार्य नर्मदा व तापी बेसिन संगठन के अधिकारियों एवं कर्मचारियों ने सराहनीय समर्पण एवं लगन से संपादित किया है। मैं उनका आभारी हूँ।

गाँधीनगर (गुजरात)

मार्च **2014**

(धीरेन्द्र कुमार तिवारी)
अधीक्षण अभियंता

P R E F A C E

Soil erosion is one of the main factors affecting the environment. It depends upon factors like weather, geographical location, vegetation and type and ecological balance of soil etc. Fractions of top soil of a river basin are dislodged with the impact of rain water and are carried by water, flowing on surface, into the river. Thus quantity of silt in the river may lead to a qualitative assessment of soil erosion in the river basin. The eroded soil reaching the river is transported as suspended load till it is deposited in various reaches of river, which in turn, affects the characteristics of river flow and regime. Petrographic characteristics and size of silt particles in flowing water are extensively used for design of water resources structures especially penstocks and turbines.

Hydrological Observation Circle, Gandhinagar is a field office under Narmada & Tapi Basin Organisation of Central Water Commission, under which, Mahi Division, Gandhinagar and Tapi Division, Surat are collecting samples of sediment load data and bed material data of West flowing rivers, draining through the States of Madhya Pradesh, Maharashtra, Rajasthan and Gujarat at 16 identified sites. Samples of river bed material, collected at sites, are tested and analysed at level-II, Divisional laboratories and the suspended sediment samples are tested and analysed at site laboratories. All these tests and analyses including sample collection are carried out as per the standards laid down by Bureau of Indian Standards.

This annual publication presents the Sediment Load and Bed Material data for 14 sites from 9 river basins for the year 2012-13. Such data of 2 sites, located in Narmada basin are sent to Narmada Basin Organisation, C.W.C. Bhopal, which publishes them separately. Short notes on methodology adopted, basin description, site history and index map are also described in this volume.

I hope that this publication will be useful for planning, design and development of water resources as well as other climatic studies.

Dedication and devotion, with which, the work of analysis and compilation of data has been accomplished by the officers and staff of Narmada Tapi Basin Organisation is highly appreciated and acknowledged.

Gandhinagar

March 2014

(Dhirendra Kumar Tiwary)
Superintending Engineer

List of Officers

1	Shri. R.K. Suryavanshi	:	Chief Engineer, NTBO, Gandhinagar
2	Shri. D.K. Tiwary	:	Superintending Engineer, HOC, Gandhinagar
3	Shri. B.N. Prusty	:	Executive Engineer, Mahi Divi, Gandhinagar
4	Shri. Y.S. Varshney	:	Executive Engineer, Tapi Div, Surat
5	Shri. Satish Dave	:	Junior Engineer, HOC, Gandhinagar
6	Shri. A.R. Patel	:	Draftsman Gr- II, HOC, Gandhinagar
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10	Shri. D.S. Rajput	:	Observer Gr- II, Tapi Division, Surat
11	Shri. R.R. Parmar	:	SWA, MD, Gandhinagar

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Abbreviations and Symbols

AV	:	Average
C	:	Coarse Sediment
Con.	:	Concentration
cumec , m^3/s	:	Cubic meter per second
cum, m^3	:	Cubic meter
D	:	Day
Dis, Q	:	Discharge
F	:	Fine Sediment
G	:	Gauge
GD	:	Gauge and Discharge
GDS	:	Gauge, Discharge and Sediment
MDN, MD	:	Mahi Division
MSD	:	Mahi Sub Division
SSD	:	Sabarmati Sub Division
NWRSD	:	North Western River Sub Division
BLSD	:	Banas Luni Sub Division
TDN, TD	:	Tapi Division
UTSD	:	Upper Tapi Sub Division
MTSD	:	Middle Tapi Sub Division
LTSD	:	Lower Tapi Sub Division
DSD	:	Damanganga Sub Division
LNSD	:	Lower Narmada Sub Division
g/l	:	Gramm per liter
km	:	Kilometer
M	:	Medium Sediment
m	:	Meter
mm	:	Millimeter

%	:	Percentage
R. Days	:	Remaining Days
RL	:	Reduced Level
sec., S	:	Second
Sed.	:	Sediment
T/ D	:	Tonnes per Day
W.L.	:	Water Level
WY	:	Water Year
WQ	:	Water Quality
RB	:	Right Bank
sq m	:	Square Meter
A	:	Area of section
V	:	Mean velocity
P	:	Wetted Perimeter
R	:	Hydraulic Mean Depth
f	:	Average Silt Factor
LB	:	Left Bank
RD	:	Reduced Distance
S/G	:	Station Gauge Line
°	:	Degree
'	:	Minute
*	:	Estimated value from graph
**	:	Estimated value by interpolation

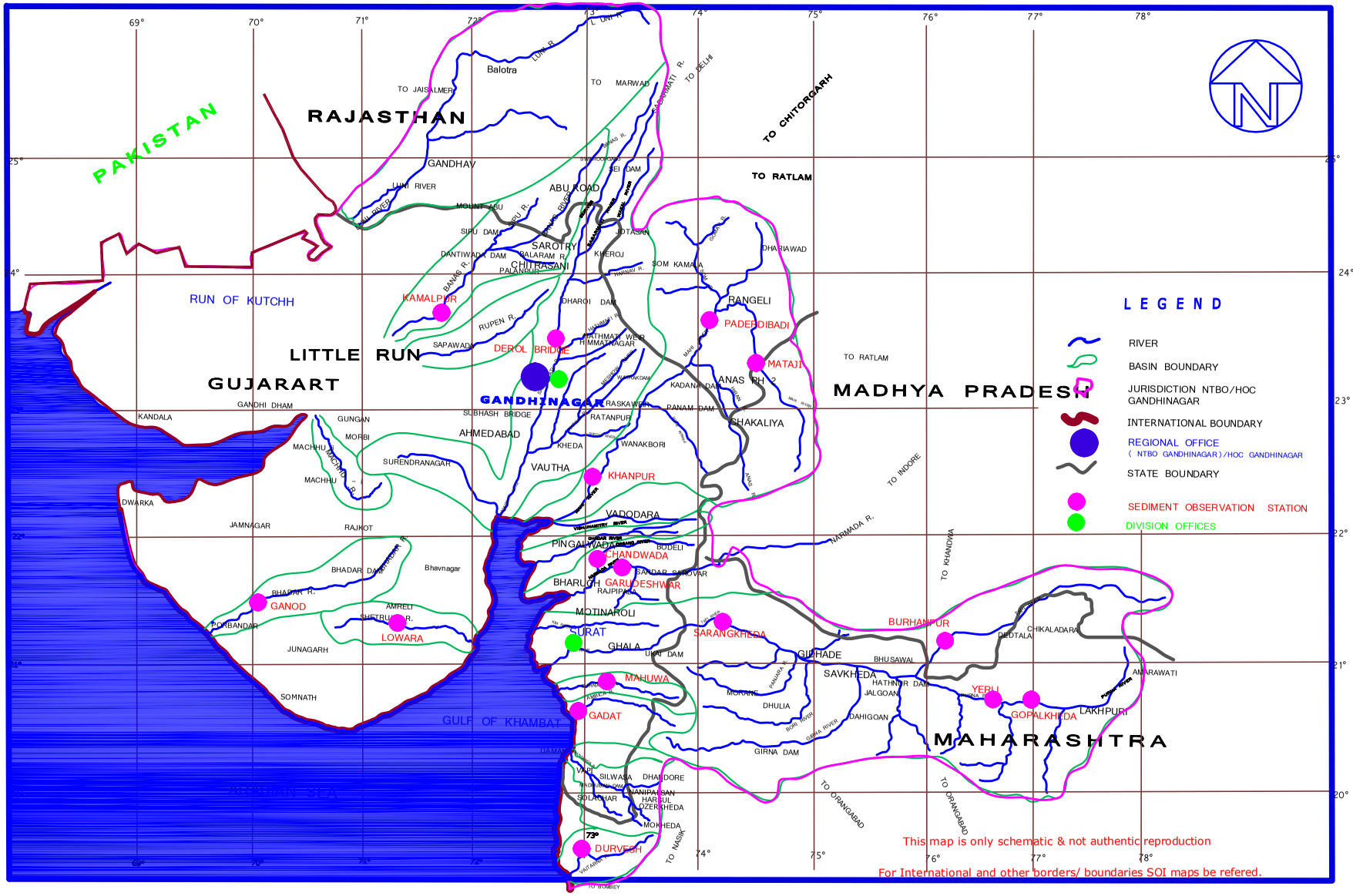
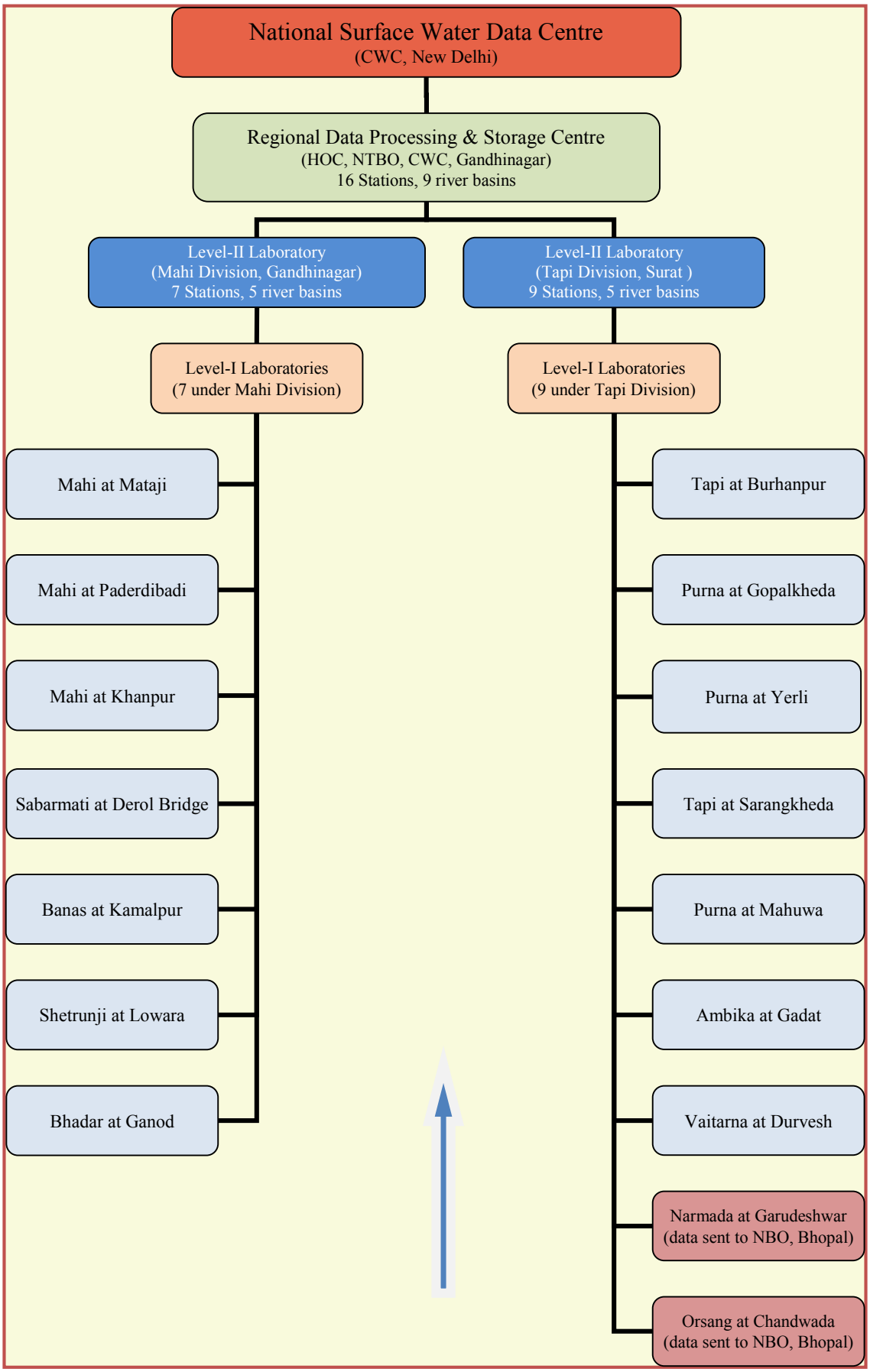


Plate-I Sediment Observation Stations under NTBO CWC Gandhinagar

Sediment Analysis- Flow of Data



1.0 Introduction

1.1 Scope

Central Water Commission conducts observations of Suspended Sediment and bed material loads at selected locations on river along with discharge and water quality observations. During the year 2012-13, sediment observations were carried out at 16 stations under the jurisdiction of Hydrological Observation Circle, Narmada Tabi Basin Organisation, Gandhinagar. These stations were opened under three schemes viz. National Network (NNW), 80-key hydrological stations (80-key) and flood forecasting (FF) Scheme. These stations are located on ten west flowing river basins in the States of Madhya Pradesh, Maharashtra, Gujarat and Rajasthan. Data collected from these stations is compiled and presented in this Year Book with analysis consisting of sediment rating curves, annual sediment yields, trends, etc.

The data has been compiled basin-wise. Names of the stations where suspended sediment and bed material load observation were conducted during the year 2012-13 are given, in **Table-1** and their location is shown in **Plate-1.**

Table-1: Stations where suspended sediment observations and bed material studies were conducted during the water year 2012-13

Sl. No.	Name of station	Station Code No	Scheme
1.	Mahi at Mataji	01 02 13 001	NNW
2.	Mahi at Paderdibadi	01 02 13 006	80Key
3.	Mahi at Khanpur	01 02 13 012	80Key
4.	Tapi at Burhanpur	01 02 17 002	NNW
5.	Purna at Gopalkheda	01 02 17 004	80 Key
6.	Purna at Yerli	01 02 17 005	80 Key
7.	Tapi at Sarangkheda	01 02 17 015	80 Key
8.	Banas at Kamalpur	01 02 02 007	NNW
9.	Bhadar at Ganod	01 02 07 001	NNW

10.	Shetrunji at Luwara	01 02 09 001	NNW
11.	Sabarmati at Derol Bridge	01 02 12 006	FF
12.	Purna at Mahuwa	01 02 19 001	NNW
13.	Ambika at Gadat	01 02 20 001	80 Key
14.	Vaitarna at Durvesh	01 02 25 001	NNW
15.	Narmada at Garudeshwar	01 02 15 030	NNW
16.	Orsang at Chandwada	01 02 15 032	80 Key

1.2 Source of information

Data has been collected by the field offices of two divisions, viz. Mahi Division, Gandhinagar and Tapi Division, Surat under the Hydrological Observation Circle, Gandhinagar. The Division wise distribution of stations is as under:

Sl.No.	Name of Division	No. of Stations
1.	Mahi Division, Gandhinagar	7
2.	Tapi Division, Surat	9 *

(* Data of two sites at Garudeshwar and Chandwada collected by Tapi Division are being published by NBO, CWC, Bhopal)

Division wise list of the sediment monitoring stations is as under

A: Mahi Division, Gandhinagar		**B: Tapi Division, Surat**	
Sl. No.	Name of Station	Sl. No.	Name of Station
1.	Mahi at Mataji	1.	Tapi at Burhanpur
2.	Mahi at Paderdibadi	2.	Purna at Gopalkheda
3.	Mahi at Khanpur	3.	Purna at Yerli
4.	Banas at Kamalpur	4.	Tapi at Sarangkheda
5.	Bhadar at Ganod	5.	Purna at Mahuwa
6.	Shetrunji at Luwara	6.	Ambika at Gadat
7.	Sabarmati at Derol Bridge	7.	Vaitarna at Durvesh
		8	Narmada at Garudeshwar *
		9	Orsang at Chandwada *

(* Data of Garudeshwar and Chandwada sites are being published by NBO, CWC, Bhopal)

2.0 Suspended Sediment Observation

2.1 Observation Technique

2.1.1 Collection of Sediment Samples

Suspended sediment observations are conducted simultaneously with discharge observation once a day starting at 08:00 hours except on Sundays and holidays. The observations are conducted at station gauge line under normal conditions. However, when the conditions become unsuitable for observations, say due to pooling, shallow depths, multi channel formation etc, the observation site is shifted to a temporary section at up - stream or down - stream of the station gauge line.

Sediment samples are collected at 0.6 depth from each vertical where velocity observation is done for computation of discharge, provided depth of flow is greater than 0.3m. The samples thus collected from each vertical are grouped in 1, 2, 3, 4 or 5 composite groups depending on the width of river in such a way that each composite group discharge is almost nearly equal or within the limit of average discharge $\pm$10 % of the total discharge. Punjab type bottle sampler is commonly used for collection of water sample for suspended sediment analysis. A uniform practice of holding the bottle in vertical position only is adopted. The samples from shallow depths (water depth less than 0.8m but more than 0.3m) are collected from the surface. These surface samples, at shallow depths are presumed to be of 0.6 depth sampling. The water samples collected are kept in composite groups based on the data observed on previous day and carried to the site office for analysis. Sometimes these observations at higher stages may not be made as per standard procedure due to infeasibility of observation by boat under such circumstances water samples are collected at the surface.

2.1.2 Analysis of Suspended Sediment samples

Analysis of the suspended sediment samples is carried out for three different grades viz. coarse sediment with particle diameter above 0.2 mm, medium sediment with diameter ranging from 0.075 mm to 0.2 mm and fine sediment with diameter less than 0.075 mm. Sediment samples from each group (as stated in section- 2.1.1) is passed through 212- micron mesh sieve. Residue on the sieve is washed with clean water several times, transferred to a pre-weighted crucible and its oven- dried weight is

determined. This gives the course sediment from which sediment intensity in g/l for a groups is worked out.

After removal of coarse sediment, the filtrate and washings which now contain medium and fine sediment is similarly passed through 75-micron mesh sieve. Residue on the sieve is washed with clean water several times and is transferred to pre-weighted crucible. After drying, the quantity is measured to work out the sediment intensity in g/l for that particular group.

The filtrate and washings after separation of coarse and medium grade now contain only fine sediment. All the filtrate and washings from different composite groups are kept overnight to allow them to settle down. About 5 to 10 ml of 10% alum solution is added to hasten the coagulation of colloidal silt. After the settlement, the supernatant liquid is siphoned off carefully and the remaining volume of suspension is filtered in pre-weighted filter paper (Whatman grade 2) and the transfer of entire settled silt is ensured by additional washing with clean water. The filter paper along with the sediment is dried and weighed to obtain the amount of sediment intensity in g/l for the composite group.

The total suspended sediment load of the river along the section is worked out from the concentrations thus obtained for coarse, medium and fine sediment group-wise for the entire cross section.

2.2 Explanatory Notes

The explanatory notes described hereunder are given to assist in the interpretation of hydrological parameters contained in the data presented. The notes are, therefore, applicable in so far as data presented in this book are concerned.

1. Water year covers the period from 1st June of one calendar year to 31st May of the next calendar year and includes one complete hydrological cycle

2. The water year is further subdivided as

   (a) Monsoon Period from June to November

   (b) Non-monsoon period From December to May

3. Discharge

   (a) Discharge is given in cubic meters per second.

(b) Discharges given are daily actual observed / estimated at 08.00 hours

4. Discharges are rounded off to

(a) Nearest full integer when more than 1000.

(b) Nearest first decimal figures when between 100 and 1000.

(c) Nearest two decimal figures when between 10 and 100.

(d) Nearest three decimal figures when less than 10.

5. Measuring authority refers to the field division responsible for the operation of the gauging station.

6. The gauging station code number is a unique nine figures numeric reference number, which facilitates storage and retrieval of flow data in data banks. The first two digit indicates the measuring authority who is hole responsible for R & M of sites, next two digit indicates the Basin/Zone and the river identification i.e. 01 for West coast of Gujarat, and 02 for West coast Maharastra, the next two digits indicates the name of river in basin like 13 is for Mahi basin, the last three digits will represents the site number, viz 001 is for Mataji site of Mahi basin.

7. Sediment is classified as coarse, medium and fine according to diameter as indicated below.

Coarse	- Sediment above 0.20 mm diameter.
Medium	- Sediment between 0.20 & 0.075 mm diameter.
Fine	- Sediment below 0.075 mm diameter.

8. The sediment load reported in the daily observed sediment data sheet indicates daily sediment load, 10 daily mean and monthly sediment load

9. When the sediment samples collected give non-measurable sediment, it is presumed to be of nil value.

10. In daily observed sediment data sheet, values are rounded off to

a) – Nearest full integer when more than 1000.

b) – Nearest first decimal figure when between 100 and 1000.

c) – Nearest two decimal figures when less than 100.

11. Annual / seasonal sediment yield in mm is the notional depths of soil in millimeters over the catchment equivalent to annual/seasonal suspended sediment run off calculated at the sediment observation station. It is computed using the relation

$$\text{Sediment yield (mm)} = \frac{\text{Total suspended Load (T)}}{\text{1400 x catchment area (sq km)}}$$

This is only an approximation as no specific consideration has been given to intercepted catchment.

2.3 Method of Presentation

In the succeeding pages, station wise suspended sediment data is presented as Section 4.0 of this year book which comprises history sheet and Daily Observed Sediment Datasheet and Seasonal Sediment load tables. Suspended sediment observation stations are arranged beginning from the origin of the river to downstream giving inter-se priority to an intermediate tributary station in similar fashion

History sheet gives concise description of the suspended sediment observation station. The Daily Observed Sediment Datasheet table includes the following:

1. Daily observed sediment flow tables for the period from June to May.

2. Ten daily mean of coarse, medium and fine sediment for the full year.

3. Monthly sediment load and Annual Sediment load are shown in the Daily Observed Sediment Datasheet.

4. Seasonal Sediment load for the year are shown in the form of pie chart.

2.4 Summary- Suspended Sediment

A summary at a glance for the year 2012-13 for all sites for suspended sediment data is shown in the Table-2 Annual sediment load at these sites is also shown by an

adjoining chart on the following page. Detailed data are given in Section-4 of this Year Book.

Table 2: Sediment Load at a Glance for the water year 2012-13

Sl. No	Name of Site	Catchment Area	Maximum Sediment Concentration Observed		Annual Sediment Load	Sediment Yield in mm	% in Mon-soon
		in sq km	g/l	Date	in metric tonnes		
1	Mahi at Mataji	3880	0.914	12.08.2012	202047	0.0372	100.0
2	Mahi at Paderdibadi	16247	0.474	13.09.2012	142135	0.0062	99.99
3	Mahi at Khanpur	32510	0.596	14.08.2012	1088159	0.0239	100.0
4	Tapi at Burhanpur	8487	5.650	08.07.2012	10835107	0.9119	99.99
5	Purna at Gopalkheda	9500	15.2	07.09.2012	9113852	0.6853	100.0
6	Purna at Yerli	16517	4.914	08.09.2012	3900342	0.1687	100.0
7	Tapi at Sarangkheda	58400	11.42	07.09.2012	32524509	0.3978	100.0
8	Banas at Kamalpur	6960	0.304	14.08.2012	613	0.0001	100.0
9	Bhadar at Ganod	6266	0		0	0	0
10	Shetrunji at Luwara	3953	1.305	02.09.2012	49085	0.0089	100.0
11	Derol Bridge at Sabarmati	6724	0.053	12.09.2012	759	0.0001	100.0
12	Purna at Mahuwa	1995	0.561	01.08.2012	78385	0.0281	100.0
13	Ambika at Gadat	1510	0.275	01.08.2012	106451	0.0504	100.0
14	Vaitarna at Durvesh	2019	0.764	04.09.2012	800614	0.2832	100.0

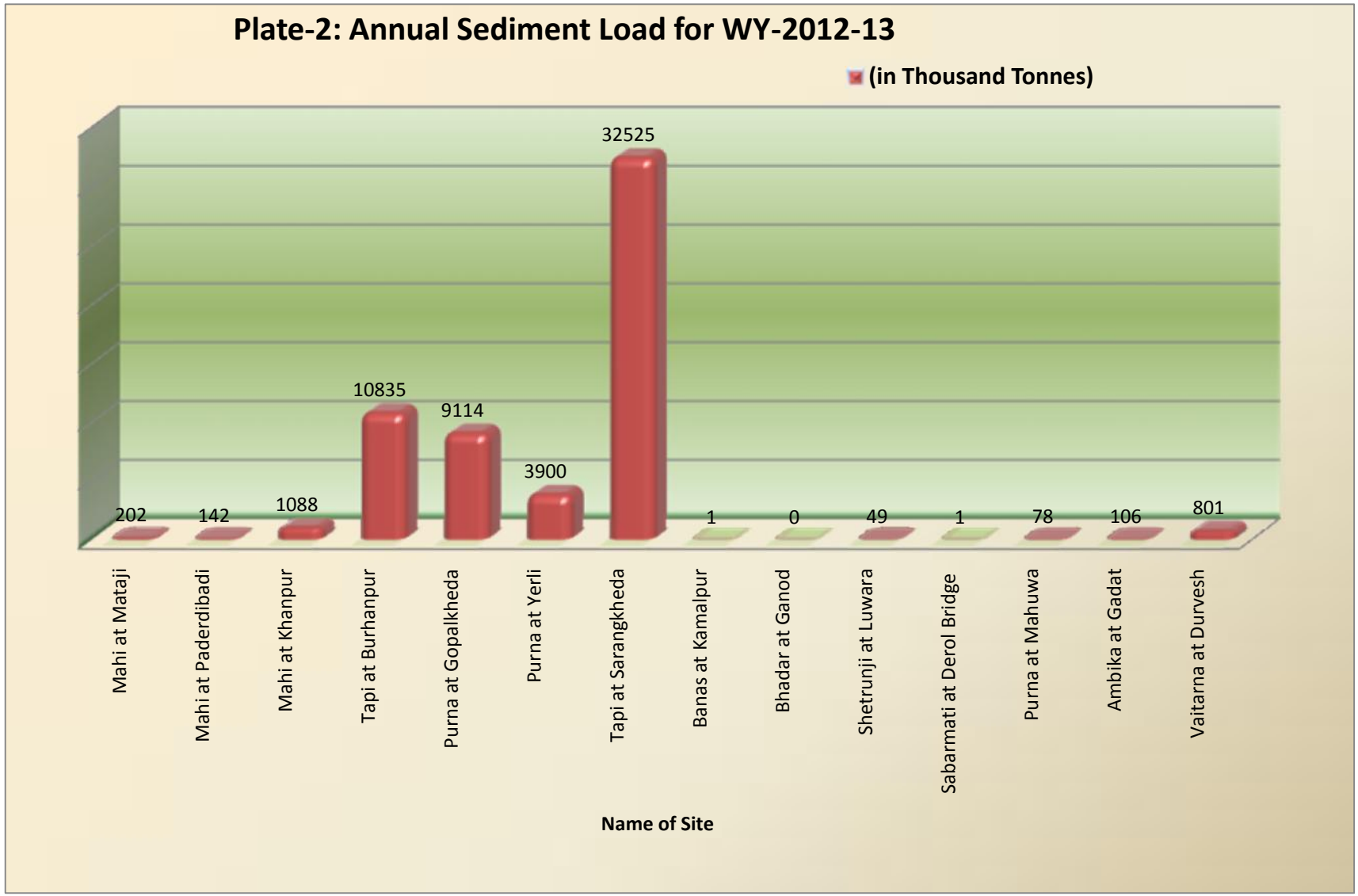


Plate-2: Annual Sediment Load for WY-2012-13
(in Thousand Tonnes)
202
142
1088
10835
9114
3900
32525
1
0
49
1
78
106
801
Mahi at Mataji
Mahi at Paderdibadi
Mahi at Khanpur
Tapi at Burhanpur
Purna at Gopalkheda
Purna at Yerli
Tapi at Sarangkheda
Banas at Kamalpur
Bhadar at Ganod
Shetrunji at Luwara
Sabarmati at Derol Bridge
Purna at Mahuwa
Ambika at Gadat
Vaitarna at Durvesh
Name of Site

3. Bed Material

3.1 Collection of Samples

Bed material surveys are being carried out at the suspended sediment observation sites regularly thrice a year pre- monsoon, monsoon and post monsoon periods. Depending upon the width of the river, 3 to 10 samples are collected from the site along the station gauge line. A scoop type bed material sampler is used for collecting the samples from flowing portion of the channel and where the bed is dry, samples are collected manually after scraping the upper layer of the bed to avoid local surface contamination. After drying the samples, about 1 kg of the sample is taken by coning and quartering process.

3.2 Packing of Samples

Bed material samples thus collected are filled in polythene bags and placed inside a thick cloth bag for protection. The details of the samples are inserted in the polythene bag and the same are sent to divisional laboratory for analysis.

3.3 Analysis of Samples

In the laboratory, analysis of samples is done by two methods:

i) Analysis by sieve for Bed material Particles above 0.6 mm size and
ii) Analysis by wet process using Puri's Siltometer for Particles below 0.6 mm size.

3.3.1 Analysis by Sieves

The sieves are arranged one above the other in order of their mesh sizes, largest at top and smallest (0.6 mm) aperture sieve at the bottom. Each representative sample is weighed and then put on the top metallic sieve. The portion of the materials passing through 0.6 mm sieve is collected in a metallic container placed at the bottom of the set of sieves. Shaking of the sieves is done either by gentle horizontal rotation or by a mechanical shaker for about 15 to 20 minutes. The material retained on each sieve is collected separately in a metallic container and is weighed. The material passing through 0.6 mm sieve is also weighed and recorded.

3.3.2 By Puri's Siltometer

For Particles of size below 0.6 mm, the analysis is done by wet process using Puri's Siltometer. About 10 grams of the Bed Material sample passing through 0.6 mm sieve is released from the top of the Siltometer. The sand, silt Particles travel downwards at different velocities depending upon their diameter and the temperature of water. The trough of the Siltometer is rotated at a pre- determined rate to collect the fractions. Thus different fractions of a sample are deposited in 20 receptacles in a trough. Each of these fractions is then collected in the silt measuring tube and compacted by tapping on the rubber pad. The volume of the each fraction is noted down.

From the result of the above analysis, summation curves are plotted and the mean diameter of the samples worked out as per the standard procedure. Statistical method is also used to work out the mean diameter. The silt factor is obtained from the formula:

$$\mathbf{f = 1.76 \sqrt{m}}$$

Where, 'm' is the mean diameter of the particles in mm.

3.4 Presentation of Bed Material Data

The bed material data is presented in section 5.0 of this year book that gives average mean diameter and silt factor for the pre and post monsoon periods.

4.1 Mahi Basin

The river Mahi is third major west flowing interstate river of India, draining into the Gulf of Cambay. It originates in the northern slopes of Vindhya hill range near village Sardarpur in Dhar district of Madhya Pradesh at an elevation of 500 m above mean sea level. Its length is 583 km, traversing 167 km in Madhya Pradesh, 174 km in Rajasthan and the remaining 242 km in Gujarat. It flows initially in North West direction through Dhar and Jhabua districts of Madhya Pradesh. Thereafter, it takes turn to the left and flows in south – west direction through Banswara district of Rajasthan, Panchmahal and Kheda districts of Gujarat State before draining into Gulf of Cambay. It drains an area of 34,842 sq.km, spread over Rajasthan (47%), Madhya Pradesh (19%) and Gujarat (34%). The basin lies between the geographical co-ordinates of 73^0 00' to 74^0 20' east longitudes and 22^0 30' to 24^0 20' north latitudes. The basin is bounded by the Aravalli hills in north and north-west, by the ridge separating it from Chambal basin in the east, by the Vindhya hill range in the south and finally by Gulf of Cambay in the west. In Rajasthan, the basin consists of hills, forests and eroded terrain. In Gujarat upto the confluence of Mahi and Panam, the basin comprises semi developed lands. Below Wanakbori Weir and up to the mouth, the basin is flat, fertile and well developed alluvial track.

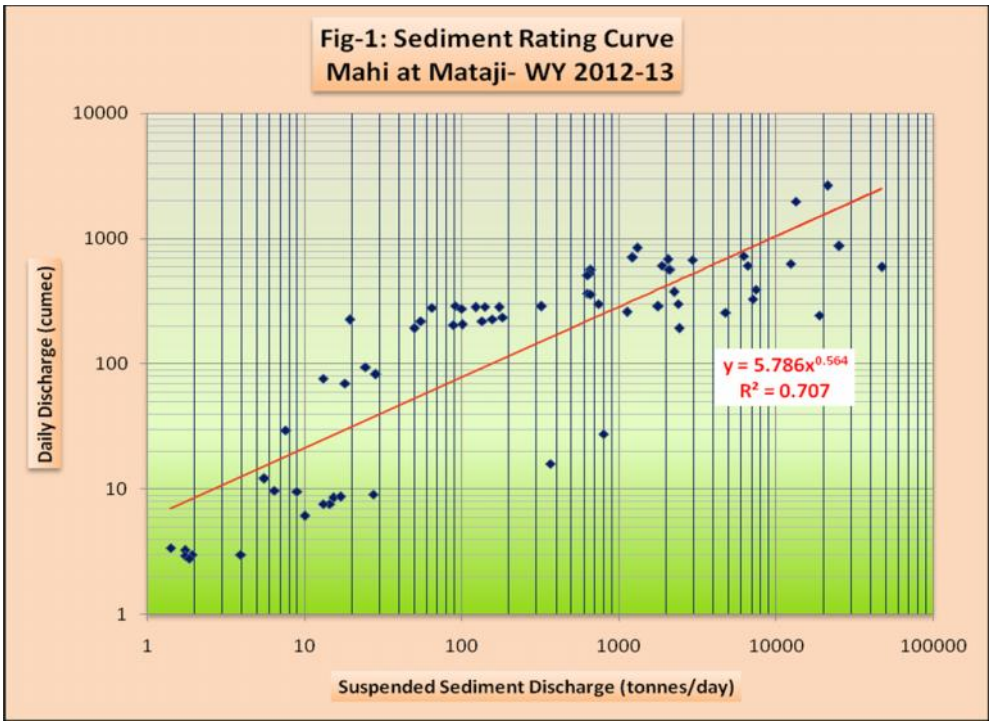
The Mahi river receives several tributaries on both banks out of which the main tributaries are Som, Anas and Panam. The Som River joins the main river on the right Bank in Rajasthan. The Anas and Panam join the main river on the left Bank in the Rajasthan & Gujarat respectively.

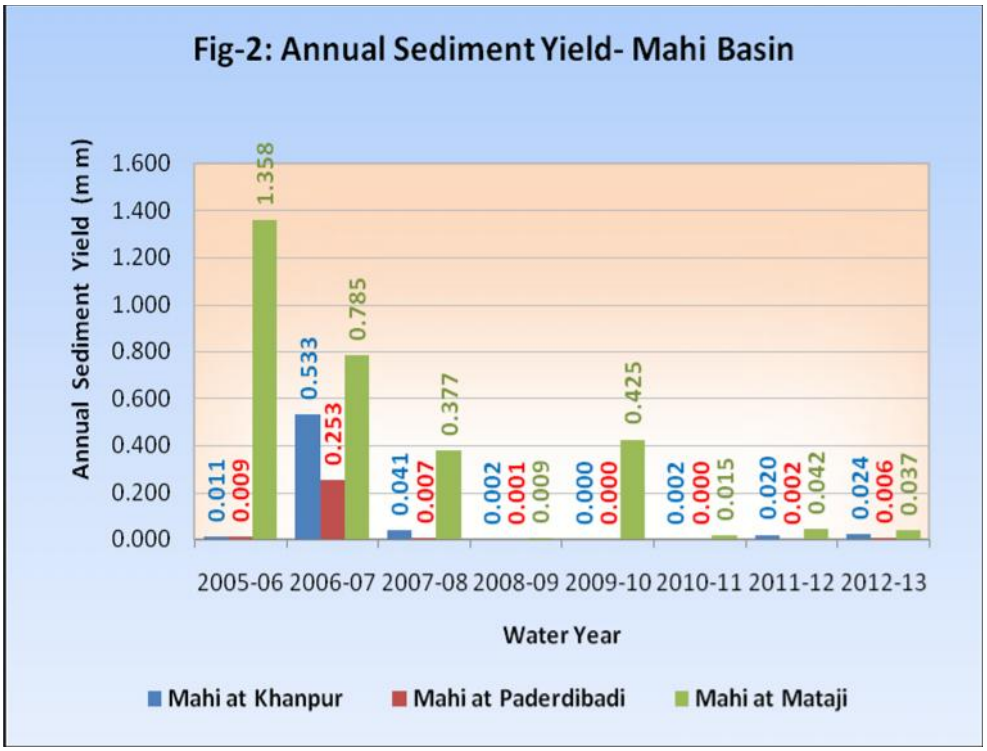
The average rainfall in Mahi basin 785 mm. In the dry cool winter,the minimum temperature varies from 5°C to 20°C. Maximum temperature varies from 30°c to 50°c during the hottest month of May.

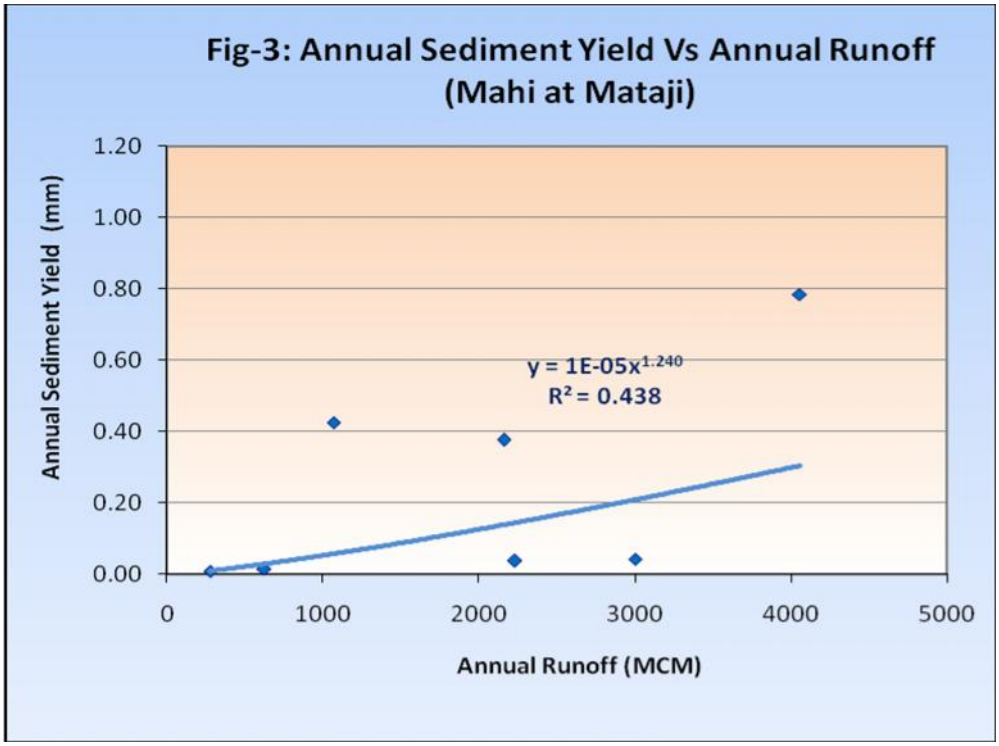
At present there are 15 completed major / medium projects in Mahi basin. The two main projects across Mahi are Mahi Bajaj Sagar and Kadana reservoir. A weir at Wanakbori is also constructed across the main river. Other 11 projects are on different tributaries of Mahi River. There are three Silt Monitoring Station in this basin, all the three stations are located on main river Mahi and a brief of the Sediment stations is given in the section- 4.1.1 to 4.1.3.

4.1.1. Mahi at Mataji

The station has a Catchment area of 3,880 sq km. The sediment rating curve at the site is given in **Fig-1**. The maximum sediment concentration of 0.914 g/l was observed on 12.08.2012. The total sediment load during the year is 2,02,047 metric tonnes. The monsoon load constitutes 100 % of the total load. The annual sediment yield over the catchment during water year 2012-13 is 0.0372 mm. Annual sediment yield over the period of observations is given in **Fig-2**. It is seen from the analysis that sediment yield reflects a gradually decreasing trend over the years. Annual yield is also very poorly correlated with annual runoff as shown in **Fig-3.**



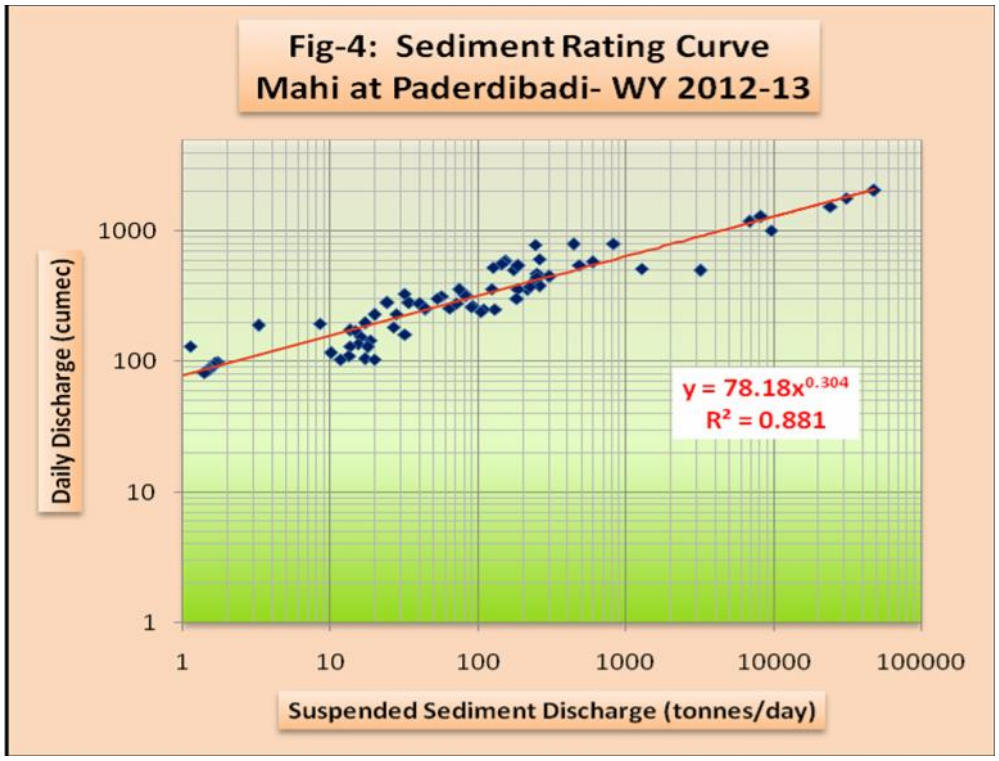


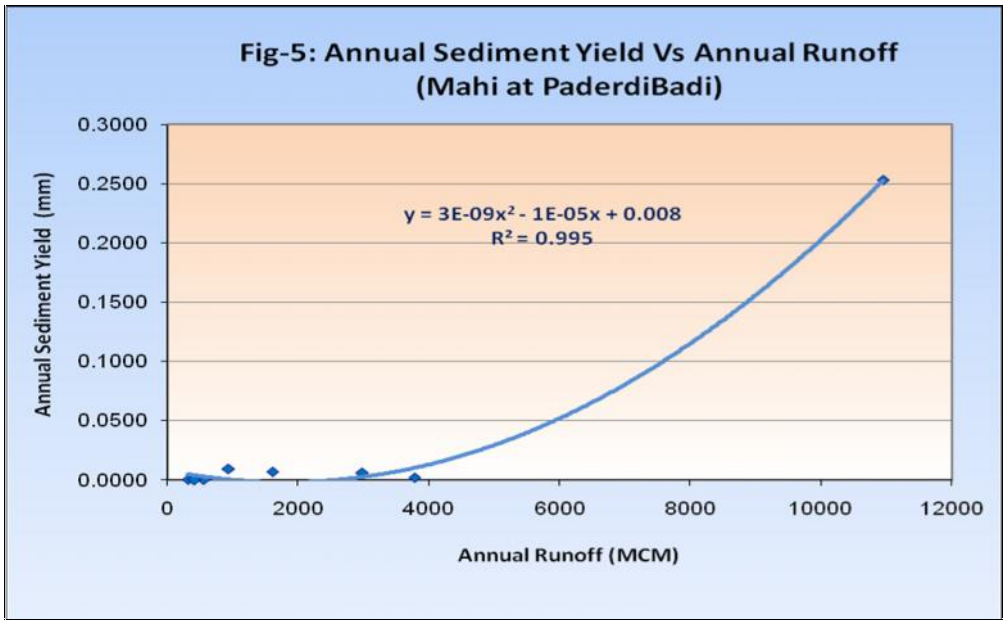


4.1.2. Mahi at Paderdibadi

The station has a Catchment area of 16,247 sq km. The sediment rating curve at the site is given in **Fig-4**. The maximum sediment concentration of 0.474 g/l was observed on 13.09.2012. The total sediment load during the year is 1,42,135 metric tonnes. The monsoon load constitutes 99.999 % of the total load. The annual sediment yield over

the catchment during water year 2012-13 is 0.0062 mm. Annual sediment yield over the period of observations is given in **Fig-2.** It is seen that **Fig-5** reveals a very strong positive correlation of annual yield with annual runoff.

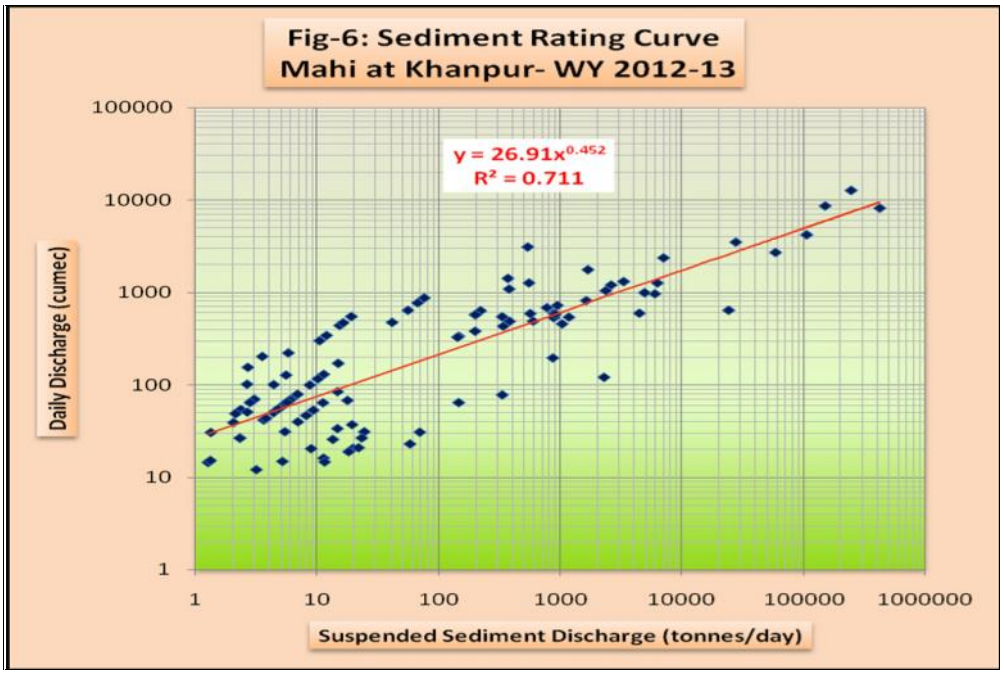




4.1.3 Mahi at Khanpur

The station has a Catchment area of 32,510 sq km. The sediment rating curve at the site is given in **Fig-6**. The maximum sediment concentration of 0.596 g/l was observed on 14.08.2012. The total sediment load during the year is 10,88,159 metric tons. The

monsoon load constitutes 100 % of the total load. The annual sediment yield over the catchment during water year 2012-13 is 0.0239 mm. Annual sediment yield over the period of observations is given in **Fig-2**. It is seen that a very strong positive correlation exists between annual yield and annual runoff as shown in **Fig-7**.



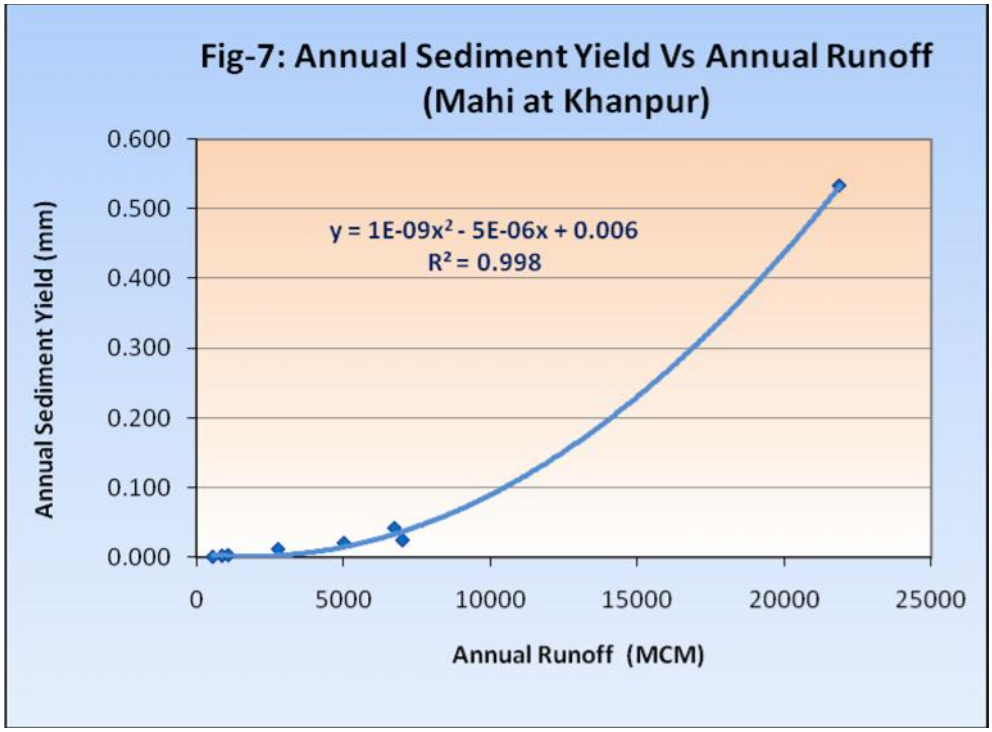


Plate - 4.1 Mahi Basin

HISTORY SHEET

		Water Year	**: 2012-2013**
Site	**: Mahi at Mataji**	**Code**	**: 01 02 13 001**
State	: Madhya Pradesh	District	Ratlam
Basin	: Mahi	Independent River	: Mahi
Tributary	: Mahi	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Mahi
Division	: Mahi Division, Gandhinagar	Sub-Division	: Mahi Sub Divn., Kadana
Drainage Area	: 3880 Sq. Km.	Bank	: Left
Latitude	: 23°20'57" N	Longitude	: 74°43'31" E
Zero of Gauge (m)	: 295 (m.s.l)	01/01/1982	- 31/12/2003
	284 (m.s.l)	01/01/2004	-
	Opening Date	Closing Date	
Gauge	: 21/07/1982		
Discharge	: 21/07/1982		
Sediment	: 21/07/1982		
Water Quality	: 21/07/1982		

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Mahi at Mataji (01 02 13 001) **Division : Mahi Division, Gandhinagar**

Local River : Mahi **Sub-Division : Mahi Sub Divn., Kadana**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000						278.7	0.000	0.000	0.003	0.003	65
2	0.000	0.000	0.000	0.000	0.000	0	0.000						224.8	0.000	0.000	0.001	0.001	19
3	0.000	0.000	0.000	0.000	0.000	0	0.000						94.23	0.000	0.000	0.003	0.003	24
4	0.000	0.000	0.000	0.000	0.000	0	0.000						82.49	0.000	0.000	0.004	0.004	29
5	0.000	0.000	0.000	0.000	0.000	0	0.000						76.14	0.000	0.000	0.002	0.002	13
6	0.000	0.000	0.000	0.000	0.000	0	0.000						70.06	0.000	0.000	0.003	0.003	18
7	0.000	0.000	0.000	0.000	0.000	0	0.000						29.34	0.000	0.000	0.003	0.003	8
8	0.000	0.000	0.000	0.000	0.000	0	0.000						244.0	0.000	0.000	0.893	0.893	18822
9	0.000	0.000	0.000	0.000	0.000	0	0.000						257.1	0.000	0.000	0.214	0.214	4760
10	0.000	0.000	0.000	0.000	0.000	0	0.557	0.000	0.000	0.219	0.219	11	192.1	0.000	0.000	0.145	0.145	2407
11	0.000	0.000	0.000	0.000	0.000	0	290.4	0.000	0.000	0.071	0.071	1782	300.7	0.000	0.000	0.091	0.091	2374
12	0.000	0.000	0.000	0.000	0.000	0	27.58	0.000	0.000	0.334	0.334	796	592.6	0.000	0.000	0.914	0.914	46796
13	0.000	0.000	0.000	0.000	0.000	0	9.540	0.000	0.000	0.011	0.011	9	726.5	0.000	0.000	0.099	0.099	6189
14	0.000	0.000	0.000	0.000	0.000	0	12.16	0.000	0.000	0.005	0.005	6	707.1	0.000	0.000	0.020	0.020	1222
15	0.000	0.000	0.000	0.000	0.000	0	15.99	0.000	0.000	0.265	0.265	366	840.4	0.000	0.000	0.018	0.018	1307
16	0.000	0.000	0.000	0.000	0.000	0	9.738	0.000	0.000	0.008	0.008	6	374.1	0.000	0.000	0.069	0.069	2240
17	0.000	0.000	0.000	0.000	0.000	0	9.031	0.000	0.000	0.035	0.035	27	287.9	0.000	0.000	0.071	0.071	1776
18	0.000	0.000	0.000	0.000	0.000	0	8.552	0.000	0.000	0.021	0.021	15	288.6	0.000	0.000	0.013	0.013	322
19	0.000	0.000	0.000	0.000	0.000	0	8.680	0.000	0.000	0.023	0.023	17	234.7	0.000	0.000	0.009	0.009	182
20	0.000	0.000	0.000	0.000	0.000	0	7.623	0.000	0.000	0.022	0.022	14	226.4	0.000	0.000	0.008	0.008	156
21	0.000	0.000	0.000	0.000	0.000	0	7.603	0.000	0.000	0.020	0.020	13	282.7	0.000	0.000	0.005	0.005	122
22	0.000	0.000	0.000	0.000	0.000	0	6.110	0.000	0.000	0.019	0.019	10	291.5	0.000	0.000	0.004	0.004	91
23	0.000	0.000	0.000	0.000	0.000	0	3.394	0.000	0.000	0.005	0.005	1	284.5	0.000	0.000	0.006	0.006	140
24	0.000	0.000	0.000	0.000	0.000	0	3.247	0.000	0.000	0.006	0.006	2	282.5	0.000	0.000	0.007	0.007	173
25	0.000	0.000	0.000	0.000	0.000	0	2.979	0.000	0.000	0.008	0.008	2	276.6	0.000	0.000	0.004	0.004	100
26	0.000	0.000	0.000	0.000	0.000	0	2.979	0.000	0.000	0.015	0.015	4	192.1	0.000	0.000	0.003	0.003	50
27	0.000	0.000	0.000	0.000	0.000	0	2.953	0.000	0.000	0.007	0.007	2	219.9	0.000	0.000	0.003	0.003	55
28	0.000	0.000	0.000	0.000	0.000	0	2.801	0.000	0.000	0.008	0.008	2	219.8	0.000	0.000	0.007	0.007	135
29	0.000	0.000	0.000	0.000	0.000	0	681.2	0.000	0.000	0.035	0.035	2054	205.5	0.000	0.000	0.006	0.006	101
30	0.000	0.000	0.000	0.000	0.000	0	608.7	0.000	0.000	0.036	0.036	1878	205.0	0.000	0.000	0.005	0.005	89
31							327.2	0.000	0.000	0.250	0.250	7068	259.5	0.000	0.000	0.050	0.050	1121
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.056	0.000	0.000	0.219	0.219	11	154.9	0.000	0.000	0.127	0.127	2617
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	39.93	0.000	0.000	0.079	0.079	304	457.9	0.000	0.000	0.131	0.131	6257
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	149.9	0.000	0.000	0.037	0.037	1003	247.3	0.000	0.000	0.009	0.009	198
Monthly																		
Total						0						14085						90908

Annual Sediment Load (Metric Tonnes) : 202047

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Mahi at Mataji (01 02 13 001) **Division : Mahi Division, Gandhinagar**

Local River : Mahi **Sub-Division : Mahi Sub Divn., Kadana**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	629.3	0.000	0.000	0.227	0.227	12349	105.0	0.000	0.000	0.000	0.000	0	4.444	0.000	0.000	0.000	0.000	0
2	389.5	0.000	0.000	0.220	0.220	7404	73.07	0.000	0.000	0.000	0.000	0	3.731	0.000	0.000	0.000	0.000	0
3	567.9	0.000	0.000	0.043	0.043	2105	27.59	0.000	0.000	0.000	0.000	0	3.450	0.000	0.000	0.000	0.000	0
4	562.7	0.000	0.000	0.014	0.014	661	26.35	0.000	0.000	0.000	0.000	0	4.220	0.000	0.000	0.000	0.000	0
5	526.6	0.000	0.000	0.014	0.014	651	27.69	0.000	0.000	0.000	0.000	0	3.570	0.000	0.000	0.000	0.000	0
6	871.1	0.000	0.000	0.334	0.334	25161	23.14	0.000	0.000	0.000	0.000	0	3.331	0.000	0.000	0.000	0.000	0
7	2631	0.000	0.000	0.093	0.093	21114	14.65	0.000	0.000	0.000	0.000	0	3.350	0.000	0.000	0.000	0.000	0
8	1966	0.000	0.000	0.079	0.079	13349	18.22	0.000	0.000	0.000	0.000	0	3.336	0.000	0.000	0.000	0.000	0
9	608.5	0.000	0.000	0.125	0.125	6572	16.09	0.000	0.000	0.000	0.000	0	3.045	0.000	0.000	0.000	0.000	0
10	511.9	0.000	0.000	0.014	0.014	632	15.18	0.000	0.000	0.000	0.000	0	3.273	0.000	0.000	0.000	0.000	0
11	364.3	0.000	0.000	0.020	0.020	629	9.370	0.000	0.000	0.000	0.000	0	2.700	0.000	0.000	0.000	0.000	0
12	677.9	0.000	0.000	0.050	0.050	2929	14.88	0.000	0.000	0.000	0.000	0	2.781	0.000	0.000	0.000	0.000	0
13	564.3	0.000	0.000	0.043	0.043	2092	13.90	0.000	0.000	0.000	0.000	0	2.180	0.000	0.000	0.000	0.000	0
14	357.3	0.000	0.000	0.021	0.021	661	7.880	0.000	0.000	0.000	0.000	0	3.071	0.000	0.000	0.000	0.000	0
15	301.9	0.000	0.000	0.029	0.029	746	8.119	0.000	0.000	0.000	0.000	0	2.878	0.000	0.000	0.000	0.000	0
16	251.8	0.000	0.000	0.000	0.000	0	6.561	0.000	0.000	0.000	0.000	0	2.457	0.000	0.000	0.000	0.000	0
17	264.2	0.000	0.000	0.000	0.000	0	6.145	0.000	0.000	0.000	0.000	0	2.201	0.000	0.000	0.000	0.000	0
18	245.9	0.000	0.000	0.000	0.000	0	5.783	0.000	0.000	0.000	0.000	0	1.150	0.000	0.000	0.000	0.000	0
19	232.0	0.000	0.000	0.000	0.000	0	5.289	0.000	0.000	0.000	0.000	0	2.087	0.000	0.000	0.000	0.000	0
20	202.6	0.000	0.000	0.000	0.000	0	4.710	0.000	0.000	0.000	0.000	0	1.881	0.000	0.000	0.000	0.000	0
21	185.4	0.000	0.000	0.000	0.000	0	6.110	0.000	0.000	0.000	0.000	0	1.885	0.000	0.000	0.000	0.000	0
22	186.1	0.000	0.000	0.000	0.000	0	4.744	0.000	0.000	0.000	0.000	0	1.738	0.000	0.000	0.000	0.000	0
23	124.2	0.000	0.000	0.000	0.000	0	4.723	0.000	0.000	0.000	0.000	0	1.737	0.000	0.000	0.000	0.000	0
24	173.1	0.000	0.000	0.000	0.000	0	6.110	0.000	0.000	0.000	0.000	0	1.737	0.000	0.000	0.000	0.000	0
25	169.4	0.000	0.000	0.000	0.000	0	4.533	0.000	0.000	0.000	0.000	0	0.980	0.000	0.000	0.000	0.000	0
26	160.9	0.000	0.000	0.000	0.000	0	4.526	0.000	0.000	0.000	0.000	0	0.678	0.000	0.000	0.000	0.000	0
27	153.9	0.000	0.000	0.000	0.000	0	5.700	0.000	0.000	0.000	0.000	0	0.694	0.000	0.000	0.000	0.000	0
28	154.0	0.000	0.000	0.000	0.000	0	5.700	0.000	0.000	0.000	0.000	0	0.830	0.000	0.000	0.000	0.000	0
29	151.7	0.000	0.000	0.000	0.000	0	4.521	0.000	0.000	0.000	0.000	0	0.644	0.000	0.000	0.000	0.000	0
30	108.7	0.000	0.000	0.000	0.000	0	4.461	0.000	0.000	0.000	0.000	0	0.626	0.000	0.000	0.000	0.000	0
31							4.414	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	926.4	0.000	0.000	0.116	0.116	9000	34.69	0.000	0.000	0.000	0.000	0	3.575	0.000	0.000	0.000	0.000	0
Ten Daily II	346.2	0.000	0.000	0.016	0.016	706	8.264	0.000	0.000	0.000	0.000	0	2.339	0.000	0.000	0.000	0.000	0
Ten Daily III	156.7	0.000	0.000	0.000	0.000	0	5.049	0.000	0.000	0.000	0.000	0	1.155	0.000	0.000	0.000	0.000	0
Monthly																		
Total						97054						0						0

Annual Sediment Load (Metric Tonnes) : 202047

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Mahi at Mataji (01 02 13 001) **Division : Mahi Division, Gandhinagar**

Local River : Mahi **Sub-Division : Mahi Sub Divn., Kadana**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.638	0.000	0.000	0.000	0.000	0	0.589	0.000	0.000	0.000	0.000	0	0.588	0.000	0.000	0.000	0.000	0
2	0.830	0.000	0.000	0.000	0.000	0	0.538	0.000	0.000	0.000	0.000	0	0.585	0.000	0.000	0.000	0.000	0
3	0.593	0.000	0.000	0.000	0.000	0	0.540	0.000	0.000	0.000	0.000	0	0.690	0.000	0.000	0.000	0.000	0
4	0.594	0.000	0.000	0.000	0.000	0	0.539	0.000	0.000	0.000	0.000	0	0.585	0.000	0.000	0.000	0.000	0
5	0.588	0.000	0.000	0.000	0.000	0	0.540	0.000	0.000	0.000	0.000	0	0.648	0.000	0.000	0.000	0.000	0
6	0.583	0.000	0.000	0.000	0.000	0	0.570	0.000	0.000	0.000	0.000	0	0.598	0.000	0.000	0.000	0.000	0
7	0.552	0.000	0.000	0.000	0.000	0	0.548	0.000	0.000	0.000	0.000	0	0.580	0.000	0.000	0.000	0.000	0
8	0.662	0.000	0.000	0.000	0.000	0	0.520	0.000	0.000	0.000	0.000	0	0.557	0.000	0.000	0.000	0.000	0
9	0.570	0.000	0.000	0.000	0.000	0	0.520	0.000	0.000	0.000	0.000	0	0.560	0.000	0.000	0.000	0.000	0
10	0.543	0.000	0.000	0.000	0.000	0	0.519	0.000	0.000	0.000	0.000	0	0.690	0.000	0.000	0.000	0.000	0
11	0.540	0.000	0.000	0.000	0.000	0	0.540	0.000	0.000	0.000	0.000	0	0.561	0.000	0.000	0.000	0.000	0
12	0.531	0.000	0.000	0.000	0.000	0	0.538	0.000	0.000	0.000	0.000	0	0.544	0.000	0.000	0.000	0.000	0
13	0.588	0.000	0.000	0.000	0.000	0	0.570	0.000	0.000	0.000	0.000	0	0.538	0.000	0.000	0.000	0.000	0
14	0.583	0.000	0.000	0.000	0.000	0	0.536	0.000	0.000	0.000	0.000	0	0.524	0.000	0.000	0.000	0.000	0
15	0.588	0.000	0.000	0.000	0.000	0	0.588	0.000	0.000	0.000	0.000	0	0.528	0.000	0.000	0.000	0.000	0
16	0.690	0.000	0.000	0.000	0.000	0	0.584	0.000	0.000	0.000	0.000	0	0.525	0.000	0.000	0.000	0.000	0
17	0.588	0.000	0.000	0.000	0.000	0	0.583	0.000	0.000	0.000	0.000	0	0.450	0.000	0.000	0.000	0.000	0
18	0.583	0.000	0.000	0.000	0.000	0	0.581	0.000	0.000	0.000	0.000	0	0.627	0.000	0.000	0.000	0.000	0
19	0.598	0.000	0.000	0.000	0.000	0	0.546	0.000	0.000	0.000	0.000	0	0.538	0.000	0.000	0.000	0.000	0
20	0.626	0.000	0.000	0.000	0.000	0	0.690	0.000	0.000	0.000	0.000	0	0.540	0.000	0.000	0.000	0.000	0
21	0.542	0.000	0.000	0.000	0.000	0	0.582	0.000	0.000	0.000	0.000	0	0.538	0.000	0.000	0.000	0.000	0
22	0.626	0.000	0.000	0.000	0.000	0	0.582	0.000	0.000	0.000	0.000	0	0.534	0.000	0.000	0.000	0.000	0
23	0.830	0.000	0.000	0.000	0.000	0	0.582	0.000	0.000	0.000	0.000	0	0.534	0.000	0.000	0.000	0.000	0
24	0.830	0.000	0.000	0.000	0.000	0	0.586	0.000	0.000	0.000	0.000	0	0.570	0.000	0.000	0.000	0.000	0
25	0.830	0.000	0.000	0.000	0.000	0	0.690	0.000	0.000	0.000	0.000	0	0.538	0.000	0.000	0.000	0.000	0
26	0.596	0.000	0.000	0.000	0.000	0	0.690	0.000	0.000	0.000	0.000	0	0.457	0.000	0.000	0.000	0.000	0
27	0.591	0.000	0.000	0.000	0.000	0	0.570	0.000	0.000	0.000	0.000	0	0.538	0.000	0.000	0.000	0.000	0
28	0.592	0.000	0.000	0.000	0.000	0	0.537	0.000	0.000	0.000	0.000	0	0.537	0.000	0.000	0.000	0.000	0
29	0.588	0.000	0.000	0.000	0.000	0	0.538	0.000	0.000	0.000	0.000	0						
30	0.690	0.000	0.000	0.000	0.000	0	0.540	0.000	0.000	0.000	0.000	0						
31	0.583	0.000	0.000	0.000	0.000	0	0.560	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	0.615	0.000	0.000	0.000	0.000	0	0.542	0.000	0.000	0.000	0.000	0	0.608	0.000	0.000	0.000	0.000	0
Ten Daily II	0.592	0.000	0.000	0.000	0.000	0	0.576	0.000	0.000	0.000	0.000	0	0.537	0.000	0.000	0.000	0.000	0
Ten Daily III	0.663	0.000	0.000	0.000	0.000	0	0.587	0.000	0.000	0.000	0.000	0	0.531	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 202047

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Mahi at Mataji (01 02 13 001) **Division : Mahi Division, Gandhinagar**

Local River : Mahi **Sub-Division : Mahi Sub Divn., Kadana**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.540	0.000	0.000	0.000	0.000	0	0.050	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.560	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.570	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.557	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.537	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
6	0.534	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
7	0.524	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
8	0.521	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
9	0.502	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
10	0.350	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
11	0.500	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
12	0.560	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
13	0.560	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
14	0.485	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
15	0.419	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
16	0.411	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
17	0.270	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
18	0.495	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
19	0.459	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
20	0.190	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
21	0.130	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
22	0.130	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
23	0.130	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
24	0.130	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
25	0.080	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
26	0.080	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
27	0.080	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
28	0.050	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
29	0.050	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
30	0.050	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
31	0.050	0.000	0.000	0.000	0.000	0							0.000					
Ten Daily Mean																		
Ten Daily I	0.519	0.000	0.000	0.000	0.000	0	0.005	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.435	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
Ten Daily III	0.087	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000					
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 202047

Annual Sediment Load for period : 2005-2013

Station Name : Mahi at Mataji (01 02 13 001) **Division : Mahi Division, Gandhinagar**

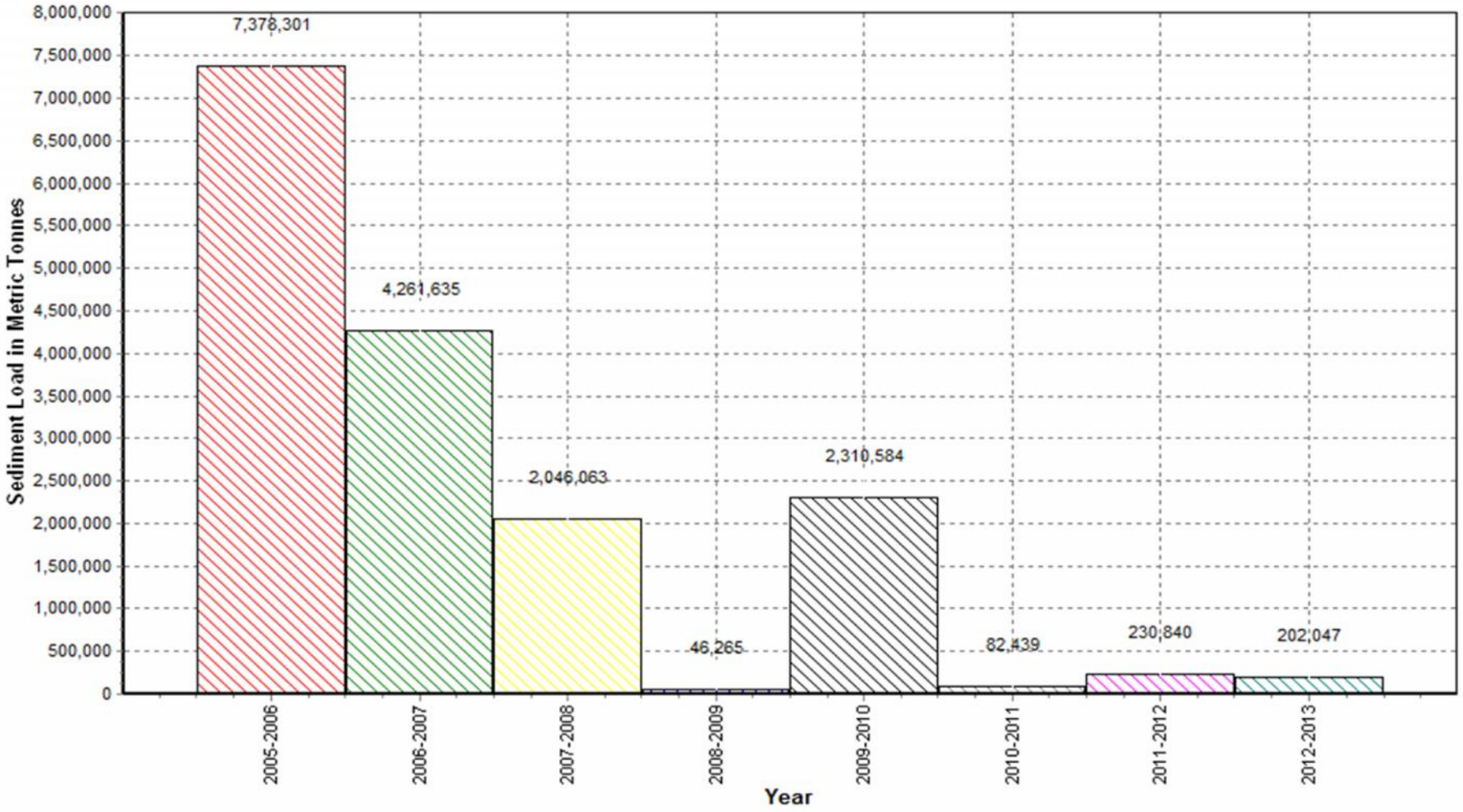
Local River : Mahi **Sub-Division : Mahi Sub Divn., Kadana**

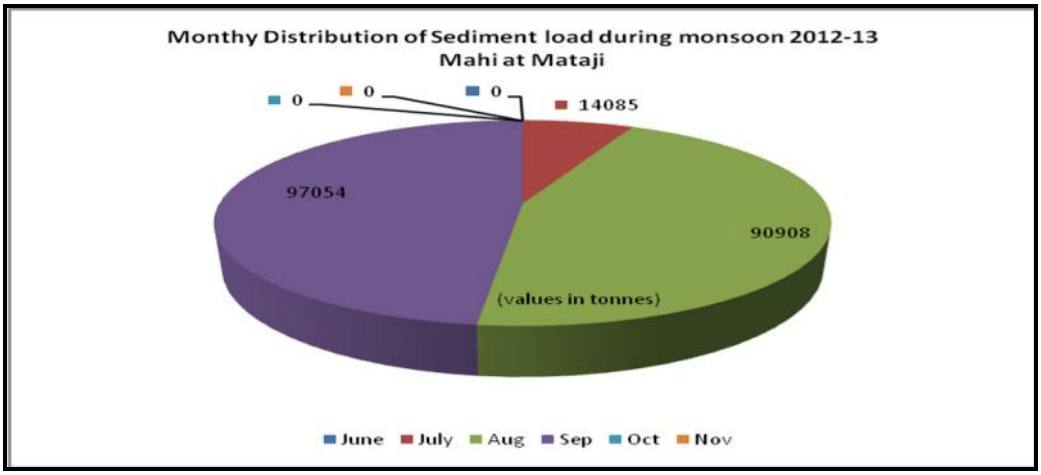
Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)	Annual Sediment yield in mm
2005-2006	7378301	0	7378301	1019	1.3583
2006-2007	4261635	0	4261635	4055	0.7845
2007-2008	2046059	4	2046063	2160	0.3767
2008-2009	46265	0	46265	278	0.0085
2009-2010	2310584	0	2310584	1067	0.4254
2010-2011	82439	0	82439	623	0.0152
2011-2012	230840	0	230840	3001	0.0425
2012-2013	202047	0	202047	2230	0.0372

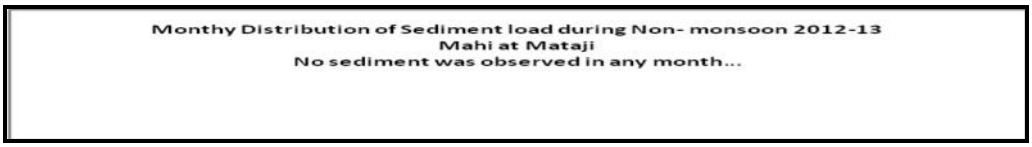
Annual Sediment Load for the period: 2005-2013

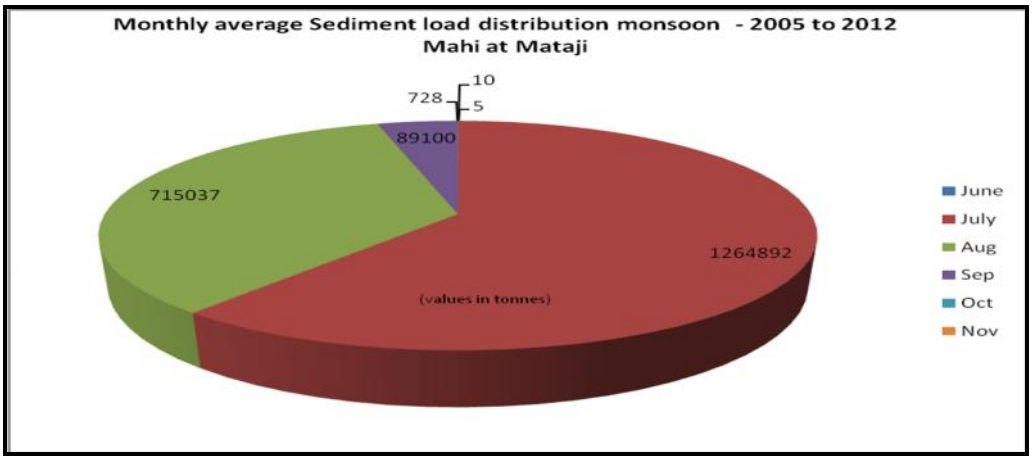
Station Name : Mahi at Mataji (01 02 13 001) **Division : Mahi Division, Gandhinagar**

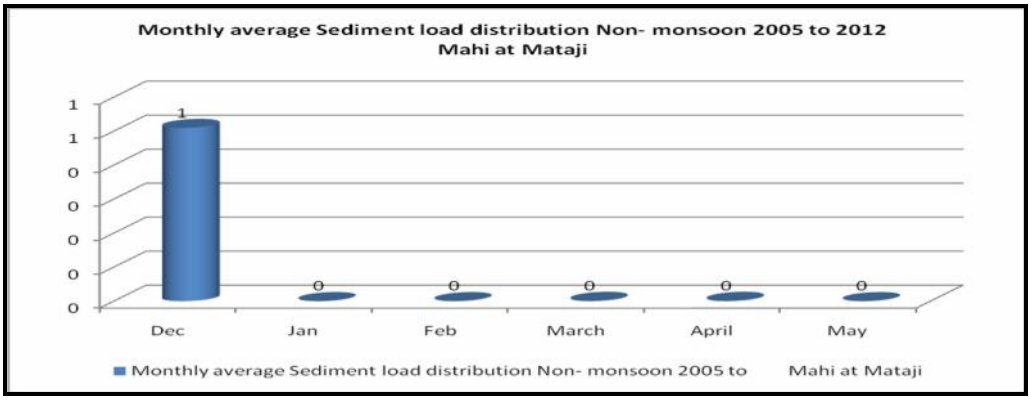
Local River : Mahi **Sub-Division : Mahi Sub Divn., Kadana**




Monthy Distribution of Sediment load during monsoon 2012-13
Mahi at Mataji
0
0
0
14085
97054
90908
(values in tonnes)
June
July
Aug
Sep
Oct
Nov


Monthy Distribution of Sediment load during Non- monsoon 2012-13
Mahi at Mataji
No sediment was observed in any month...


Monthly average Sediment load distribution monsoon - 2005 to 2012
Mahi at Mataji
10
728
5
89100
715037
1264892
(values in tonnes)
June
July
Aug
Sep
Oct
Nov


Monthly average Sediment load distribution Non- monsoon 2005 to 2012
Mahi at Mataji
1
1
0
0
0
0
0
1
0
0
0
0
0
Dec
Jan
Feb
March
April
May
Monthly average Sediment load distribution Non- monsoon 2005 to
Mahi at Mataji

HISTORY SHEET

		Water Year	**: 2012-2013**
Site	**: Mahi at Paderdibadi**	**Code**	**: 01 02 13 006**
State	: Rajasthan	District	Dungarpur
Basin	: Mahi	Independent River	: Mahi
Tributary	: Mahi	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Mahi
Division	: Mahi Division, Gandhinagar	Sub-Division	: Mahi Sub Divn., Kadana
Drainage Area	: 16247 Sq. Km.	Bank	: Right
Latitude	: 23°46'02" N	Longitude	: 74°08'12" E
Zero of Gauge (m)	: 131 (m.s.l)	17/09/1977	-
	Opening Date	Closing Date	
Gauge	: 17/09/1977		
Discharge	: 24/06/1978		
Sediment	: 21/07/1980		
Water Quality	: 01/07/1978		

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Mahi at Paderdibadi (01 02 13 006) **Division : Mahi Division, Gandhinagar**

Local River : Mahi **Sub-Division : Mahi Sub Divn., Kadana**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000						10.97	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000						13.53	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000						11.54	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000						11.20	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000						62.11	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000						10.11	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000						8.122	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000						9.804	0.000	0.000	0.001	0.001	1
9	0.000	0.000	0.000	0.000	0.000	0	0.000						11.56	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	3.165	0.000	0.000	0.075	0.075	20	87.31	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	415.2	0.000	0.000	0.030	0.030	1065	130.4	0.000	0.000	0.000	0.000	1
12	0.000	0.000	0.000	0.000	0.000	0	316.0	0.000	0.000	0.001	0.001	27	182.4	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	138.9	0.000	0.000	0.016	0.016	192	510.0	0.000	0.000	0.029	0.029	1274
14	0.000	0.000	0.000	0.000	0.000	0	132.9	0.000	0.000	0.016	0.016	181	1284	0.000	0.001	0.073	0.074	8197
15	0.000	0.000	0.000	0.000	0.000	0	124.0	0.000	0.000	0.003	0.003	32	498.7	0.000	0.000	0.074	0.074	3188
16	0.000	0.000	0.000	0.000	0.000	0	122.7	0.000	0.000	0.001	0.001	14	447.1	0.000	0.000	0.008	0.008	305
17	0.000	0.000	0.000	0.000	0.000	0	114.3	0.000	0.000	0.001	0.001	6	411.5	0.000	0.000	0.007	0.007	245
18	0.000	0.000	0.000	0.000	0.000	0	107.3	0.000	0.000	0.002	0.002	17	354.2	0.000	0.000	0.007	0.007	214
19	0.000	0.000	0.000	0.000	0.000	0	16.02	0.000	0.000	0.002	0.002	2	377.2	0.000	0.000	0.008	0.008	261
20	0.000	0.000	0.000	0.000	0.000	0	6.481	0.000	0.000	0.001	0.001	1	359.8	0.000	0.000	0.006	0.006	186
21	0.000	0.000	0.000	0.000	0.000	0	5.229	0.000	0.000	0.041	0.041	18	256.7	0.000	0.000	0.003	0.003	64
22	0.000	0.000	0.000	0.000	0.000	0	43.67	0.000	0.000	0.050	0.050	189	318.8	0.000	0.000	0.003	0.003	83
23	0.000	0.000	0.000	0.000	0.000	0	7.822	0.000	0.000	0.001	0.001	1	322.9	0.000	0.000	0.003	0.003	81
24	0.000	0.000	0.000	0.000	0.000	0	8.172	0.000	0.000	0.002	0.002	1	314.3	0.000	0.000	0.002	0.002	57
25	0.000	0.000	0.000	0.000	0.000	0	10.23	0.000	0.000	0.001	0.001	1	304.9	0.000	0.000	0.002	0.002	53
26	0.000	0.000	0.000	0.000	0.000	0	11.53	0.000	0.000	0.001	0.001	1	357.3	0.000	0.000	0.004	0.004	123
27	0.000	0.000	0.000	0.000	0.000	0	10.16	0.000	0.000	0.001	0.001	1	281.9	0.000	0.000	0.001	0.001	34
28	0.000	0.000	0.000	0.000	0.000	0	9.041	0.000	0.000	0.002	0.002	1	275.7	0.000	0.000	0.002	0.002	40
29	0.000	0.000	0.000	0.000	0.000	0	43.67	0.000	0.000	0.050	0.050	189	356.3	0.000	0.000	0.002	0.002	74
30	0.000	0.000	0.000	0.000	0.000	0	8.650	0.000	0.000	0.001	0.001	1	331.4	0.000	0.000	0.001	0.001	31
31							9.486	0.000	0.000	0.002	0.002	1	282.2	0.000	0.000	0.001	0.001	24
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.316	0.000	0.000	0.075	0.075	20	23.63	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	149.4	0.000	0.000	0.007	0.007	154	455.5	0.000	0.000	0.021	0.021	1387
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	15.24	0.000	0.000	0.014	0.014	37	309.3	0.000	0.000	0.002	0.002	60
Monthly																		
Total						0						1963						14540

Annual Sediment Load (Metric Tonnes) : 142135

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Mahi at Paderdibadi (01 02 13 006) **Division : Mahi Division, Gandhinagar**

Local River : Mahi **Sub-Division : Mahi Sub Divn., Kadana**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	591.0	0.000	0.000	0.003	0.003	153	230.8	0.000	0.000	0.001	0.001	28	14.19	0.000	0.000	0.000	0.000	0
2	585.1	0.000	0.000	0.003	0.003	152	197.6	0.000	0.000	0.001	0.001	17	14.63	0.000	0.000	0.000	0.000	0
3	543.5	0.000	0.000	0.010	0.010	488	196.0	0.000	0.000	0.001	0.001	8	13.72	0.000	0.000	0.000	0.000	0
4	558.8	0.000	0.000	0.003	0.003	145	189.3	0.000	0.000	0.000	0.000	3	10.75	0.000	0.000	0.000	0.000	0
5	502.4	0.000	0.000	0.004	0.004	174	182.8	0.000	0.000	0.002	0.002	27	12.07	0.000	0.000	0.000	0.000	0
6	575.6	0.000	0.000	0.012	0.012	597	173.9	0.000	0.000	0.001	0.001	14	11.55	0.000	0.000	0.000	0.000	0
7	2034	0.049	0.096	0.129	0.273	47976	171.6	0.000	0.000	0.001	0.001	15	11.15	0.000	0.000	0.000	0.000	0
8	1782	0.015	0.051	0.135	0.201	31002	160.7	0.000	0.000	0.002	0.002	32	10.67	0.000	0.000	0.000	0.000	0
9	1173	0.000	0.038	0.029	0.068	6872	154.6	0.000	0.000	0.001	0.001	16	10.28	0.000	0.000	0.000	0.000	0
10	792.0	0.000	0.000	0.007	0.007	445	144.5	0.000	0.000	0.002	0.002	19	9.758	0.000	0.000	0.000	0.000	0
11	780.4	0.000	0.000	0.004	0.004	243	136.5	0.000	0.000	0.001	0.001	15	7.040	0.000	0.000	0.000	0.000	0
12	1529	0.000	0.041	0.143	0.184	24361	130.1	0.000	0.000	0.001	0.001	13	6.640	0.000	0.000	0.000	0.000	0
13	1003	0.000	0.051	0.061	0.112	9676	129.0	0.000	0.000	0.002	0.002	18	6.640	0.000	0.000	0.000	0.000	0
14	795.4	0.000	0.000	0.012	0.012	825	116.1	0.000	0.000	0.001	0.001	10	6.240	0.000	0.000	0.000	0.000	0
15	623.8	0.000	0.000	0.005	0.005	264	110.9	0.000	0.000	0.001	0.001	13	9.449	0.000	0.000	0.000	0.000	0
16	541.6	0.000	0.000	0.004	0.004	187	104.4	0.000	0.000	0.002	0.002	17	9.266	0.000	0.000	0.000	0.000	0
17	522.7	0.000	0.000	0.003	0.003	126	103.9	0.000	0.000	0.001	0.001	12	9.028	0.000	0.000	0.000	0.000	0
18	470.9	0.000	0.000	0.006	0.006	252	103.8	0.000	0.000	0.002	0.002	20	5.860	0.000	0.000	0.000	0.000	0
19	441.1	0.000	0.000	0.007	0.007	252	103.7	0.000	0.000	0.001	0.001	12	5.860	0.000	0.000	0.000	0.000	0
20	372.4	0.000	0.000	0.007	0.007	225	99.27	0.000	0.000	0.000	0.000	2	8.926	0.000	0.000	0.000	0.000	0
21	301.6	0.000	0.000	0.007	0.007	182	96.71	0.000	0.000	0.000	0.000	2	5.860	0.000	0.000	0.000	0.000	0
22	277.0	0.000	0.000	0.003	0.003	72	93.23	0.000	0.000	0.000	0.000	2	5.860	0.000	0.000	0.000	0.000	0
23	251.7	0.000	0.000	0.002	0.002	44	89.37	0.000	0.000	0.000	0.000	2	5.860	0.000	0.000	0.000	0.000	0
24	265.8	0.000	0.000	0.004	0.004	92	87.31	0.000	0.000	0.000	0.000	2	9.642	0.000	0.000	0.000	0.000	0
25	260.8	0.000	0.000	0.004	0.004	90	87.31	0.000	0.000	0.000	0.000	2	10.24	0.000	0.000	0.000	0.000	0
26	251.2	0.000	0.000	0.006	0.006	130	85.45	0.000	0.000	0.000	0.000	1	13.96	0.000	0.000	0.000	0.000	0
27	251.2	0.000	0.000	0.005	0.005	109	83.60	0.000	0.000	0.000	0.000	1	13.65	0.000	0.000	0.000	0.000	0
28	254.9	0.000	0.000	0.002	0.002	44	81.76	0.000	0.000	0.000	0.000	1	20.09	0.000	0.000	0.000	0.000	0
29	241.1	0.000	0.000	0.005	0.005	104	79.90	0.000	0.000	0.000	0.000	1	19.58	0.000	0.000	0.000	0.000	0
30	228.9	0.000	0.000	0.001	0.001	20	78.10	0.000	0.000	0.000	0.000	1	12.11	0.000	0.000	0.000	0.000	0
31							76.30	0.000	0.000	0.000	0.000	1						
Ten Daily Mean																		
Ten Daily I	913.8	0.006	0.018	0.034	0.058	8800	180.2	0.000	0.000	0.001	0.001	18	11.88	0.000	0.000	0.000	0.000	0
Ten Daily II	708.0	0.000	0.009	0.025	0.034	3641	113.8	0.000	0.000	0.001	0.001	13	7.495	0.000	0.000	0.000	0.000	0
Ten Daily III	258.4	0.000	0.000	0.004	0.004	89	85.37	0.000	0.000	0.000	0.000	1	11.69	0.000	0.000	0.000	0.000	0
Monthly																		
Total						125301						325						4

Annual Sediment Load (Metric Tonnes) : 142135

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Mahi at Paderdibadi (01 02 13 006) **Division : Mahi Division, Gandhinagar**

Local River : Mahi **Sub-Division : Mahi Sub Divn., Kadana**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	11.29	0.000	0.000	0.000	0.000	0	9.072	0.000	0.000	0.000	0.000	0	7.827	0.000	0.000	0.000	0.000	0
2	8.800	0.000	0.000	0.000	0.000	0	7.944	0.000	0.000	0.000	0.000	0	7.784	0.000	0.000	0.000	0.000	0
3	8.340	0.000	0.000	0.000	0.000	0	8.585	0.000	0.000	0.000	0.000	0	8.800	0.000	0.000	0.000	0.000	0
4	10.55	0.000	0.000	0.000	0.000	0	8.932	0.000	0.000	0.000	0.000	0	8.800	0.000	0.000	0.000	0.000	0
5	10.28	0.000	0.000	0.000	0.000	0	10.72	0.000	0.000	0.000	0.000	0	8.800	0.000	0.000	0.000	0.000	0
6	9.801	0.000	0.000	0.000	0.000	0	10.75	0.000	0.000	0.000	0.000	0	8.874	0.000	0.000	0.000	0.000	0
7	9.527	0.000	0.000	0.000	0.000	0	12.57	0.000	0.000	0.000	0.000	0	9.260	0.000	0.000	0.000	0.000	0
8	8.922	0.000	0.000	0.000	0.000	0	12.81	0.000	0.000	0.000	0.000	0	8.651	0.000	0.000	0.000	0.000	0
9	7.460	0.000	0.000	0.000	0.000	0	12.62	0.000	0.000	0.000	0.000	0	8.718	0.000	0.000	0.000	0.000	0
10	8.208	0.000	0.000	0.000	0.000	0	11.80	0.000	0.000	0.000	0.000	0	9.740	0.000	0.000	0.000	0.000	0
11	8.104	0.000	0.000	0.000	0.000	0	12.29	0.000	0.000	0.000	0.000	0	9.228	0.000	0.000	0.000	0.000	0
12	11.49	0.000	0.000	0.000	0.000	0	11.53	0.000	0.000	0.000	0.000	0	9.002	0.000	0.000	0.000	0.000	0
13	11.86	0.000	0.000	0.000	0.000	0	11.27	0.000	0.000	0.000	0.000	0	9.409	0.000	0.000	0.000	0.000	0
14	13.69	0.000	0.000	0.000	0.000	0	11.62	0.000	0.000	0.000	0.000	0	10.75	0.000	0.000	0.000	0.000	0
15	14.20	0.000	0.000	0.000	0.000	0	11.32	0.000	0.000	0.000	0.000	0	10.75	0.000	0.000	0.000	0.000	0
16	11.80	0.000	0.000	0.000	0.000	0	11.11	0.000	0.000	0.000	0.000	0	10.51	0.000	0.000	0.000	0.000	0
17	13.79	0.000	0.000	0.000	0.000	0	10.52	0.000	0.000	0.000	0.000	0	11.80	0.000	0.000	0.000	0.000	0
18	13.20	0.000	0.000	0.000	0.000	0	10.28	0.000	0.000	0.000	0.000	0	11.07	0.000	0.000	0.000	0.000	0
19	13.98	0.000	0.000	0.000	0.000	0	11.92	0.000	0.000	0.000	0.000	0	11.01	0.000	0.000	0.000	0.000	0
20	11.44	0.000	0.000	0.000	0.000	0	11.80	0.000	0.000	0.000	0.000	0	10.82	0.000	0.000	0.000	0.000	0
21	10.75	0.000	0.000	0.000	0.000	0	11.57	0.000	0.000	0.000	0.000	0	11.27	0.000	0.000	0.000	0.000	0
22	10.75	0.000	0.000	0.000	0.000	0	10.70	0.000	0.000	0.000	0.000	0	9.639	0.000	0.000	0.000	0.000	0
23	10.24	0.000	0.000	0.000	0.000	0	10.55	0.000	0.000	0.000	0.000	0	9.508	0.000	0.000	0.000	0.000	0
24	10.24	0.000	0.000	0.000	0.000	0	10.29	0.000	0.000	0.000	0.000	0	10.24	0.000	0.000	0.000	0.000	0
25	9.740	0.000	0.000	0.000	0.000	0	10.75	0.000	0.000	0.000	0.000	0	9.066	0.000	0.000	0.000	0.000	0
26	9.260	0.000	0.000	0.000	0.000	0	10.24	0.000	0.000	0.000	0.000	0	8.917	0.000	0.000	0.000	0.000	0
27	8.800	0.000	0.000	0.000	0.000	0	9.750	0.000	0.000	0.000	0.000	0	8.495	0.000	0.000	0.000	0.000	0
28	8.340	0.000	0.000	0.000	0.000	0	9.087	0.000	0.000	0.000	0.000	0	8.404	0.000	0.000	0.000	0.000	0
29	7.900	0.000	0.000	0.000	0.000	0	8.494	0.000	0.000	0.000	0.000	0						
30	7.900	0.000	0.000	0.000	0.000	0	8.383	0.000	0.000	0.000	0.000	0						
31	9.237	0.000	0.000	0.000	0.000	0	7.894	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	9.318	0.000	0.000	0.000	0.000	0	10.58	0.000	0.000	0.000	0.000	0	8.725	0.000	0.000	0.000	0.000	0
Ten Daily II	12.35	0.000	0.000	0.000	0.000	0	11.37	0.000	0.000	0.000	0.000	0	10.43	0.000	0.000	0.000	0.000	0
Ten Daily III	9.378	0.000	0.000	0.000	0.000	0	9.792	0.000	0.000	0.000	0.000	0	9.442	0.000	0.000	0.000	0.000	0
Monthly																		
Total						3						0						0

Annual Sediment Load (Metric Tonnes) : 142135

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Mahi at Paderdibadi (01 02 13 006) **Division : Mahi Division, Gandhinagar**

Local River : Mahi **Sub-Division : Mahi Sub Divn., Kadana**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	8.088	0.000	0.000	0.000	0.000	0	6.646	0.000	0.000	0.000	0.000	0	1.306	0.000	0.000	0.000	0.000	0
2	7.997	0.000	0.000	0.000	0.000	0	5.946	0.000	0.000	0.000	0.000	0	1.850	0.000	0.000	0.000	0.000	0
3	9.270	0.000	0.000	0.000	0.000	0	5.712	0.000	0.000	0.000	0.000	0	1.850	0.000	0.000	0.000	0.000	0
4	7.898	0.000	0.000	0.000	0.000	0	4.726	0.000	0.000	0.000	0.000	0	1.850	0.000	0.000	0.000	0.000	0
5	7.322	0.000	0.000	0.000	0.000	0	4.501	0.000	0.000	0.000	0.000	0	1.850	0.000	0.000	0.000	0.000	0
6	7.099	0.000	0.000	0.000	0.000	0	4.266	0.000	0.000	0.000	0.000	0	1.650	0.000	0.000	0.000	0.000	0
7	6.736	0.000	0.000	0.000	0.000	0	4.468	0.000	0.000	0.000	0.000	0	1.650	0.000	0.000	0.000	0.000	0
8	6.746	0.000	0.000	0.000	0.000	0	4.209	0.000	0.000	0.000	0.000	0	1.650	0.000	0.000	0.000	0.000	0
9	6.558	0.000	0.000	0.000	0.000	0	3.767	0.000	0.000	0.000	0.000	0	1.470	0.000	0.000	0.000	0.000	0
10	8.340	0.000	0.000	0.000	0.000	0	3.616	0.000	0.000	0.000	0.000	0	1.470	0.000	0.000	0.000	0.000	0
11	6.056	0.000	0.000	0.000	0.000	0	3.557	0.000	0.000	0.000	0.000	0	1.470	0.000	0.000	0.000	0.000	0
12	5.827	0.000	0.000	0.000	0.000	0	3.449	0.000	0.000	0.000	0.000	0	1.470	0.000	0.000	0.000	0.000	0
13	5.694	0.000	0.000	0.000	0.000	0	3.373	0.000	0.000	0.000	0.000	0	1.470	0.000	0.000	0.000	0.000	0
14	5.891	0.000	0.000	0.000	0.000	0	3.844	0.000	0.000	0.000	0.000	0	1.300	0.000	0.000	0.000	0.000	0
15	6.025	0.000	0.000	0.000	0.000	0	3.272	0.000	0.000	0.000	0.000	0	1.300	0.000	0.000	0.000	0.000	0
16	5.937	0.000	0.000	0.000	0.000	0	3.203	0.000	0.000	0.000	0.000	0	1.300	0.000	0.000	0.000	0.000	0
17	7.890	0.000	0.000	0.000	0.000	0	3.115	0.000	0.000	0.000	0.000	0	1.300	0.000	0.000	0.000	0.000	0
18	5.522	0.000	0.000	0.000	0.000	0	3.076	0.000	0.000	0.000	0.000	0	1.150	0.000	0.000	0.000	0.000	0
19	5.387	0.000	0.000	0.000	0.000	0	3.005	0.000	0.000	0.000	0.000	0	1.150	0.000	0.000	0.000	0.000	0
20	4.861	0.000	0.000	0.000	0.000	0	2.928	0.000	0.000	0.000	0.000	0	1.150	0.000	0.000	0.000	0.000	0
21	4.773	0.000	0.000	0.000	0.000	0	2.740	0.000	0.000	0.000	0.000	0	1.150	0.000	0.000	0.000	0.000	0
22	4.234	0.000	0.000	0.000	0.000	0	2.839	0.000	0.000	0.000	0.000	0	1.000	0.000	0.000	0.000	0.000	0
23	8.224	0.000	0.000	0.000	0.000	0	2.767	0.000	0.000	0.000	0.000	0	1.000	0.000	0.000	0.000	0.000	0
24	11.80	0.000	0.000	0.000	0.000	0	2.500	0.000	0.000	0.000	0.000	0	1.000	0.000	0.000	0.000	0.000	0
25	8.073	0.000	0.000	0.000	0.000	0	2.325	0.000	0.000	0.000	0.000	0	0.880	0.000	0.000	0.000	0.000	0
26	7.842	0.000	0.000	0.000	0.000	0	2.403	0.000	0.000	0.000	0.000	0	0.880	0.000	0.000	0.000	0.000	0
27	11.24	0.000	0.000	0.000	0.000	0	2.107	0.000	0.000	0.000	0.000	0	0.880	0.000	0.000	0.000	0.000	0
28	7.818	0.000	0.000	0.000	0.000	0	2.270	0.000	0.000	0.000	0.000	0	0.880	0.000	0.000	0.000	0.000	0
29	10.75	0.000	0.000	0.000	0.000	0	2.040	0.000	0.000	0.000	0.000	0	0.880	0.000	0.000	0.000	0.000	0
30	6.846	0.000	0.000	0.000	0.000	0	1.939	0.000	0.000	0.000	0.000	0	0.760	0.000	0.000	0.000	0.000	0
31	11.75	0.000	0.000	0.000	0.000	0							0.760	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	7.605	0.000	0.000	0.000	0.000	0	4.786	0.000	0.000	0.000	0.000	0	1.660	0.000	0.000	0.000	0.000	0
Ten Daily II	5.909	0.000	0.000	0.000	0.000	0	3.282	0.000	0.000	0.000	0.000	0	1.306	0.000	0.000	0.000	0.000	0
Ten Daily III	8.486	0.000	0.000	0.000	0.000	0	2.393	0.000	0.000	0.000	0.000	0	0.915	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 142135

Annual Sediment Load for period : 2005-2013

Station Name : Mahi at Paderdibadi (01 02 13 006) **Division : Mahi Division, Gandhinagar**

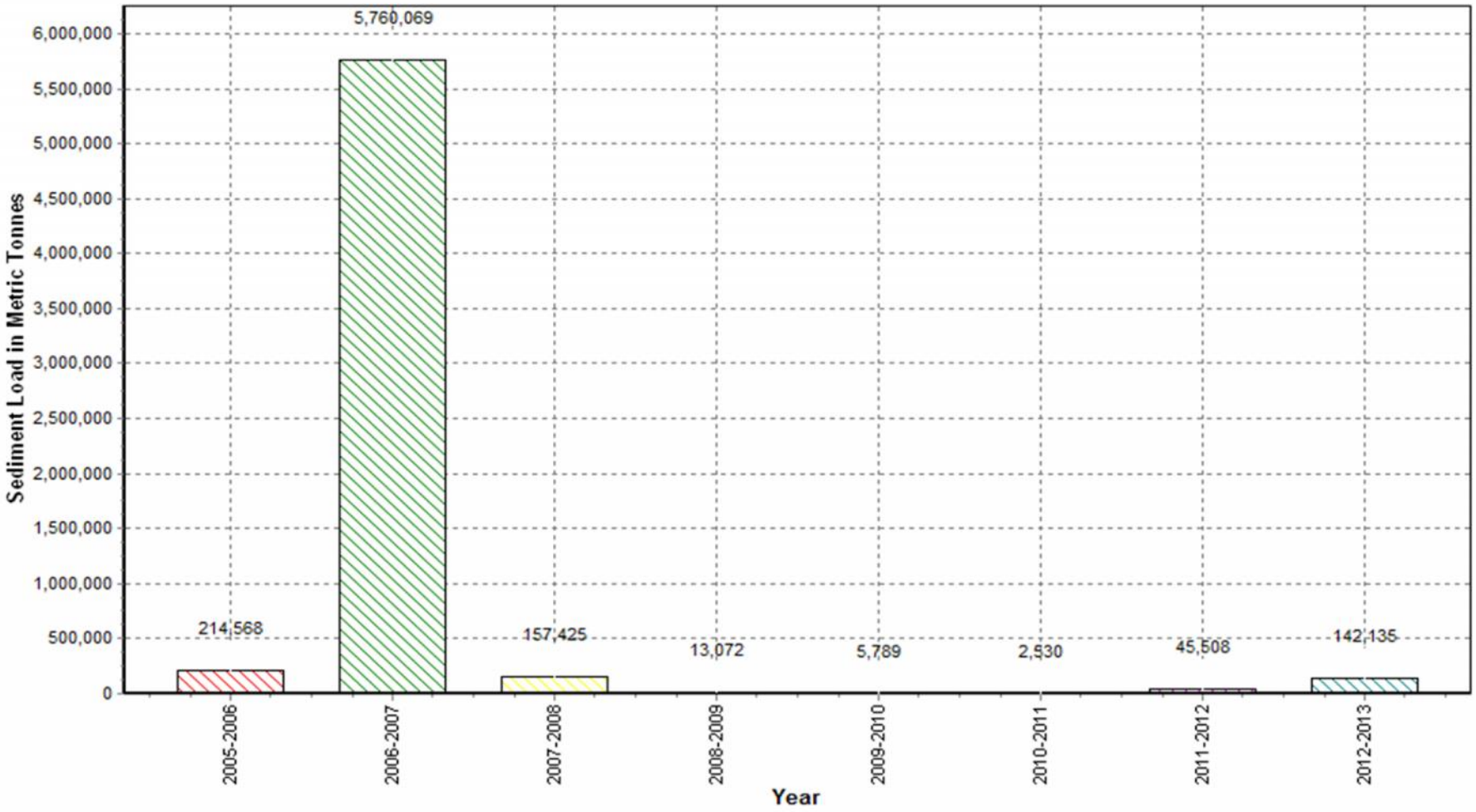
Local River : Mahi **Sub-Division : Mahi Sub Divn., Kadana**

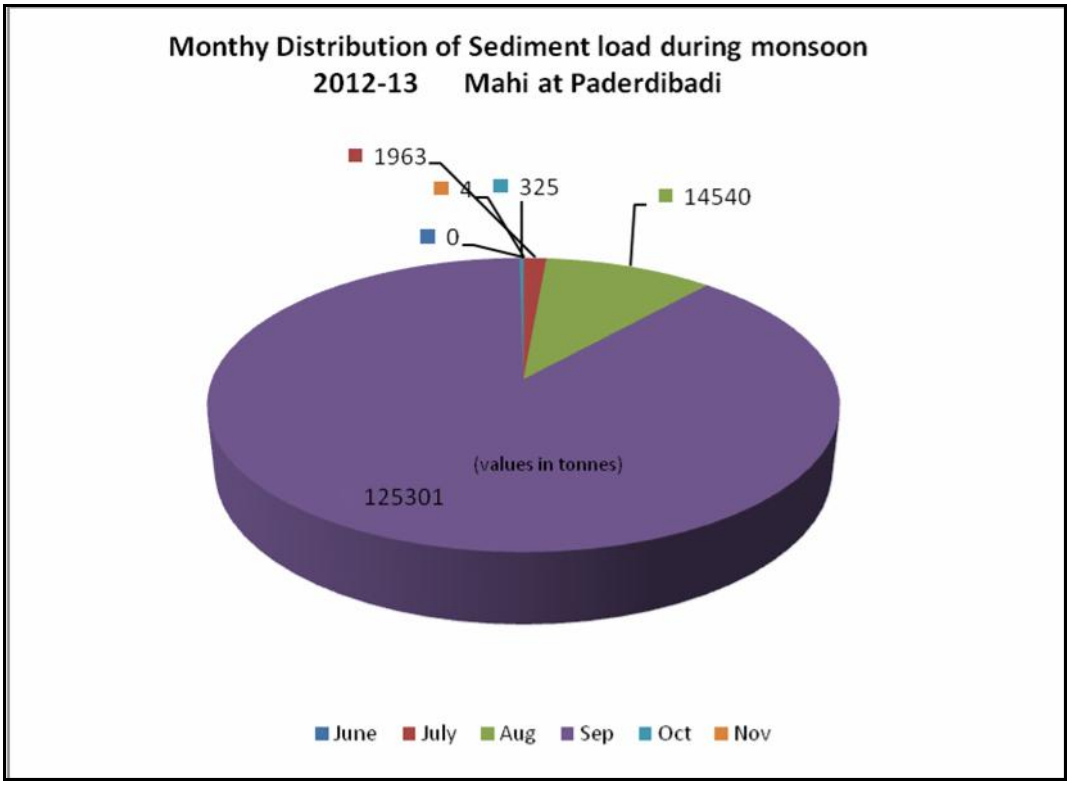
Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)	Annual Sediment yield in mm
2005-2006	214390	178	214568	930	0.0094
2006-2007	5759652	418	5760069	10946	0.2532
2007-2008	157170	255	157425	1600	0.0069
2008-2009	13064	8	13072	314	0.0006
2009-2010	5751	38	5789	552	0.0003
2010-2011	2525	5	2530	407	0.0001
2011-2012	45508	0	45508	3777	0.0020
2012-2013	142133	3	142135	2949	0.0062

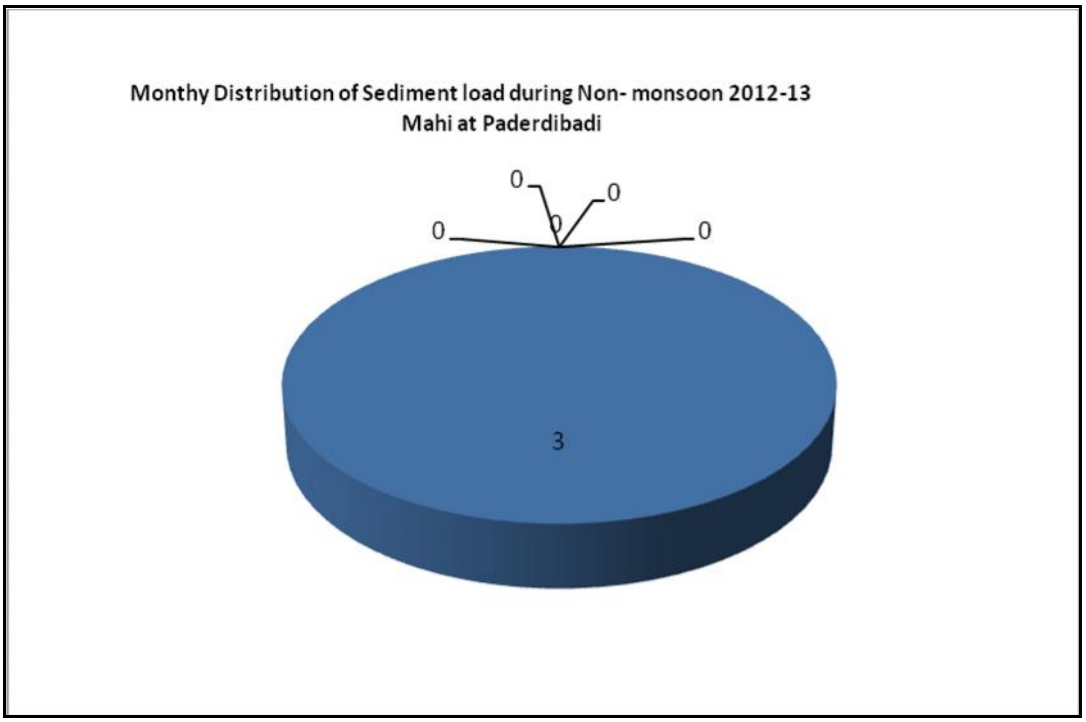
Annual Sediment Load for the period: 2005-2013

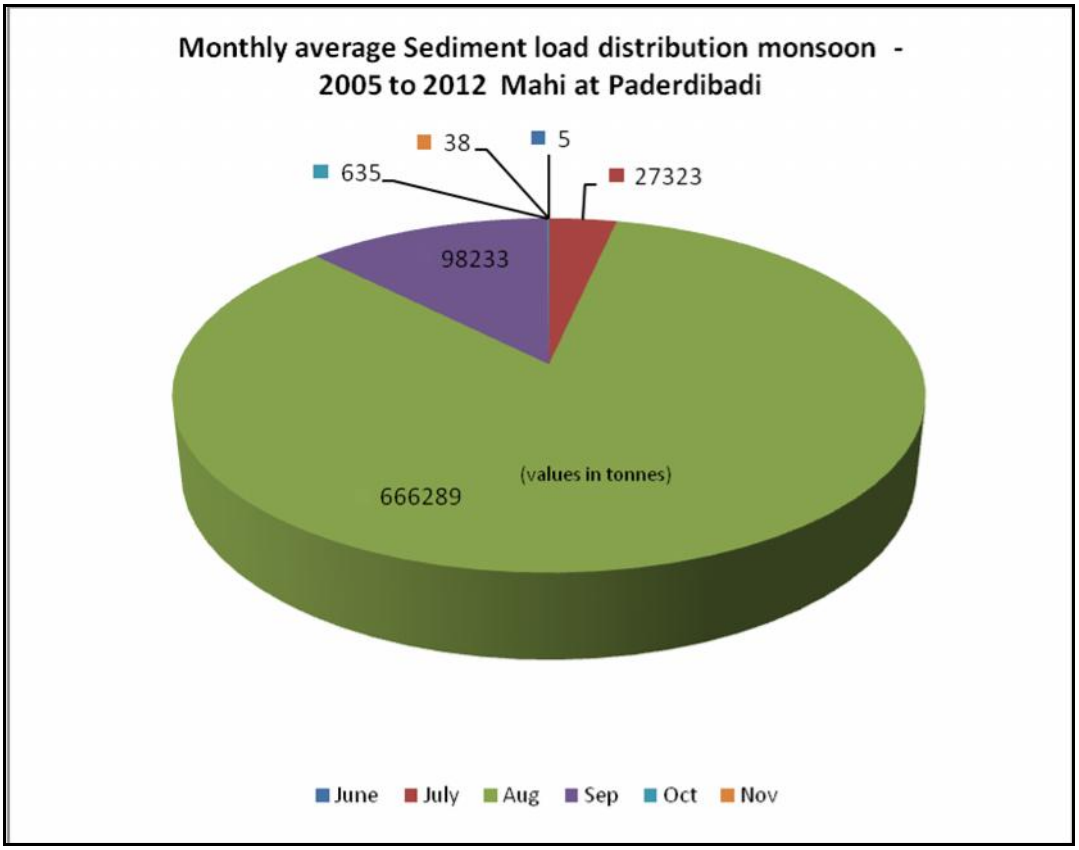
Station Name : Mahi at Paderdibadi (01 02 13 006) **Division : Mahi Division, Gandhinagar**

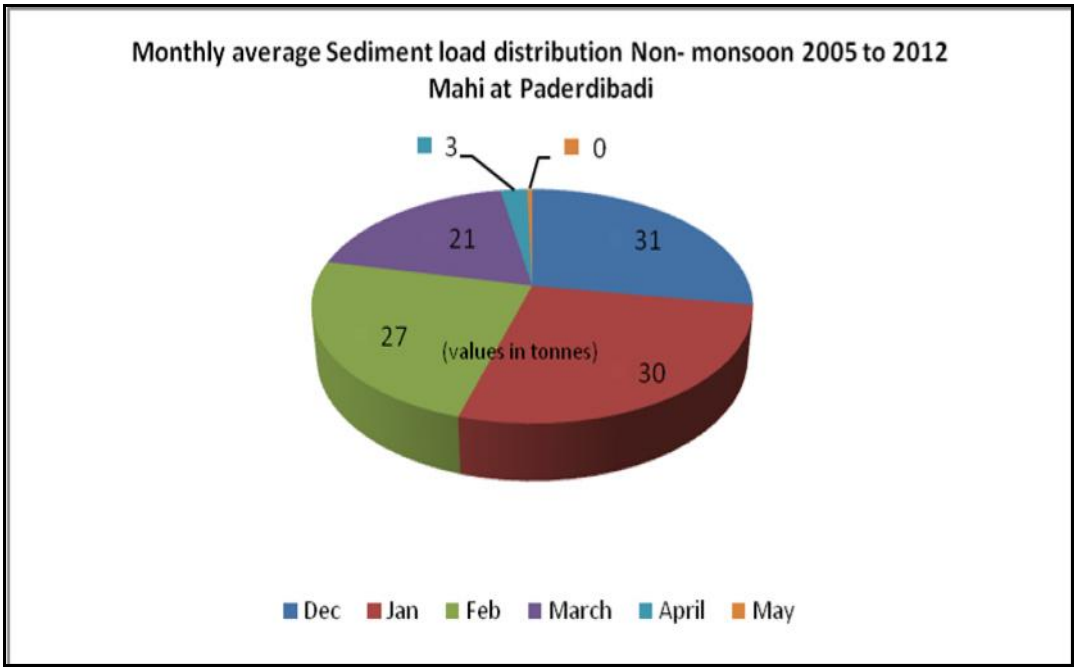
Local River : Mahi **Sub-Division : Mahi Sub Divn., Kadana**




Monthy Distribution of Sediment load during monsoon
2012-13 Mahi at Paderdibadi
1963
4
325
14540
0
(values in tonnes)
125301
June
July
Aug
Sep
Oct
Nov


Monthy Distribution of Sediment load during Non- monsoon 2012-13
Mahi at Paderdibadi
0
0
0
0
0
3


Monthly average Sediment load distribution monsoon - 2005 to 2012 Mahi at Paderdibadi
38
5
635
27323
98233
(values in tonnes)
666289
June
July
Aug
Sep
Oct
Nov


Monthly average Sediment load distribution Non- monsoon 2005 to 2012 Mahi at Paderdibadi
3
0
21
31
27
(values in tonnes)
30
Dec
Jan
Feb
March
April
May

HISTORY SHEET

		Water Year	**: 2012-2013**
Site	**: Mahi at Khanpur**	**Code**	**: 01 02 13 012**
State	: Gujarat	District	Anand
Basin	: Mahi	Independent River	: Mahi
Tributary	: Mahi	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Mahi
Division	: Mahi Division, Gandhinagar	Sub-Division	: Mahi Sub Divn., Kadana
Drainage Area	: 32510 Sq. Km.	Bank	: Right
Latitude	: 22°31'55" N	Longitude	: 73°08'27" E
Zero of Gauge (m)	: 8.22 (m.s.l)	21/12/1978	-
	Opening Date	Closing Date	
Gauge	: 21/12/1978		
Discharge	: 21/12/1978		
Sediment	: 01/05/1988		
Water Quality	: 01/01/1979		

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Mahi at Khanpur (01 02 13 012) **Division : Mahi Division, Gandhinagar**

Local River : Mahi **Sub-Division : Mahi Sub Divn., Kadana**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	2.362	0.000	0.000	0.000	0.000	0	9.400	0.000	0.000	0.000	0.000	0	68.26	0.000	0.000	0.003	0.003	18
2	2.354	0.000	0.000	0.000	0.000	0	10.06	0.000	0.000	0.000	0.000	0	63.32	0.000	0.000	0.001	0.001	5
3	3.840	0.000	0.000	0.000	0.000	0	8.191	0.000	0.000	0.000	0.000	0	42.76	0.000	0.000	0.001	0.001	4
4	2.436	0.000	0.000	0.000	0.000	0	21.23	0.000	0.000	0.007	0.007	13	41.88	0.000	0.000	0.001	0.001	4
5	2.447	0.000	0.000	0.000	0.000	0	23.36	0.000	0.000	0.001	0.001	2	79.53	0.000	0.000	0.001	0.001	7
6	2.346	0.000	0.000	0.000	0.000	0	13.07	0.000	0.000	0.000	0.000	0	70.38	0.000	0.000	0.001	0.001	6
7	3.508	0.000	0.000	0.000	0.000	0	11.80	0.000	0.000	0.000	0.000	0	100.2	0.000	0.000	0.001	0.001	9
8	3.445	0.000	0.000	0.000	0.000	0	13.75	0.000	0.000	0.000	0.000	0	84.72	0.000	0.000	0.002	0.002	15
9	3.455	0.000	0.000	0.000	0.000	0	12.30	0.000	0.000	0.000	0.000	0	130.5	0.000	0.000	0.001	0.001	11
10	5.420	0.000	0.000	0.000	0.000	0	20.74	0.000	0.000	0.011	0.011	20	171.6	0.000	0.000	0.001	0.001	15
11	3.408	0.000	0.000	0.000	0.000	0	31.27	0.000	0.000	0.009	0.009	24	116.5	0.000	0.000	0.001	0.001	10
12	3.599	0.000	0.000	0.000	0.000	0	121.3	0.000	0.000	0.217	0.217	2274	196.2	0.000	0.000	0.051	0.051	865
13	3.542	0.000	0.000	0.000	0.000	0	78.22	0.000	0.000	0.049	0.049	331	643.7	0.000	0.000	0.433	0.433	24083
14	3.533	0.000	0.000	0.000	0.000	0	30.93	0.000	0.000	0.026	0.026	69	8171	0.001	0.093	0.502	0.596	420766
15	2.874	0.000	0.000	0.000	0.000	0	26.79	0.000	0.000	0.010	0.010	23	2711	0.000	0.000	0.250	0.250	58558
16	3.603	0.000	0.000	0.000	0.000	0	14.94	0.000	0.000	0.004	0.004	5	969.7	0.000	0.001	0.070	0.071	5949
17	5.860	0.000	0.000	0.000	0.000	0	23.06	0.000	0.000	0.029	0.029	58	1214	0.000	0.000	0.057	0.057	5979
18	3.596	0.000	0.000	0.000	0.000	0	41.66	0.000	0.000	0.014	0.014	50	1252	0.000	0.000	0.025	0.025	2704
19	4.146	0.000	0.000	0.000	0.000	0	21.01	0.000	0.000	0.012	0.012	22	686.7	0.000	0.000	0.013	0.013	771
20	4.244	0.000	0.000	0.000	0.000	0	16.23	0.000	0.000	0.008	0.008	11	725.1	0.000	0.000	0.015	0.015	940
21	4.100	0.000	0.000	0.000	0.000	0	14.78	0.000	0.000	0.001	0.001	1	490.9	0.000	0.000	0.014	0.014	594
22	4.039	0.000	0.000	0.000	0.000	0	25.85	0.000	0.000	0.006	0.006	13	542.2	0.000	0.000	0.025	0.025	1171
23	5.017	0.000	0.000	0.000	0.000	0	12.16	0.000	0.000	0.003	0.003	3	597.0	0.000	0.000	0.017	0.017	877
24	7.270	0.000	0.000	0.000	0.000	0	14.56	0.000	0.000	0.001	0.001	1	592.4	0.000	0.000	0.011	0.011	563
25	4.910	0.000	0.000	0.000	0.000	0	15.30	0.000	0.000	0.001	0.001	1	547.3	0.000	0.000	0.007	0.007	331
26	4.585	0.000	0.000	0.000	0.000	0	14.73	0.000	0.000	0.009	0.009	11	336.8	0.000	0.000	0.005	0.005	145
27	5.706	0.000	0.000	0.000	0.000	0	19.01	0.000	0.000	0.011	0.011	18	382.2	0.000	0.000	0.006	0.006	198
28	6.348	0.000	0.000	0.000	0.000	0	20.53	0.000	0.000	0.005	0.005	9	457.9	0.000	0.013	0.013	0.026	1029
29	6.269	0.000	0.000	0.000	0.000	0	33.83	0.000	0.000	0.005	0.005	15	535.1	0.000	0.002	0.017	0.019	878
30	6.198	0.000	0.000	0.000	0.000	0	37.28	0.000	0.000	0.006	0.006	19	583.7	0.000	0.000	0.018	0.018	908
31							64.59	0.000	0.000	0.026	0.026	145	488.9	0.000	0.000	0.009	0.009	380
Ten Daily Mean																		
Ten Daily I	3.161	0.000	0.000	0.000	0.000	0	14.39	0.000	0.000	0.002	0.002	3	85.32	0.000	0.000	0.001	0.001	9
Ten Daily II	3.840	0.000	0.000	0.000	0.000	0	40.54	0.000	0.000	0.038	0.038	287	1669	0.000	0.009	0.142	0.151	52062
Ten Daily III	5.444	0.000	0.000	0.000	0.000	0	24.78	0.000	0.000	0.007	0.007	22	504.9	0.000	0.001	0.013	0.014	643
Monthly																		
Total						0						3140						527792

Annual Sediment Load (Metric Tonnes) : 1088159

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Mahi at Khanpur (01 02 13 012) **Division : Mahi Division, Gandhinagar**

Local River : Mahi **Sub-Division : Mahi Sub Divn., Kadana**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	329.1	0.000	0.000	0.005	0.005	142	203.7	0.000	0.000	0.000	0.000	4	36.13	0.000	0.000	0.001	0.001	3
2	1423	0.000	0.000	0.003	0.003	369	155.3	0.000	0.000	0.000	0.000	3	44.26	0.000	0.000	0.001	0.001	4
3	817.7	0.000	0.000	0.023	0.023	1625	128.1	0.000	0.000	0.001	0.001	6	44.72	0.000	0.000	0.001	0.001	4
4	597.6	0.000	0.000	0.086	0.086	4441	101.2	0.000	0.000	0.001	0.001	4	34.90	0.000	0.000	0.001	0.001	3
5	995.9	0.000	0.000	0.057	0.057	4905	68.29	0.000	0.000	0.001	0.001	3	28.40	0.000	0.000	0.001	0.001	2
6	1047	0.000	0.000	0.026	0.026	2351	52.26	0.000	0.000	0.001	0.001	2	23.34	0.000	0.000	0.001	0.001	2
7	12403	0.002	0.048	0.173	0.223	238971	102.0	0.000	0.000	0.000	0.000	3	19.32	0.000	0.000	0.001	0.001	2
8	9008	0.003	0.018	0.180	0.201	156437	70.23	0.000	0.000	0.001	0.001	3	19.40	0.000	0.000	0.001	0.001	2
9	3508	0.001	0.045	0.045	0.091	27581	68.80	0.000	0.000	0.001	0.001	6	18.94	0.000	0.000	0.001	0.001	2
10	2370	0.000	0.000	0.034	0.034	7024	64.32	0.000	0.000	0.002	0.002	11	16.98	0.000	0.000	0.000	0.000	0
11	1265	0.000	0.000	0.005	0.005	546	46.86	0.000	0.000	0.002	0.002	8	13.75	0.000	0.000	0.001	0.001	1
12	4210	0.001	0.120	0.169	0.290	105475	56.96	0.000	0.000	0.001	0.001	5	17.09	0.000	0.000	0.001	0.001	1
13	3351	0.000	0.000	0.002	0.002	579	53.57	0.000	0.000	0.002	0.002	9	12.43	0.000	0.000	0.001	0.001	1
14	1315	0.000	0.000	0.029	0.029	3294	39.35	0.000	0.000	0.001	0.001	2	15.39	0.000	0.000	0.001	0.001	1
15	1765	0.000	0.000	0.011	0.011	1678	52.37	0.000	0.000	0.001	0.001	2	14.34	0.000	0.000	0.001	0.001	1
16	1092	0.000	0.000	0.004	0.004	377	40.01	0.000	0.000	0.002	0.002	7	14.32	0.000	0.000	0.001	0.001	1
17	875.2	0.000	0.000	0.001	0.001	76	43.74	0.000	0.000	0.001	0.001	4	14.21	0.000	0.000	0.001	0.001	1
18	772.6	0.000	0.000	0.001	0.001	67	60.65	0.000	0.000	0.001	0.001	5	9.400	0.000	0.000	0.000	0.000	0
19	635.9	0.000	0.000	0.004	0.004	220	64.67	0.000	0.000	0.001	0.001	3	13.23	0.000	0.000	0.000	0.000	0
20	575.1	0.000	0.000	0.004	0.004	199	65.17	0.000	0.000	0.001	0.001	6	12.07	0.000	0.000	0.000	0.000	0
21	475.9	0.000	0.000	0.001	0.001	41	54.30	0.000	0.000	0.001	0.001	2	11.43	0.000	0.000	0.000	0.000	0
22	440.3	0.000	0.000	0.000	0.000	15	55.82	0.000	0.000	0.001	0.001	5	9.892	0.000	0.000	0.000	0.000	0
23	343.5	0.000	0.000	0.000	0.000	12	50.31	0.000	0.000	0.001	0.001	4	10.28	0.000	0.000	0.000	0.000	0
24	471.6	0.000	0.000	0.000	0.000	16	49.05	0.000	0.000	0.001	0.001	2	9.671	0.000	0.000	0.000	0.000	0
25	577.5	0.000	0.000	0.004	0.004	200	55.11	0.000	0.000	0.001	0.001	5	6.310	0.000	0.000	0.000	0.000	0
26	642.7	0.000	0.000	0.001	0.001	56	51.04	0.000	0.000	0.001	0.001	3	10.27	0.000	0.000	0.000	0.000	0
27	550.3	0.000	0.000	0.000	0.000	19	30.71	0.000	0.000	0.001	0.001	1	13.40	0.000	0.000	0.000	0.000	0
28	433.1	0.000	0.000	0.009	0.009	337	26.79	0.000	0.000	0.001	0.001	2	9.970	0.000	0.000	0.000	0.000	0
29	301.2	0.000	0.000	0.000	0.000	10	31.31	0.000	0.000	0.002	0.002	5	13.87	0.000	0.000	0.000	0.000	0
30	222.4	0.000	0.000	0.000	0.000	6	26.65	0.000	0.000	0.001	0.001	2	16.29	0.000	0.000	0.000	0.000	0
31							28.66	0.000	0.000	0.001	0.001	1						
Ten Daily Mean																		
Ten Daily I	3250	0.001	0.011	0.063	0.075	44384	101.4	0.000	0.000	0.001	0.001	4	28.64	0.000	0.000	0.001	0.001	2
Ten Daily II	1586	0.000	0.012	0.023	0.035	11251	52.33	0.000	0.000	0.001	0.001	5	13.62	0.000	0.000	0.001	0.001	1
Ten Daily III	445.8	0.000	0.000	0.002	0.002	71	41.79	0.000	0.000	0.001	0.001	3	11.14	0.000	0.000	0.000	0.000	0
Monthly																		
Total						557066						129						32

Annual Sediment Load (Metric Tonnes) : 1088159

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Mahi at Khanpur (01 02 13 012) **Division : Mahi Division, Gandhinagar**

Local River : Mahi **Sub-Division : Mahi Sub Divn., Kadana**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	16.23	0.000	0.000	0.000	0.000	0	17.92	0.000	0.000	0.000	0.000	0	14.01	0.000	0.000	0.000	0.000	0
2	13.08	0.000	0.000	0.000	0.000	0	17.54	0.000	0.000	0.000	0.000	0	13.84	0.000	0.000	0.000	0.000	0
3	16.96	0.000	0.000	0.000	0.000	0	18.08	0.000	0.000	0.000	0.000	0	13.08	0.000	0.000	0.000	0.000	0
4	19.24	0.000	0.000	0.000	0.000	0	21.69	0.000	0.000	0.000	0.000	0	13.61	0.000	0.000	0.000	0.000	0
5	19.76	0.000	0.000	0.000	0.000	0	20.56	0.000	0.000	0.000	0.000	0	12.93	0.000	0.000	0.000	0.000	0
6	18.99	0.000	0.000	0.000	0.000	0	13.08	0.000	0.000	0.000	0.000	0	14.69	0.000	0.000	0.000	0.000	0
7	19.29	0.000	0.000	0.000	0.000	0	14.76	0.000	0.000	0.000	0.000	0	15.77	0.000	0.000	0.000	0.000	0
8	19.16	0.000	0.000	0.000	0.000	0	13.51	0.000	0.000	0.000	0.000	0	13.68	0.000	0.000	0.000	0.000	0
9	14.44	0.000	0.000	0.000	0.000	0	18.28	0.000	0.000	0.000	0.000	0	12.90	0.000	0.000	0.000	0.000	0
10	19.72	0.000	0.000	0.000	0.000	0	13.78	0.000	0.000	0.000	0.000	0	11.16	0.000	0.000	0.000	0.000	0
11	17.64	0.000	0.000	0.000	0.000	0	13.25	0.000	0.000	0.000	0.000	0	12.62	0.000	0.000	0.000	0.000	0
12	15.74	0.000	0.000	0.000	0.000	0	12.93	0.000	0.000	0.000	0.000	0	13.93	0.000	0.000	0.000	0.000	0
13	15.62	0.000	0.000	0.000	0.000	0	11.16	0.000	0.000	0.000	0.000	0	15.64	0.000	0.000	0.000	0.000	0
14	13.95	0.000	0.000	0.000	0.000	0	15.29	0.000	0.000	0.000	0.000	0	13.91	0.000	0.000	0.000	0.000	0
15	14.00	0.000	0.000	0.000	0.000	0	15.12	0.000	0.000	0.000	0.000	0	13.96	0.000	0.000	0.000	0.000	0
16	9.970	0.000	0.000	0.000	0.000	0	14.81	0.000	0.000	0.000	0.000	0	12.46	0.000	0.000	0.000	0.000	0
17	11.16	0.000	0.000	0.000	0.000	0	12.96	0.000	0.000	0.000	0.000	0	11.16	0.000	0.000	0.000	0.000	0
18	14.65	0.000	0.000	0.000	0.000	0	14.67	0.000	0.000	0.000	0.000	0	12.36	0.000	0.000	0.000	0.000	0
19	17.62	0.000	0.000	0.000	0.000	0	14.59	0.000	0.000	0.000	0.000	0	13.91	0.000	0.000	0.000	0.000	0
20	15.99	0.000	0.000	0.000	0.000	0	12.43	0.000	0.000	0.000	0.000	0	13.86	0.000	0.000	0.000	0.000	0
21	16.99	0.000	0.000	0.000	0.000	0	13.34	0.000	0.000	0.000	0.000	0	10.87	0.000	0.000	0.000	0.000	0
22	16.12	0.000	0.000	0.000	0.000	0	13.01	0.000	0.000	0.000	0.000	0	11.39	0.000	0.000	0.000	0.000	0
23	16.61	0.000	0.000	0.000	0.000	0	12.97	0.000	0.000	0.000	0.000	0	11.63	0.000	0.000	0.000	0.000	0
24	17.73	0.000	0.000	0.000	0.000	0	14.10	0.000	0.000	0.000	0.000	0	10.56	0.000	0.000	0.000	0.000	0
25	15.87	0.000	0.000	0.000	0.000	0	13.08	0.000	0.000	0.000	0.000	0	10.75	0.000	0.000	0.000	0.000	0
26	15.70	0.000	0.000	0.000	0.000	0	13.08	0.000	0.000	0.000	0.000	0	10.12	0.000	0.000	0.000	0.000	0
27	15.36	0.000	0.000	0.000	0.000	0	13.08	0.000	0.000	0.000	0.000	0	10.09	0.000	0.000	0.000	0.000	0
28	15.64	0.000	0.000	0.000	0.000	0	14.40	0.000	0.000	0.000	0.000	0	10.18	0.000	0.000	0.000	0.000	0
29	15.31	0.000	0.000	0.000	0.000	0	13.07	0.000	0.000	0.000	0.000	0						
30	16.61	0.000	0.000	0.000	0.000	0	14.83	0.000	0.000	0.000	0.000	0						
31	18.13	0.000	0.000	0.000	0.000	0	13.79	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	17.69	0.000	0.000	0.000	0.000	0	16.92	0.000	0.000	0.000	0.000	0	13.57	0.000	0.000	0.000	0.000	0
Ten Daily II	14.63	0.000	0.000	0.000	0.000	0	13.72	0.000	0.000	0.000	0.000	0	13.38	0.000	0.000	0.000	0.000	0
Ten Daily III	16.37	0.000	0.000	0.000	0.000	0	13.52	0.000	0.000	0.000	0.000	0	10.70	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 1088159

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Mahi at Khanpur (01 02 13 012) **Division : Mahi Division, Gandhinagar**

Local River : Mahi **Sub-Division : Mahi Sub Divn., Kadana**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	11.76	0.000	0.000	0.000	0.000	0	11.44	0.000	0.000	0.000	0.000	0	9.414	0.000	0.000	0.000	0.000	0
2	10.76	0.000	0.000	0.000	0.000	0	11.42	0.000	0.000	0.000	0.000	0	9.475	0.000	0.000	0.000	0.000	0
3	9.970	0.000	0.000	0.000	0.000	0	11.48	0.000	0.000	0.000	0.000	0	8.263	0.000	0.000	0.000	0.000	0
4	8.894	0.000	0.000	0.000	0.000	0	11.94	0.000	0.000	0.000	0.000	0	6.220	0.000	0.000	0.000	0.000	0
5	6.307	0.000	0.000	0.000	0.000	0	11.90	0.000	0.000	0.000	0.000	0	4.210	0.000	0.000	0.000	0.000	0
6	7.292	0.000	0.000	0.000	0.000	0	11.90	0.000	0.000	0.000	0.000	0	4.019	0.000	0.000	0.000	0.000	0
7	8.999	0.000	0.000	0.000	0.000	0	11.16	0.000	0.000	0.000	0.000	0	4.225	0.000	0.000	0.000	0.000	0
8	7.521	0.000	0.000	0.000	0.000	0	9.111	0.000	0.000	0.000	0.000	0	4.757	0.000	0.000	0.000	0.000	0
9	5.485	0.000	0.000	0.000	0.000	0	10.22	0.000	0.000	0.000	0.000	0	5.813	0.000	0.000	0.000	0.000	0
10	4.210	0.000	0.000	0.000	0.000	0	9.857	0.000	0.000	0.000	0.000	0	4.600	0.000	0.000	0.000	0.000	0
11	4.037	0.000	0.000	0.000	0.000	0	9.857	0.000	0.000	0.000	0.000	0	4.623	0.000	0.000	0.000	0.000	0
12	9.101	0.000	0.000	0.000	0.000	0	9.918	0.000	0.000	0.000	0.000	0	5.000	0.000	0.000	0.000	0.000	0
13	9.794	0.000	0.000	0.000	0.000	0	10.29	0.000	0.000	0.000	0.000	0	6.259	0.000	0.000	0.000	0.000	0
14	9.859	0.000	0.000	0.000	0.000	0	11.79	0.000	0.000	0.000	0.000	0	6.203	0.000	0.000	0.000	0.000	0
15	9.540	0.000	0.000	0.000	0.000	0	10.52	0.000	0.000	0.000	0.000	0	5.849	0.000	0.000	0.000	0.000	0
16	9.257	0.000	0.000	0.000	0.000	0	10.55	0.000	0.000	0.000	0.000	0	5.793	0.000	0.000	0.000	0.000	0
17	8.840	0.000	0.000	0.000	0.000	0	10.98	0.000	0.000	0.000	0.000	0	5.900	0.000	0.000	0.000	0.000	0
18	9.062	0.000	0.000	0.000	0.000	0	10.61	0.000	0.000	0.000	0.000	0	6.169	0.000	0.000	0.000	0.000	0
19	8.959	0.000	0.000	0.000	0.000	0	10.01	0.000	0.000	0.000	0.000	0	5.000	0.000	0.000	0.000	0.000	0
20	8.645	0.000	0.000	0.000	0.000	0	10.68	0.000	0.000	0.000	0.000	0	6.193	0.000	0.000	0.000	0.000	0
21	8.712	0.000	0.000	0.000	0.000	0	11.79	0.000	0.000	0.000	0.000	0	6.410	0.000	0.000	0.000	0.000	0
22	8.529	0.000	0.000	0.000	0.000	0	10.93	0.000	0.000	0.000	0.000	0	7.573	0.000	0.000	0.000	0.000	0
23	8.441	0.000	0.000	0.000	0.000	0	10.56	0.000	0.000	0.000	0.000	0	6.145	0.000	0.000	0.000	0.000	0
24	8.300	0.000	0.000	0.000	0.000	0	10.56	0.000	0.000	0.000	0.000	0	5.376	0.000	0.000	0.000	0.000	0
25	7.488	0.000	0.000	0.000	0.000	0	10.58	0.000	0.000	0.000	0.000	0	5.860	0.000	0.000	0.000	0.000	0
26	7.908	0.000	0.000	0.000	0.000	0	10.48	0.000	0.000	0.000	0.000	0	5.860	0.000	0.000	0.000	0.000	0
27	7.270	0.000	0.000	0.000	0.000	0	10.23	0.000	0.000	0.000	0.000	0	6.310	0.000	0.000	0.000	0.000	0
28	9.054	0.000	0.000	0.000	0.000	0	10.56	0.000	0.000	0.000	0.000	0	6.168	0.000	0.000	0.000	0.000	0
29	10.56	0.000	0.000	0.000	0.000	0	9.724	0.000	0.000	0.000	0.000	0	6.366	0.000	0.000	0.000	0.000	0
30	9.378	0.000	0.000	0.000	0.000	0	9.414	0.000	0.000	0.000	0.000	0	7.190	0.000	0.000	0.000	0.000	0
31	10.56	0.000	0.000	0.000	0.000	0							7.062	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	8.120	0.000	0.000	0.000	0.000	0	11.04	0.000	0.000	0.000	0.000	0	6.100	0.000	0.000	0.000	0.000	0
Ten Daily II	8.709	0.000	0.000	0.000	0.000	0	10.52	0.000	0.000	0.000	0.000	0	5.699	0.000	0.000	0.000	0.000	0
Ten Daily III	8.745	0.000	0.000	0.000	0.000	0	10.48	0.000	0.000	0.000	0.000	0	6.393	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 1088159

Annual Sediment Load for period : 2005-2013

Station Name : Mahi at Khanpur (01 02 13 012) **Division : Mahi Division, Gandhinagar**

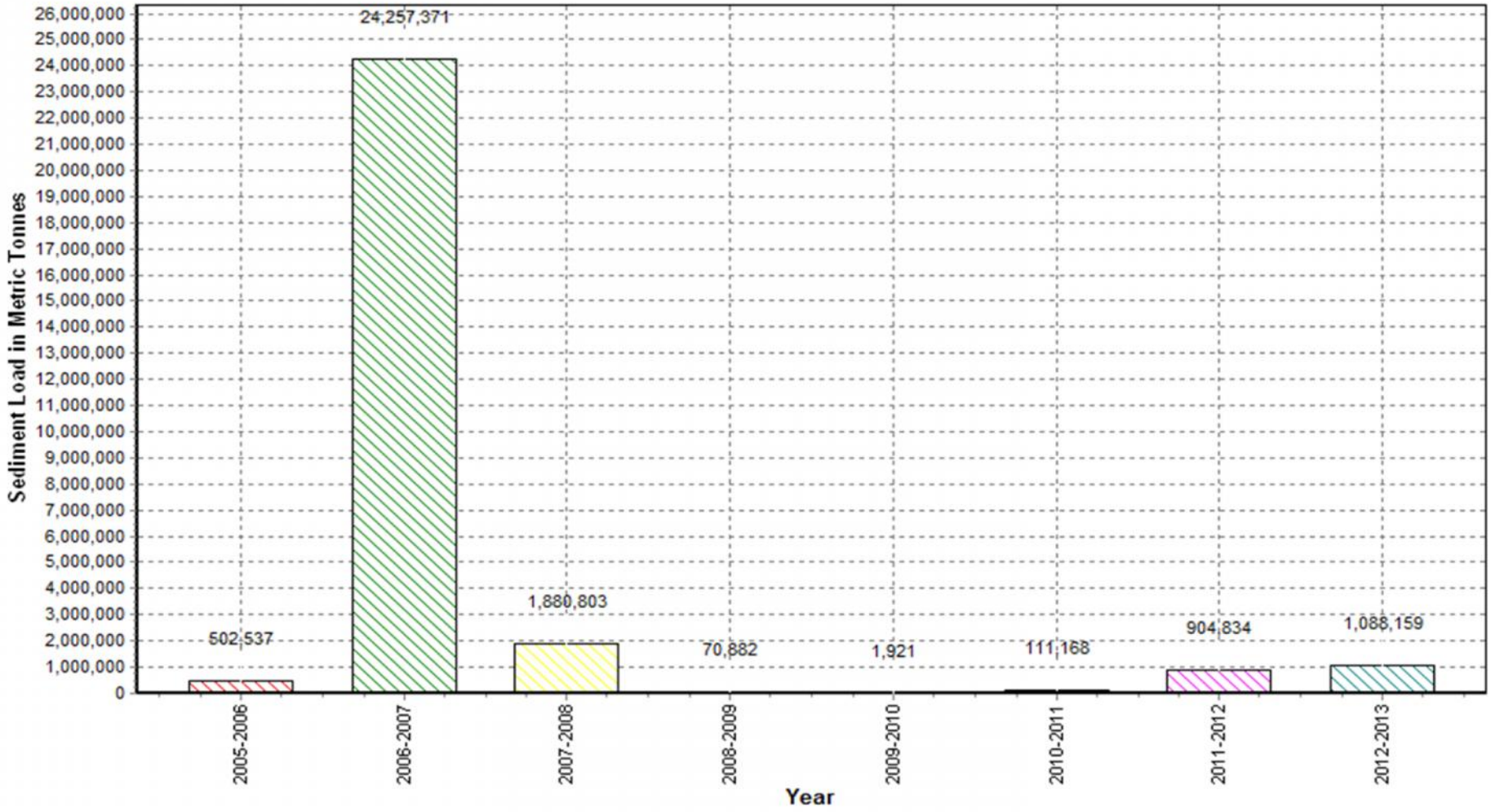
Local River : Mahi **Sub-Division : Mahi Sub Divn., Kadana**

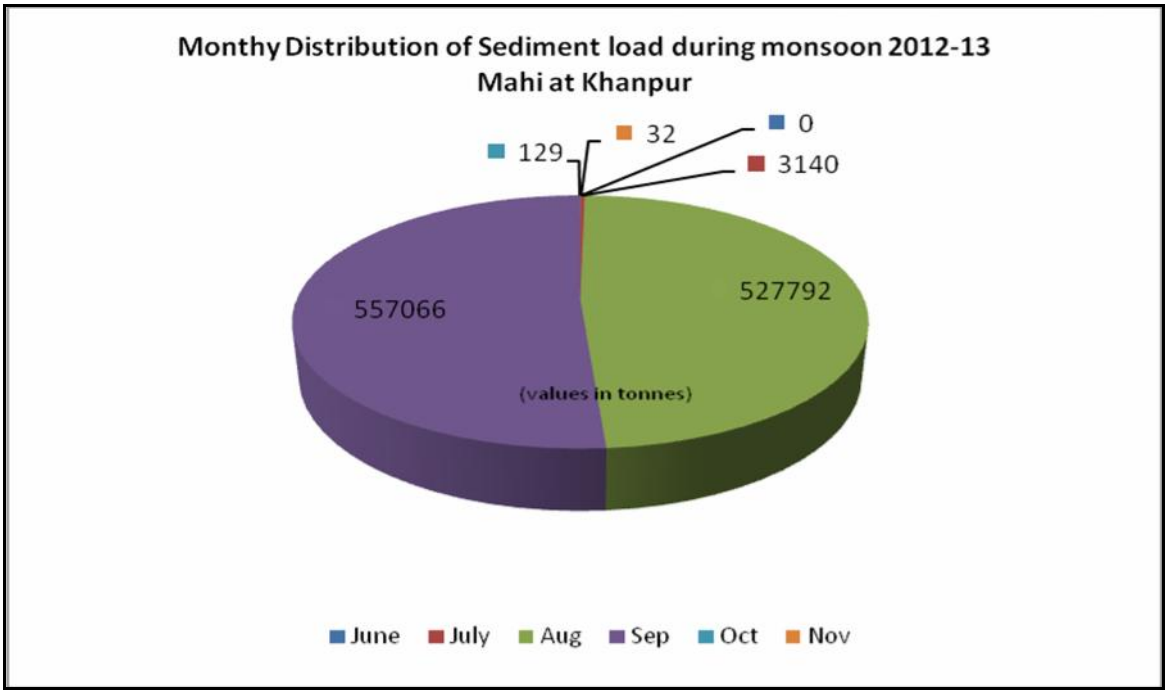
Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)	Annual Sediment yield in mm
2005-2006	497519	5018	502537	2779	0.0110
2006-2007	24257371	0	24257371	21880	0.5330
2007-2008	1876145	4657	1880803	6737	0.0413
2008-2009	68954	1928	70882	868	0.0016
2009-2010	1776	145	1921	553	0.00004
2010-2011	111057	111	111168	1078	0.0024
2011-2012	904816	19	904834	5014	0.0199
2012-2013	1088159	0	1088159	7039	0.0239

Annual Sediment Load for the period: 2005-2013

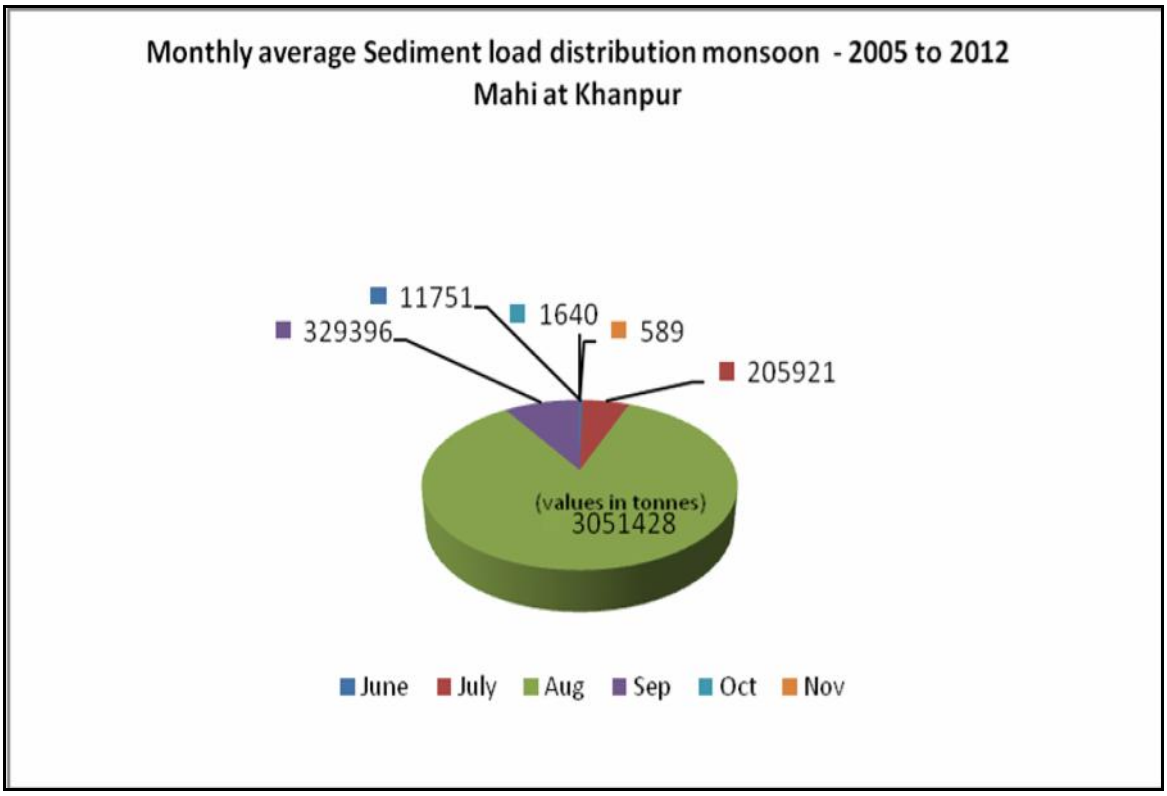
Station Name : Mahi at Khanpur (01 02 13 012) **Division : Mahi Division, Gandhinagar**

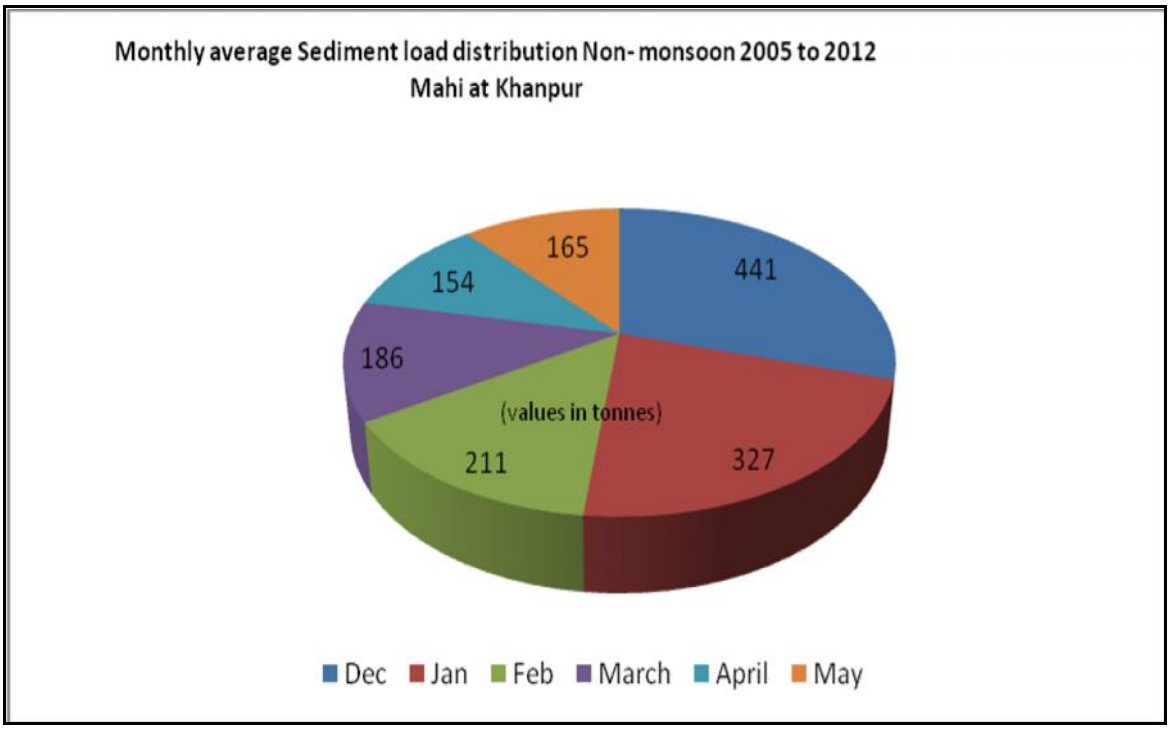
Local River : Mahi **Sub-Division : Mahi Sub Divn., Kadana**





Monthy Distribution of Sediment load during nonmonsoon 2012-13
Mahi at Khanpur No sediment data was observed in any month




Monthly average Sediment load distribution Non- monsoon 2005 to 2012
Mahi at Khanpur
165
441
154
186
(values in tonnes)
211
327
Dec
Jan
Feb
March
April
May

4.2 Tapi Basin

The Tapi is the second largest westward draining interstate river basin. It originates near Multai in Betul district at an elevation of 752 m above *msl*. The total length of this west flowing river from its origin to its out- fall into gulf of Cambay is 724 km. It drains an area of 65,145 sq.km, out of which nearly 80% lies in Maharashtra, 15% in Madhya Pradesh and rest 5% in Gujarat .The Tapi basin is the northern most basin of Deccan Plateau and is situated between latitudes 20°N to 22°N approximately. The Satpura range forms its northern boundary and the Ajanta and Satmala hills forms its southern extremity. Mahadeo hills form its eastern boundary and its outlet into the Arabian sea is in the west. Bounded by three sides by the hill ranges, the river Tapi, along with its tributaries flows more or less over the plains of Vidarbha, Khandesh and Gujarat

The Tapi receives several tributaries on both the banks. There are 14 major tributaries having length more than 50 km. Out of which 4 tributaries viz. Vaki, Gomi, Arunavati and Aner join on the right bank. Other 10 tributaries viz. Nesu, Amaravati, Buray, Panjhra, Bori, Girna, Vaghur, Purna, Mona and Sipna drain on left bank of the main channel. The drainage system on the left bank of Tapi is, therefore, more extensive as compared to the right bank area

The Purna and Girna, two important left bank tributaries, together account for nearly 45% of the total catchment area of the Tapi. The Purna is the principal tributary of the Tapi and originates in Betul district near Gawilgarh hills of Satpura range at an elevation of 900 m. It traverses 274 km having catchments area of about 18929 sq km. The Girna, another major tributary, rises in the hill ranges of Western Ghats at an elevation of 900 m. It traverses a distance of about 260 km having a catchment area about 10061 sq km.

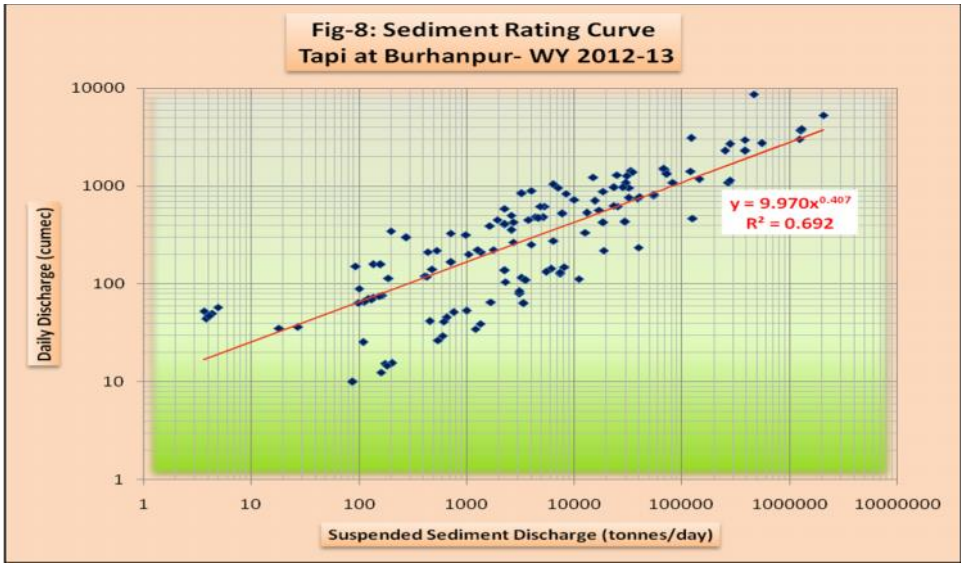
The average rainfall in the Tapi basin is 830 mm, Owing to topographical characteristics, the climate is variable. The Purna Sub catchment in the upper half of the Tapi basin is one of the hottest regions in India

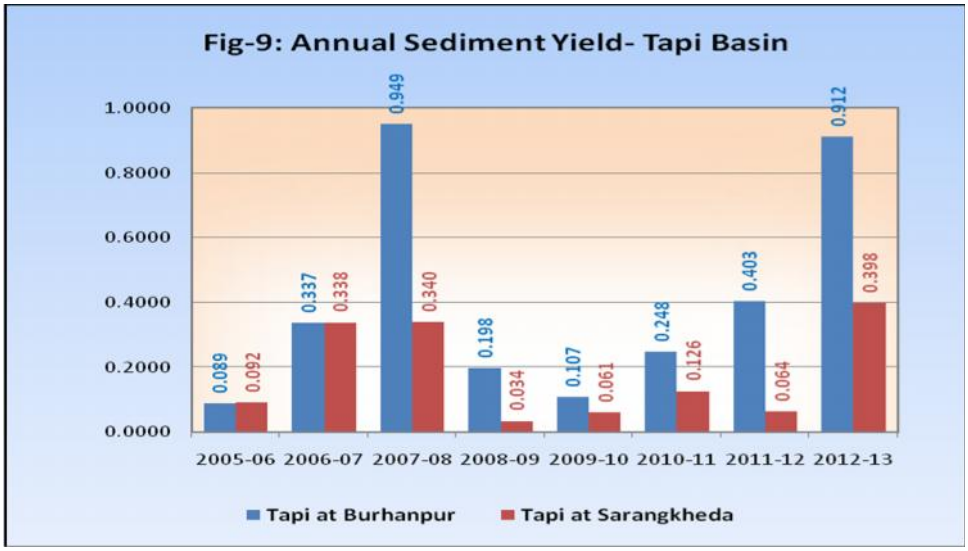
At present, there are 40 major and medium Irrigation schemes completed and 15 ongoing schemes in the form of reservoirs or weirs in the Tapi catchment. The main projects on main river are Kakrapar weir, Ukai Dam and Hathnur Dam. The upper Tapi Stage- II project is under progress at Nawtha.

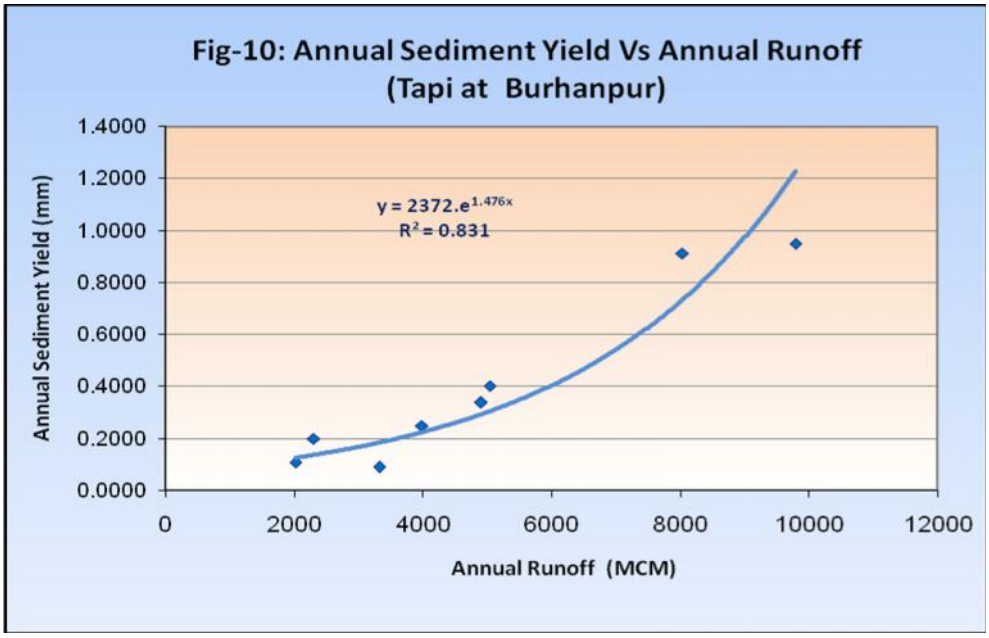
There are four silt monitoring stations in this basin, out of which two stations are on the main river and the other two stations are located on tributary of Purna. A brief of the Sediment stations is given in section- 4.2.1 to 4.2.4.

4.2.1. Tapi at Burhanpur

The station has a Catchment area of 8487 sq.km. The sediment rating curve at the site is given in **Fig-8**. The maximum sediment concentration of 5.650 g/l was observed on 08.07.2012. The total sediment load during the year is 1,08,35,107 metric tonnes. The monsoon load constitutes 99.999 % of the total load. The annual sediment yield over the catchment during water year 2012-13 is 0.9119 mm. Annual sediment yield over the period of observations is given in **Fig-9**. It is seen that annual yield is very strongly positively correlated with annual runoff as shown in **Fig-10**.

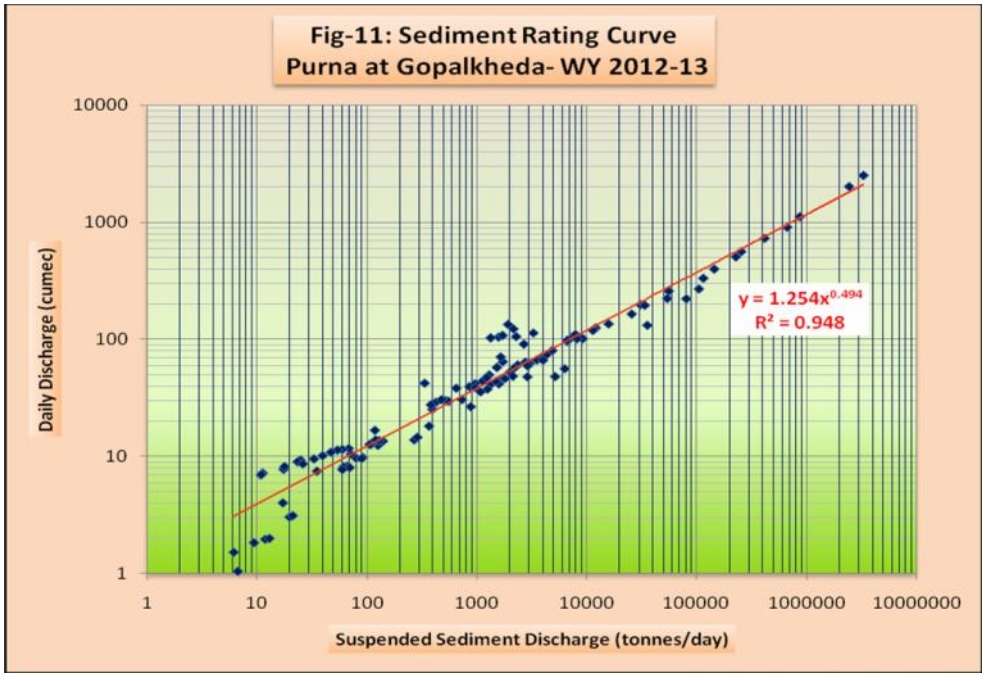


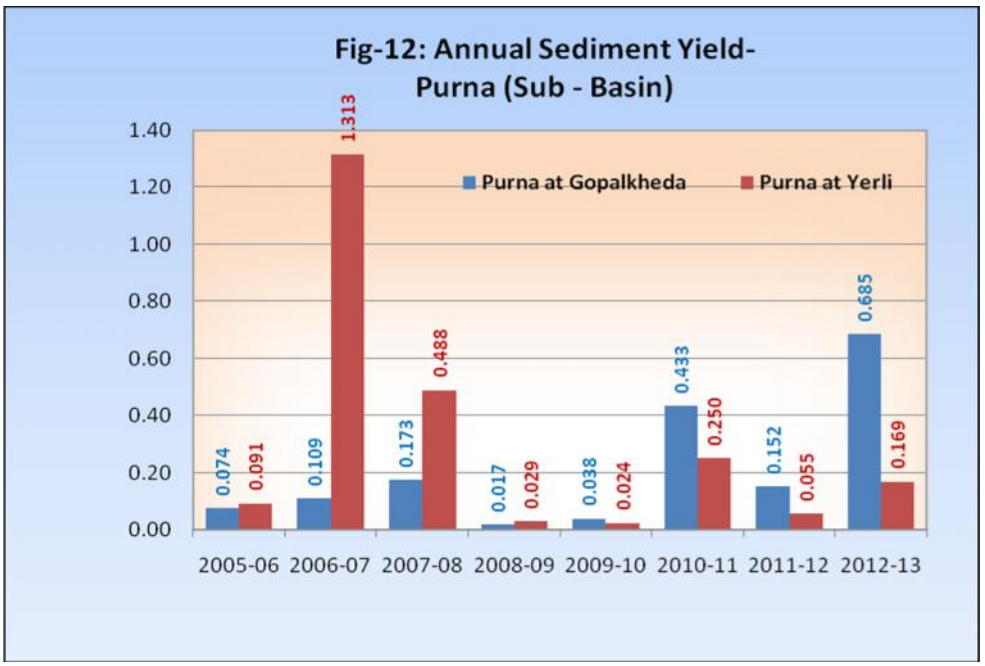


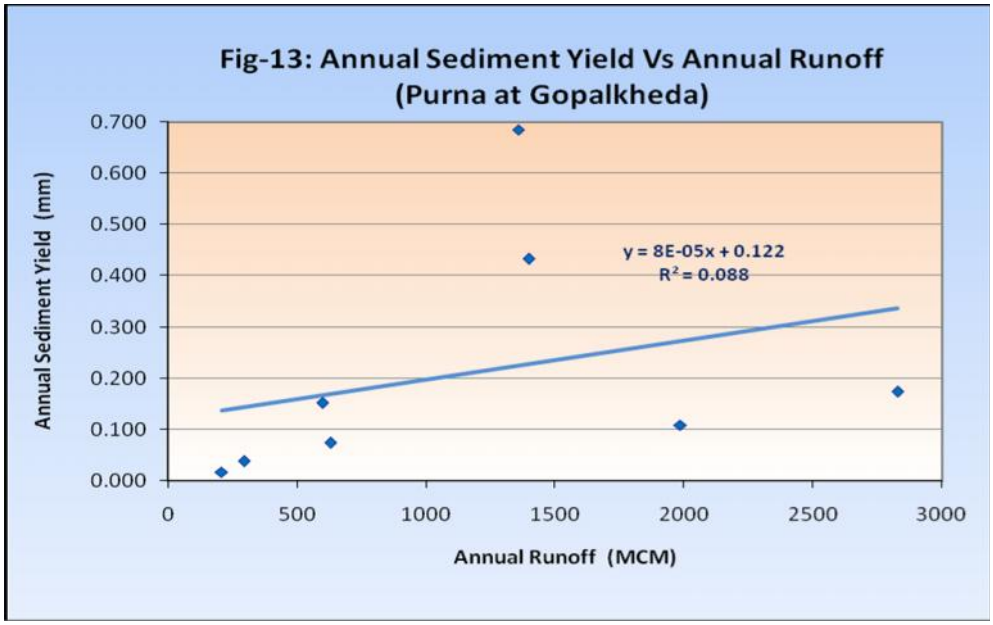


4.2.2. Purna at Gopalkheda

The station has a Catchment area of 9,500 sq km. The sediment rating curve at the site is given in **Fig-11**.The maximum sediment concentration of 15.20 g/l was observed on 07.09.2012. The total sediment load during the year is 91,13,852 metric tonnes. The monsoon load constitutes 100 % of the total load. The annual sediment yield over the catchment during water year 2012-13 is 0.6853 mm. Annual sediment yield over the period of observations in the Purna sub-basin of Tapi basin is given in **Fig-12**. It is seen from **Fig-13** that only a moderately strong positive correlation exists between annual yield and annual runoff.



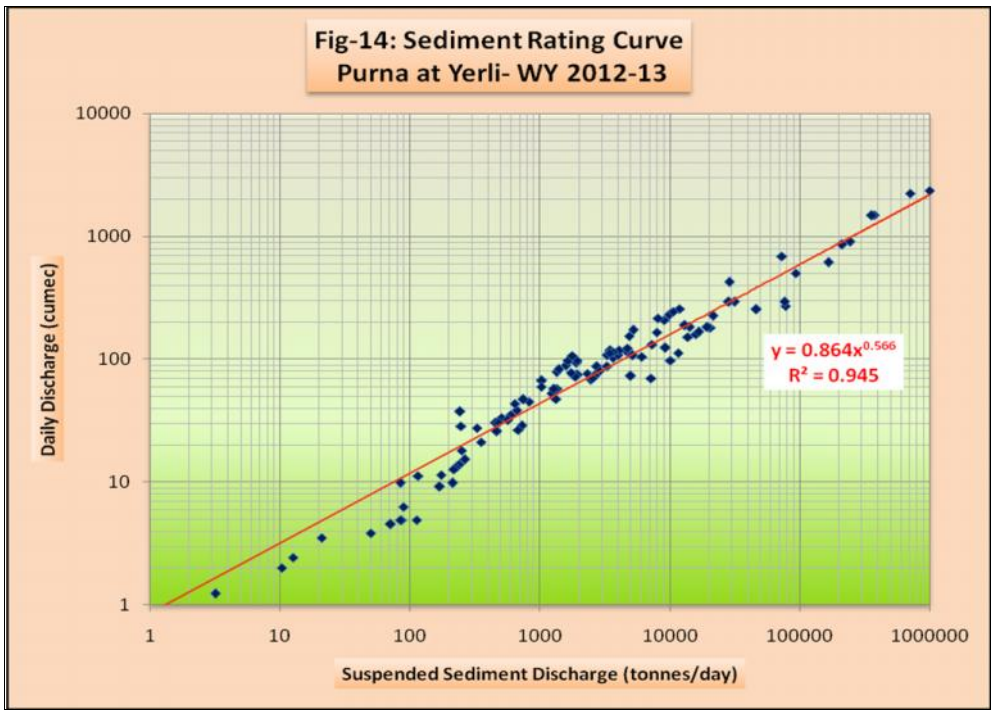


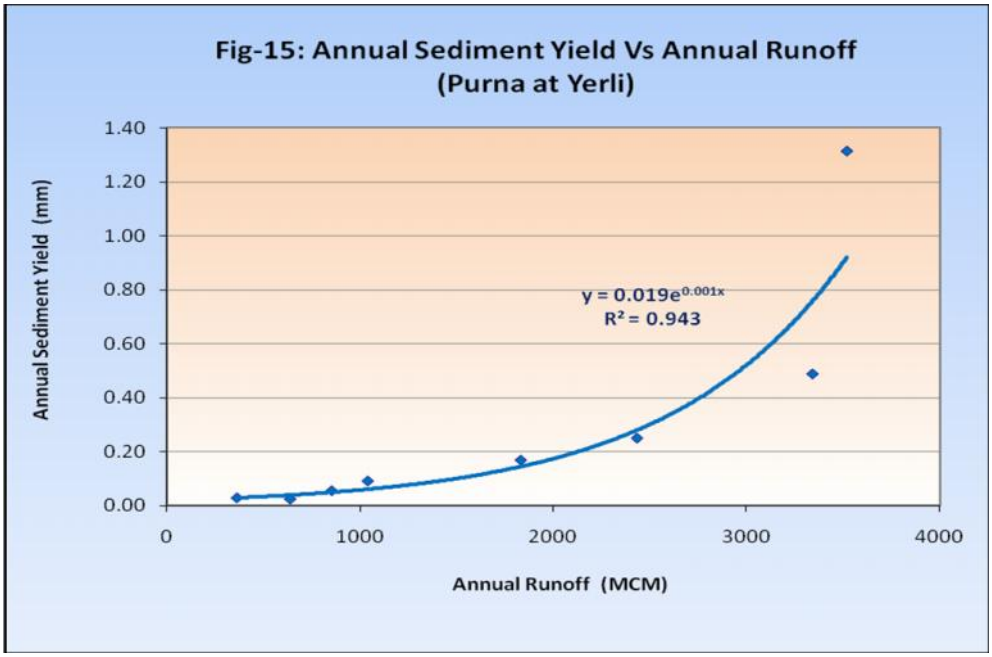


4.2.3. Purna at Yerli

The station has a Catchment area of 16,517 sq km. The sediment rating curve at the site is given in **Fig-14**. The maximum sediment concentration of 4.914 g/l was observed on 08.09.2012. The total sediment load during the year is 39,00,342 metric tonnes. The monsoon load constitutes 100 % of the total load. The annual sediment yield over the catchment during water year 2012-13 is 0.1687 mm. Annual sediment yield over the period of observations is given in **Fig-12**. It is seen from the analysis

that sediment yield does not follow any trend over the years. It is seen from **Fig-15** that a strong positive correlation exists between annual yield and annual runoff.

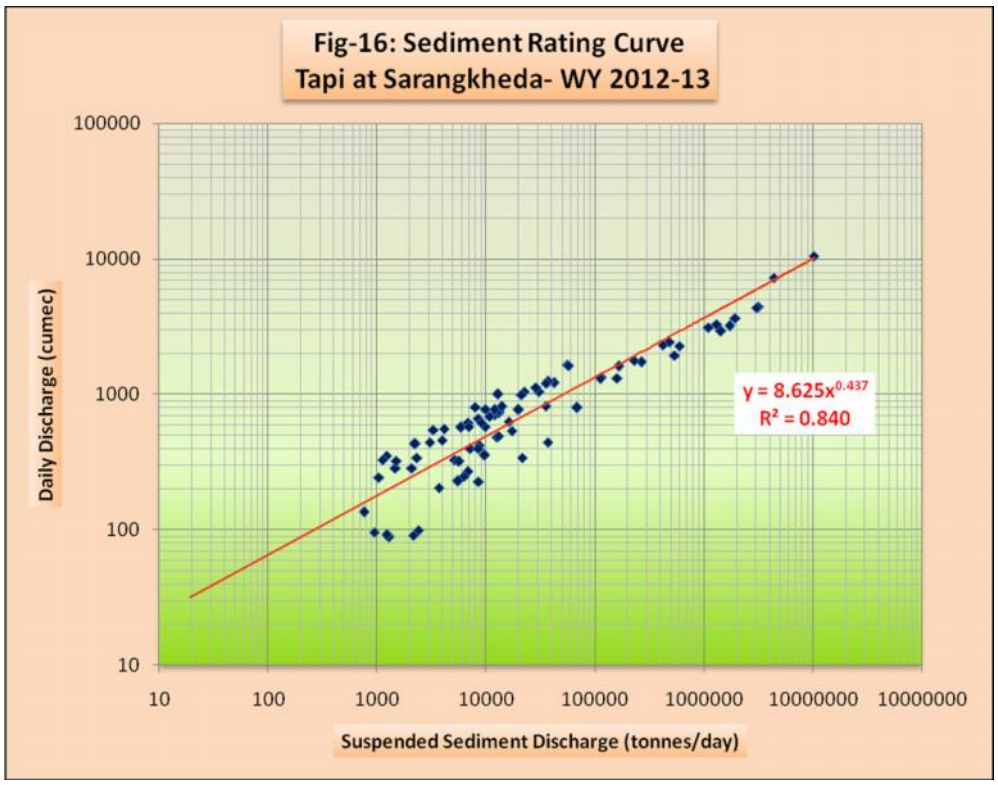




4.2.4. Tapi at Sarangkheda

The station has a Catchment area of 58,400 sq km. The sediment rating curve at the site is given in **Fig-16**.The maximum sediment concentration of 11.42 g/l was observed on 07.09.2012. The total sediment load during the year is 3,25,24,509 metric tonnes. The monsoon load constitutes 100 % of the total load. The annual sediment

yield over the catchment during water year 2012-13 is 0.3978 mm. Annual sediment yield over the period of observations is given in **Fig-9**. It is seen from the analysis that sediment yield does not follow any trend over the years. It is seen from **Fig-17** that fairly strong positive correlation exists between annual yield and annual runoff.



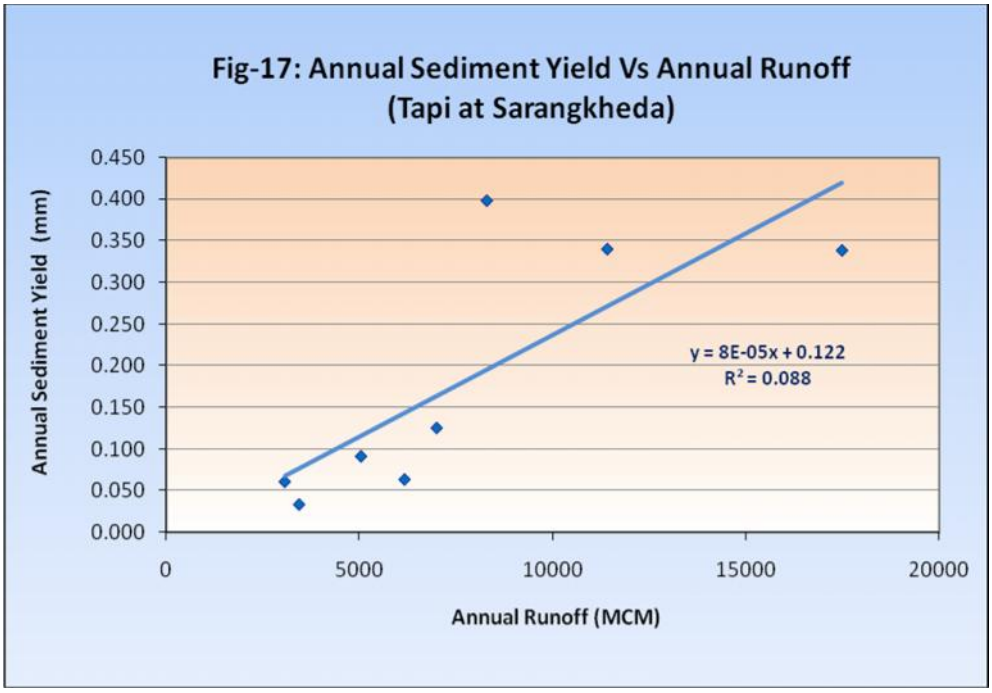
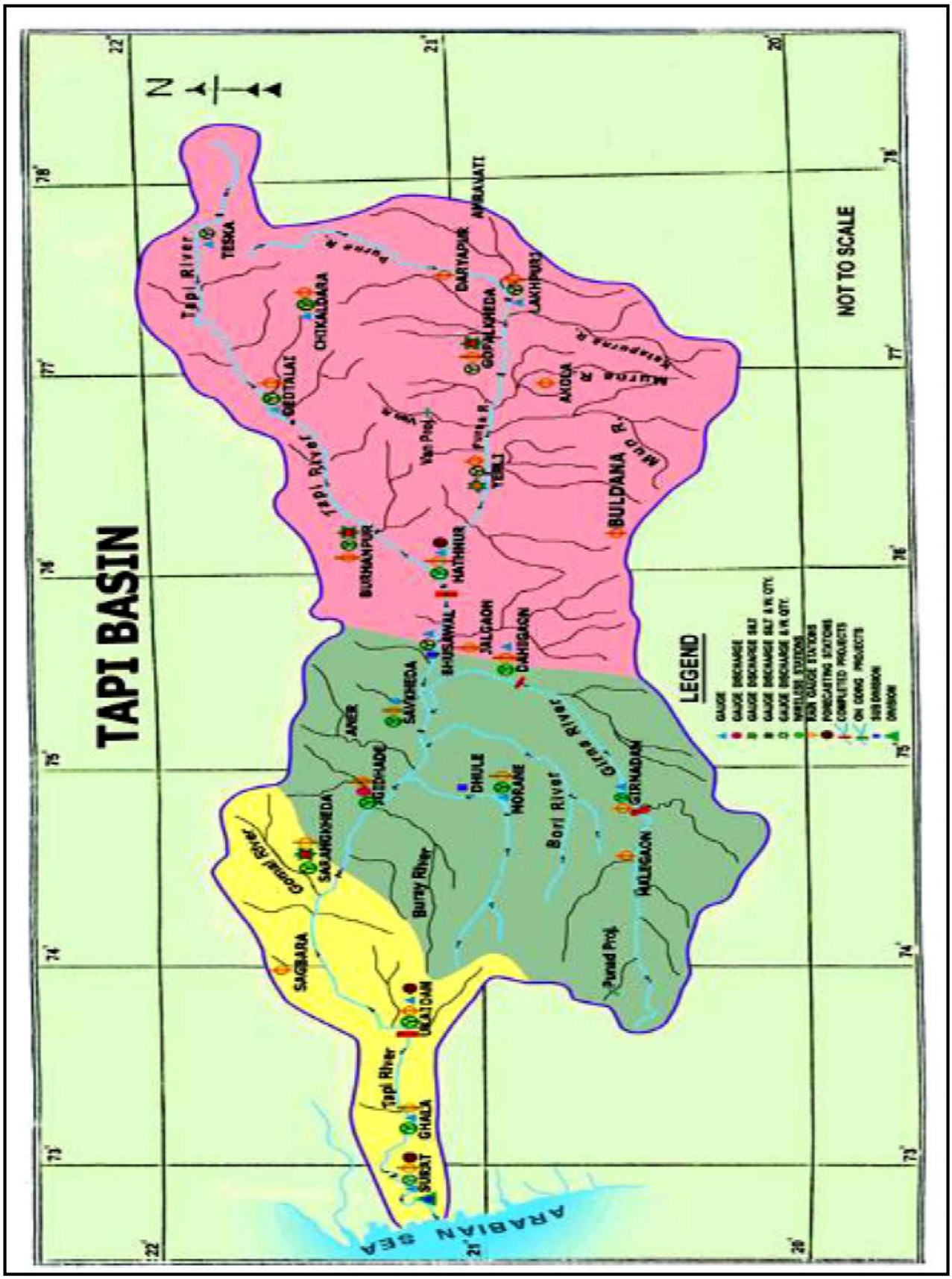


Plate - 4.2 Tapi Basin



HISTORY SHEET

		Water Year	**: 2012-2013**
Site	**: Tapi at Burhanpur**	**Code**	**: 01 02 17 002**
State	: Madhya Pradesh	District	Khandwa
Basin	: Tapi	Independent River	: Tapi
Tributary	:	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Tapi
Division	: Tapi Div., Surat	Sub-Division	: UTSD, Bhusawal
Drainage Area	: 8487 Sq. Km.	Bank	: Right
Latitude	: 21°17'12" N	Longitude	: 76°13'18" E
Zero of Gauge (m)	: 213 (m.s.l)	16/06/1972	-
	Opening Date	Closing Date	
Gauge	: 16/06/1972		
Discharge	: 14/09/1972		
Sediment	: 23/12/1972		
Water Quality	: 01/06/1977		

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Tapi at Burhanpur (01 02 17 002) **Division : Tapi Div., Surat**

Local River : Tapi **Sub-Division : UTSD, Bhusawal**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000						10.18	0.000	0.000	0.100	0.100	88	1329	0.000	0.000	0.637	0.637	73087
2	0.000						137.0	0.000	0.000	0.192	0.192	2270	1445	0.000	0.000	0.270	0.270	33689
3	0.000						105.6	0.000	0.000	0.253	0.253	2305	833.4	0.000	0.000	0.117	0.117	8403
4	0.000						127.1	0.000	0.000	0.675	0.675	7415	617.5	0.000	0.000	0.100	0.100	5335
5	0.000						115.4	0.000	0.000	0.323	0.323	3216	502.2	0.000	0.000	0.060	0.060	2603
6	0.000						109.1	0.000	0.000	0.378	0.378	3567	392.5	0.000	0.000	0.049	0.049	1652
7	0.000						34.44	0.000	0.000	0.410	0.410	1219	3869	0.000	0.000	3.861	3.861	1290762
8	0.000						722.0	0.000	0.000	5.650	5.650	352456	2966	0.000	0.000	1.500	1.500	384394
9	0.000						131.3	0.000	0.000	0.650	0.650	7376	1264	0.000	0.000	0.281	0.281	30726
10	0.000						466.6	0.000	0.000	3.139	3.139	126554	799.1	0.000	0.000	0.800	0.800	55231
11	0.000						218.2	0.000	0.000	1.006	1.006	18956	745.3	0.000	0.000	0.605	0.605	38926
12	0.000						148.6	0.000	0.000	0.634	0.634	8138	2681	0.000	0.000	1.218	1.218	282136
13	0.000						142.1	0.000	0.000	0.495	0.495	6077	1298	0.000	0.000	0.225	0.225	25223
14	0.000						133.7	0.000	0.000	0.476	0.476	5500	1041	0.000	0.000	0.071	0.071	6386
15	0.000						83.73	0.000	0.000	0.430	0.430	3111	779.6	0.000	0.000	0.600	0.600	40413
16	0.000						64.95	0.000	0.000	0.300	0.300	1684	618.7	0.000	0.000	0.092	0.092	4902
17	0.000						52.92	0.000	0.000	0.221	0.221	1009	480.0	0.000	0.000	0.124	0.124	5151
18	0.000						51.42	0.000	0.000	0.171	0.171	759	450.5	0.000	0.000	0.098	0.098	3795
19	1086	0.000	0.000	2.903	2.903	272418	45.27	0.000	0.000	0.168	0.168	658	425.7	0.000	0.000	0.075	0.075	2758
20	233.9	0.000	0.000	1.973	1.973	39873	41.25	0.000	0.000	0.173	0.173	618	406.4	0.000	0.000	0.065	0.065	2282
21	112.6	0.000	0.000	1.145	1.145	11136	41.51	0.000	0.000	0.127	0.127	454	895.6	0.000	0.000	0.052	0.052	4039
22	79.67	0.000	0.000	0.453	0.453	3120	25.44	0.000	0.000	0.050	0.050	110	842.5	0.000	0.000	0.045	0.045	3275
23	63.47	0.000	0.000	0.620	0.620	3400	3683	0.000	0.000	4.028	4.028	1281850	962.9	0.000	0.000	0.085	0.085	7072
24	39.20	0.000	0.000	0.400	0.400	1355	5314	0.000	0.000	4.498	4.498	2065303	586.1	0.000	0.000	0.045	0.045	2279
25	29.60	0.000	0.000	0.235	0.235	601	1089	0.000	0.000	0.876	0.876	82404	485.0	0.000	0.000	0.103	0.103	4329
26	26.53	0.000	0.000	0.238	0.238	546	617.2	0.000	0.000	0.476	0.476	25394	448.6	0.000	0.000	0.050	0.050	1938
27	15.55	0.000	0.000	0.151	0.151	203	431.2	0.000	0.000	0.800	0.800	29805	522.7	0.000	0.000	0.172	0.172	7777
28	15.33	0.000	0.000	0.133	0.133	176	2293	0.000	0.000	1.972	1.972	390683	1175	0.000	0.000	1.425	1.425	144654
29	14.64	0.000	0.000	0.145	0.145	183	2738	0.000	0.000	2.350	2.350	555895	759.6	0.000	0.000	0.492	0.492	32270
30	12.48	0.000	0.000	0.150	0.150	161	1471	0.000	0.000	0.548	0.548	69629	722.0	0.000	0.000	0.162	0.162	10087
31							1233	0.000	0.000	0.141	0.141	15048	815.4	0.000	0.000	0.787	0.787	55423
Ten Daily Mean																		
Ten Daily I	0.000						195.9	0.000	0.000	1.177	1.177	50647	1402	0.000	0.000	0.767	0.767	188588
Ten Daily II	132.0	0.000	0.000	2.438	2.438	156145	98.21	0.000	0.000	0.407	0.407	4651	892.6	0.000	0.000	0.317	0.317	41197
Ten Daily III	40.90	0.000	0.000	0.367	0.367	2088	1721	0.000	0.000	1.442	1.442	410598	746.8	0.000	0.000	0.311	0.311	24831
Monthly																		
Total						333172						5069551						2570996

Annual Sediment Load (Metric Tonnes) : 10835107

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Tapi at Burhanpur (01 02 17 002) **Division : Tapi Div., Surat**

Local River : Tapi **Sub-Division : UTSD, Bhusawal**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	956.0	0.000	0.000	0.394	0.394	32560	222.1	0.000	0.000	0.093	0.093	1790	30.55	0.000	0.000	0.010	0.010	26
2	875.7	0.000	0.000	0.248	0.248	18726	166.4	0.000	0.000	0.050	0.050	719	28.30	0.000	0.000	0.010	0.010	24
3	1509	0.000	0.000	0.525	0.525	68462	222.8	0.000	0.000	0.067	0.067	1286	28.74	0.000	0.000	0.010	0.010	25
4	1149	0.000	0.000	2.837	2.837	281659	219.4	0.000	0.000	0.028	0.028	531	30.73	0.000	0.000	0.010	0.010	27
5	3011	0.000	0.000	4.765	4.765	1239822	210.9	0.000	0.000	0.024	0.024	437	26.50	0.000	0.000	0.016	0.016	37
6	8613	0.000	0.000	0.630	0.630	468812	200.5	0.000	0.000	0.061	0.061	1053	26.12	0.000	0.000	0.010	0.010	23
7	2286	0.000	0.000	1.285	1.285	253801	158.1	0.000	0.000	0.010	0.010	137	25.17	0.000	0.000	0.010	0.010	22
8	1385	0.000	0.000	0.293	0.293	35054	158.2	0.000	0.000	0.012	0.012	160	24.07	0.000	0.000	0.010	0.010	21
9	1073	0.000	0.000	0.323	0.323	29966	151.0	0.000	0.000	0.007	0.007	94	24.06	0.000	0.000	0.010	0.010	21
10	967.3	0.000	0.000	0.282	0.282	23526	140.4	0.000	0.000	0.040	0.040	482	22.22	0.000	0.000	0.009	0.009	17
11	3082	0.000	0.000	0.462	0.462	123077	120.2	0.000	0.000	0.040	0.040	415	21.92	0.000	0.000	0.009	0.009	17
12	1413	0.000	0.000	0.995	0.995	121473	118.4	0.000	0.000	0.042	0.042	427	21.94	0.000	0.000	0.009	0.009	17
13	967.4	0.000	0.000	0.338	0.338	28209	113.7	0.000	0.000	0.019	0.019	189	22.53	0.000	0.000	0.009	0.009	18
14	707.9	0.000	0.000	0.255	0.255	15596	89.62	0.000	0.000	0.013	0.013	101	19.89	0.000	0.000	0.007	0.007	12
15	628.6	0.000	0.000	0.433	0.433	23534	71.53	0.000	0.000	0.022	0.022	136	17.27	0.000	0.000	0.006	0.006	9
16	568.1	0.000	0.000	0.350	0.350	17178	70.73	0.000	0.000	0.020	0.020	122	15.36	0.000	0.000	0.006	0.006	8
17	471.0	0.000	0.000	0.115	0.115	4680	76.30	0.000	0.000	0.025	0.025	165	14.96	0.000	0.000	0.005	0.005	6
18	407.7	0.000	0.000	0.064	0.064	2244	75.04	0.000	0.000	0.024	0.024	156	15.69	0.000	0.000	0.005	0.005	7
19	345.8	0.000	0.000	0.007	0.007	200	69.37	0.000	0.000	0.022	0.022	132	14.22	0.000	0.000	0.003	0.003	4
20	329.4	0.000	0.000	0.025	0.025	712	65.42	0.000	0.000	0.020	0.020	113	13.71	0.000	0.000	0.003	0.003	4
21	317.1	0.000	0.000	0.036	0.036	995	63.98	0.000	0.000	0.018	0.018	100	12.95	0.000	0.000	0.002	0.002	2
22	297.4	0.000	0.000	0.011	0.011	278	52.73	0.000	0.000	0.001	0.001	4	12.47	0.000	0.000	0.002	0.002	2
23	422.5	0.000	0.000	0.510	0.510	18615	48.89	0.000	0.000	0.001	0.001	4	12.05	0.000	0.000	0.002	0.002	2
24	333.4	0.000	0.000	0.442	0.442	12724	57.42	0.000	0.000	0.001	0.001	5	12.50	0.000	0.000	0.002	0.002	2
25	533.7	0.000	0.000	0.285	0.285	13142	46.56	0.000	0.000	0.001	0.001	4	7.390	0.000	0.000	0.001	0.001	1
26	275.2	0.000	0.000	0.270	0.270	6421	44.01	0.000	0.000	0.001	0.001	4	11.82	0.000	0.000	0.001	0.001	1
27	251.1	0.000	0.000	0.183	0.183	3977	49.96	0.000	0.000	0.001	0.001	4	11.49	0.000	0.000	0.001	0.001	1
28	354.8	0.000	0.000	0.085	0.085	2606	47.10	0.000	0.000	0.001	0.001	4	3.910	0.000	0.000	0.001	0.001	0
29	264.8	0.000	0.000	0.119	0.119	2723	36.35	0.000	0.000	0.009	0.009	27	3.700	0.000	0.000	0.001	0.001	0
30	211.5	0.000	0.000	0.075	0.075	1370	35.11	0.000	0.000	0.006	0.006	18	3.700	0.000	0.000	0.001	0.001	0
31							32.91	0.000	0.000	0.004	0.004	11						
Ten Daily Mean																		
Ten Daily I	2183	0.000	0.000	1.158	1.158	245239	185.0	0.000	0.000	0.039	0.039	669	26.65	0.000	0.000	0.011	0.011	24
Ten Daily II	892.1	0.000	0.000	0.304	0.304	33690	87.04	0.000	0.000	0.025	0.025	195	17.75	0.000	0.000	0.006	0.006	10
Ten Daily III	326.1	0.000	0.000	0.202	0.202	6285	46.82	0.000	0.000	0.004	0.004	17	9.199	0.000	0.000	0.001	0.001	1
Monthly																		
Total						2852139						8829						356

Annual Sediment Load (Metric Tonnes) : 10835107

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Tapi at Burhanpur (01 02 17 002) **Division : Tapi Div., Surat**

Local River : Tapi **Sub-Division : UTSD, Bhusawal**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	3.698	0.000	0.000	0.001	0.001	0	4.102	0.000	0.000	0.001	0.001	0	2.125	0.000	0.000	0.001	0.001	0
2	5.270	0.000	0.000	0.001	0.001	0	4.076	0.000	0.000	0.001	0.001	0	1.901	0.000	0.000	0.001	0.001	0
3	11.23	0.000	0.000	0.001	0.001	1	3.654	0.000	0.000	0.001	0.001	0	1.882	0.000	0.000	0.001	0.001	0
4	10.72	0.000	0.000	0.001	0.001	1	3.450	0.000	0.000	0.001	0.001	0	2.185	0.000	0.000	0.001	0.001	0
5	10.59	0.000	0.000	0.001	0.001	1	3.321	0.000	0.000	0.001	0.001	0	2.254	0.000	0.000	0.001	0.001	0
6	9.818	0.000	0.000	0.001	0.001	1	4.060	0.000	0.000	0.001	0.001	0	2.224	0.000	0.000	0.001	0.001	0
7	9.242	0.000	0.000	0.001	0.001	1	2.946	0.000	0.000	0.001	0.001	0	2.068	0.000	0.000	0.001	0.001	0
8	8.848	0.000	0.000	0.001	0.001	1	2.839	0.000	0.000	0.001	0.001	0	1.977	0.000	0.000	0.001	0.001	0
9	3.021	0.000	0.000	0.001	0.001	0	2.551	0.000	0.000	0.001	0.001	0	2.135	0.000	0.000	0.001	0.001	0
10	7.014	0.000	0.000	0.001	0.001	1	2.543	0.000	0.000	0.001	0.001	0	3.350	0.000	0.000	0.001	0.001	0
11	4.871	0.000	0.000	0.001	0.001	0	2.465	0.000	0.000	0.001	0.001	0	1.967	0.000	0.000	0.000	0.000	0
12	4.606	0.000	0.000	0.001	0.001	0	2.434	0.000	0.000	0.001	0.001	0	1.962	0.000	0.000	0.000	0.000	0
13	5.340	0.000	0.000	0.001	0.001	0	2.710	0.000	0.000	0.001	0.001	0	26.80	0.000	0.000	0.007	0.007	16
14	6.234	0.000	0.000	0.001	0.001	1	2.746	0.000	0.000	0.001	0.001	0	17.66	0.000	0.000	0.005	0.005	8
15	6.141	0.000	0.000	0.001	0.001	1	2.693	0.000	0.000	0.001	0.001	0	16.00	0.000	0.000	0.005	0.005	7
16	2.710	0.000	0.000	0.001	0.001	0	2.644	0.000	0.000	0.001	0.001	0	9.320	0.000	0.000	0.003	0.003	2
17	5.762	0.000	0.000	0.001	0.001	0	2.605	0.000	0.000	0.001	0.001	0	6.640	0.000	0.000	0.002	0.002	1
18	5.594	0.000	0.000	0.001	0.001	0	2.541	0.000	0.000	0.001	0.001	0	2.601	0.000	0.000	0.002	0.002	0
19	5.278	0.000	0.000	0.001	0.001	0	2.551	0.000	0.000	0.001	0.001	0	2.575	0.000	0.000	0.001	0.001	0
20	5.231	0.000	0.000	0.001	0.001	0	2.410	0.000	0.000	0.001	0.001	0	2.575	0.000	0.000	0.001	0.001	0
21	4.992	0.000	0.000	0.001	0.001	0	2.494	0.000	0.000	0.001	0.001	0	2.451	0.000	0.000	0.001	0.001	0
22	4.829	0.000	0.000	0.001	0.001	0	2.420	0.000	0.000	0.001	0.001	0	2.445	0.000	0.000	0.001	0.001	0
23	6.640	0.000	0.000	0.001	0.001	1	2.389	0.000	0.000	0.001	0.001	0	2.358	0.000	0.000	0.001	0.001	0
24	4.665	0.000	0.000	0.001	0.001	0	2.350	0.000	0.000	0.001	0.001	0	4.850	0.000	0.000	0.001	0.001	0
25	2.140	0.000	0.000	0.001	0.001	0	2.140	0.000	0.000	0.001	0.001	0	2.299	0.000	0.000	0.001	0.001	0
26	4.587	0.000	0.000	0.001	0.001	0	2.140	0.000	0.000	0.000	0.000	0	2.296	0.000	0.000	0.001	0.001	0
27	4.430	0.000	0.000	0.001	0.001	0	2.140	0.000	0.000	0.001	0.001	0	2.343	0.000	0.000	0.001	0.001	0
28	4.354	0.000	0.000	0.001	0.001	0	2.318	0.000	0.000	0.001	0.001	0	2.204	0.000	0.000	0.001	0.001	0
29	4.245	0.000	0.000	0.001	0.001	0	2.217	0.000	0.000	0.001	0.001	0						
30	1.882	0.000	0.000	0.001	0.001	0	2.214	0.000	0.000	0.001	0.001	0						
31	4.151	0.000	0.000	0.001	0.001	0	2.155	0.000	0.000	0.001	0.001	0						
Ten Daily Mean																		
Ten Daily I	7.945	0.000	0.000	0.001	0.001	1	3.354	0.000	0.000	0.001	0.001	0	2.210	0.000	0.000	0.001	0.001	0
Ten Daily II	5.177	0.000	0.000	0.001	0.001	0	2.580	0.000	0.000	0.001	0.001	0	8.810	0.000	0.000	0.003	0.003	4
Ten Daily III	4.265	0.000	0.000	0.001	0.001	0	2.271	0.000	0.000	0.001	0.001	0	2.656	0.000	0.000	0.001	0.001	0
Monthly																		
Total						15						7						39

Annual Sediment Load (Metric Tonnes) : 10835107

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Tapi at Burhanpur (01 02 17 002) **Division : Tapi Div., Surat**

Local River : Tapi **Sub-Division : UTSD, Bhusawal**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	2.336	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	2.127	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	3.350	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	2.165	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	1.983	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	1.978	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	1.948	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	1.861	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	1.806	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	1.640	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	1.292	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	1.240	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	1.162	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	1.117	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	1.106	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	1.067	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	1.020	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	1.155	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	1.086	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	1.183	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	1.097	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	1.106	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	1.077	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.550	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.230	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.230	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	2.119	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	1.143	0.000	0.000	0.001	0.001	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.390	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						3						0						0

Annual Sediment Load (Metric Tonnes) : 10835107

Annual Sediment Load for period : 2005-2013

Station Name : Tapi at Burhanpur (01 02 17 002) **Division : Tapi Div., Surat**

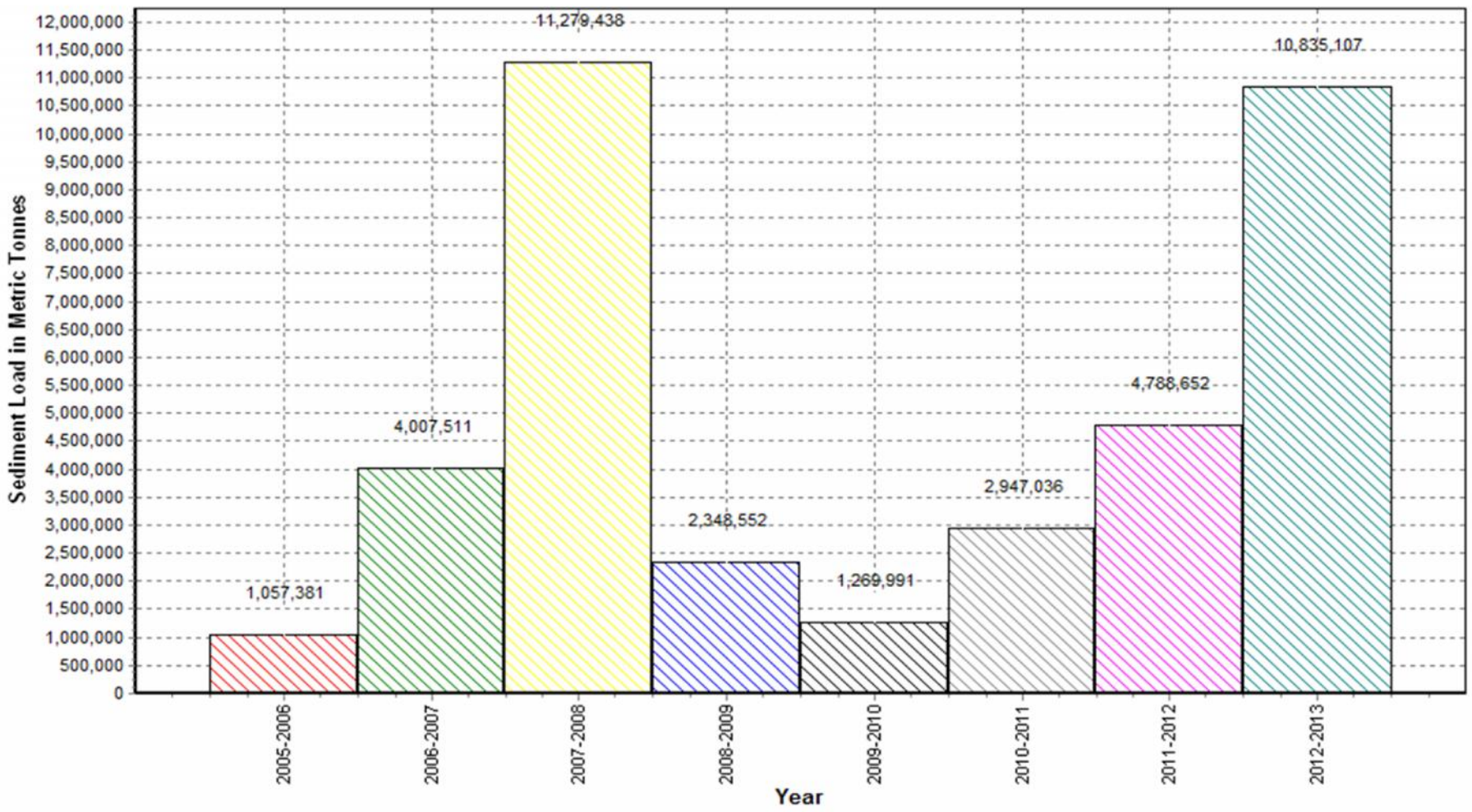
Local River : Tapi **Sub-Division : UTSD, Bhusawal**

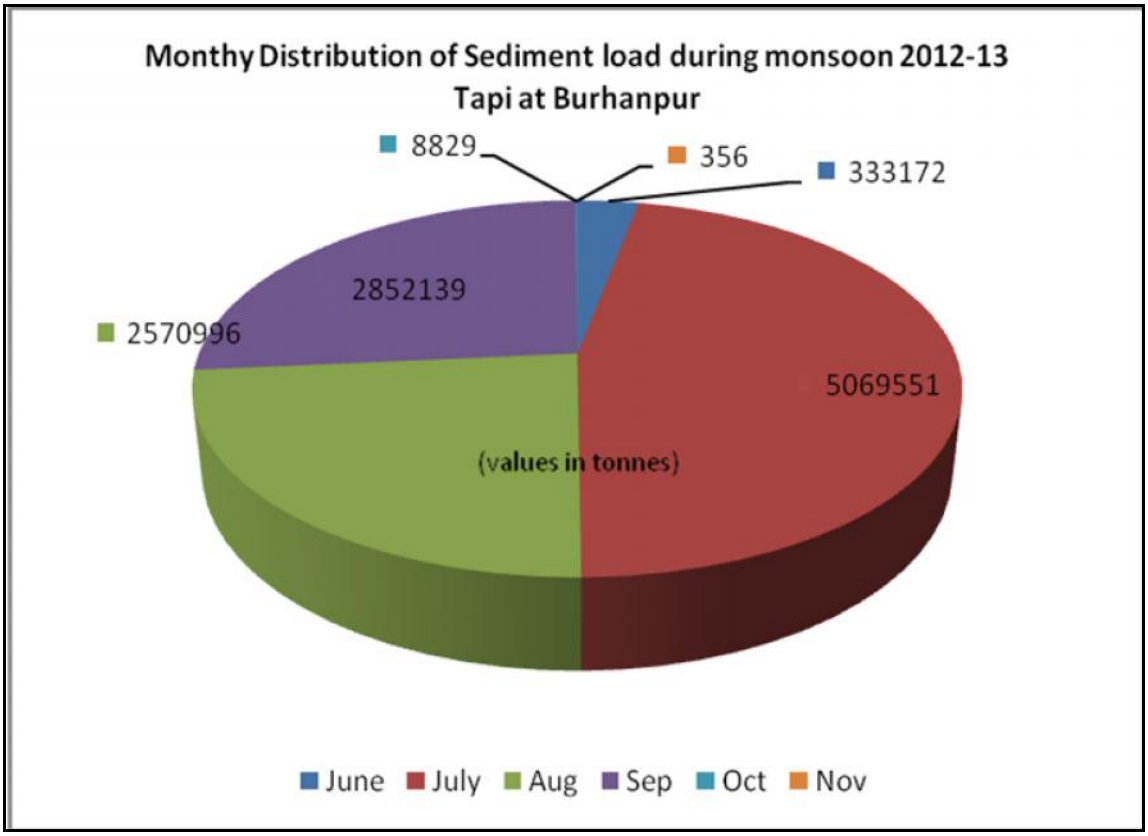
Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)	Annual Sediment yield in mm
2005-2006	1056270	1110	1057381	3328	0.0890
2006-2007	4006855	656	4007511	4905	0.3373
2007-2008	11278315	1122	11279438	9797	0.9493
2008-2009	2348162	390	2348552	2307	0.1977
2009-2010	1268880	1111	1269991	2028	0.1069
2010-2011	2946752	284	2947036	3983	0.2480
2011-2012	4788652	0	4788652	5039	0.4030
2012-2013	10835043	64	10835107	8033	0.9119

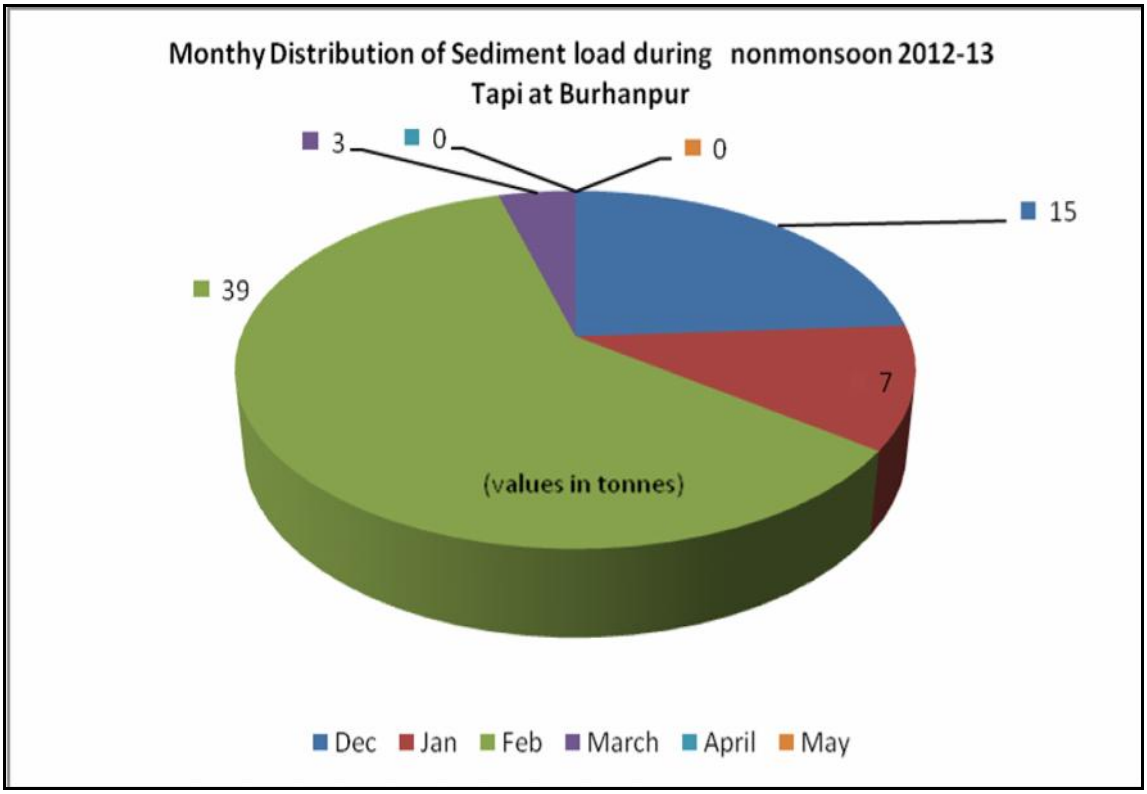
Annual Sediment Load for the period: 2005-2013

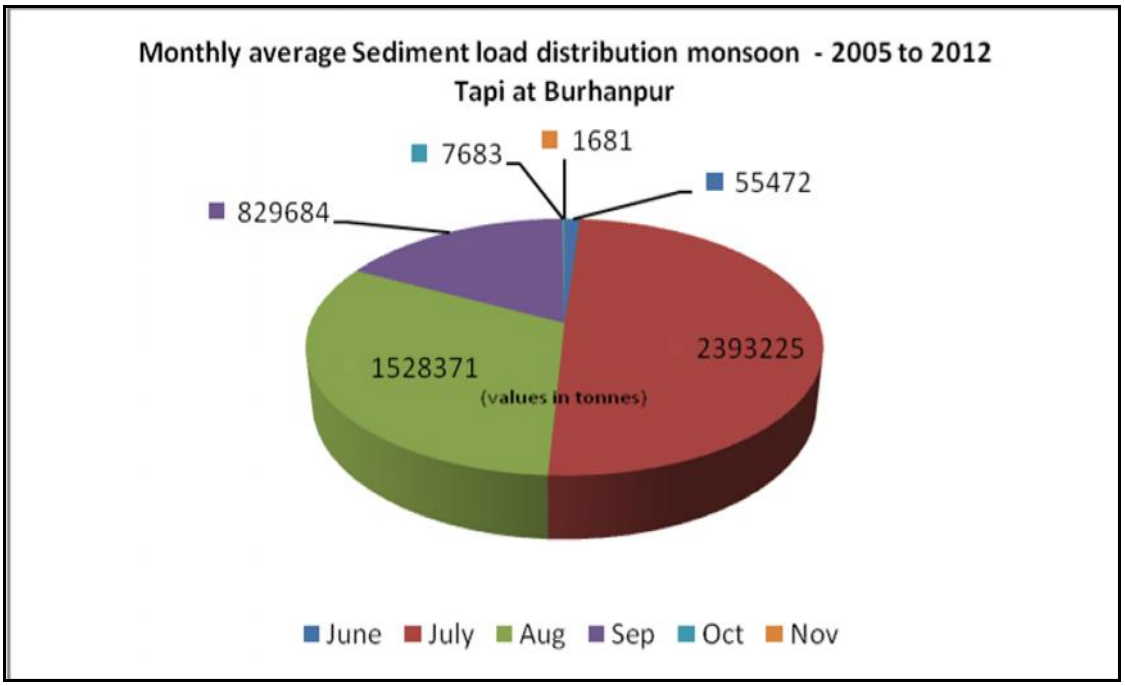
Station Name : Tapi at Burhanpur (01 02 17 002) **Division : Tapi Div., Surat**

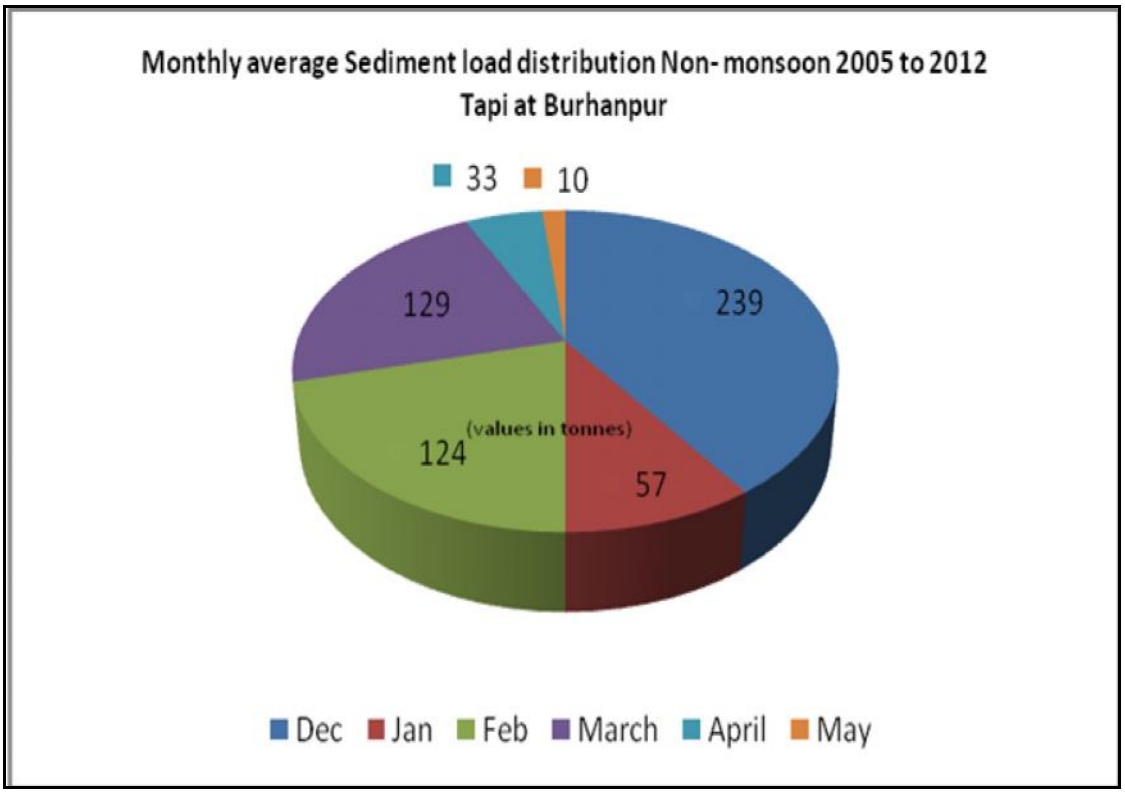
Local River : Tapi **Sub-Division : UTSD, Bhusawal**




Monthy Distribution of Sediment load during monsoon 2012-13
Tapi at Burhanpur
8829
356
333172
2852139
2570996
5069551
(values in tonnes)
June
July
Aug
Sep
Oct
Nov


Monthy Distribution of Sediment load during nonmonsoon 2012-13
Tapi at Burhanpur
3
0
0
15
39
7
(values in tonnes)
Dec
Jan
Feb
March
April
May


Monthly average Sediment load distribution monsoon - 2005 to 2012
Tapi at Burhanpur
7683
1681
55472
829684
2393225
1528371
(values in tonnes)
June
July
Aug
Sep
Oct
Nov


Monthly average Sediment load distribution Non- monsoon 2005 to 2012
Tapi at Burhanpur
33
10
129
239
(values in tonnes)
124
57
Dec
Jan
Feb
March
April
May

HISTORY SHEET

		Water Year	**: 2012-2013**
Site	**: Purna at Gopalkheda**	**Code**	**: 01 02 17 004**
State	: Maharashtra	District	Akola
Basin	: Tapi	Independent River	: Tapi
Tributary	: Purna	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Purna
Division	: Surat	Sub-Division	: Bhusawal
Drainage Area	: 9500 Sq. Km.	Bank	: Left
Latitude	: 20°52'35" N	Longitude	: 76°59'14" E
Zero of Gauge (m)	: 236 (m.s.l)	17/02/1977	-
	Opening Date	Closing Date	
Gauge	: 17/02/1977		
Discharge	: 17/02/1977		
Sediment	: 30/07/1979		
Water Quality	: 01/08/1979		

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Purna at Gopalkheda (01 02 17 004) **Division : Surat**

Local River : Purna **Sub-Division : Bhusawal**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.490	0.000	0.000	0.002	0.002	0	105.2	0.000	0.000	0.821	0.821	7464
2	0.000	0.000	0.000	0.000	0.000	0	137.7	0.000	0.000	3.258	3.258	38772	269.5	0.000	0.000	4.500	4.500	104785
3	0.000	0.000	0.000	0.000	0.000	0	45.10	0.000	0.000	0.413	0.413	1611	125.3	0.000	0.000	1.116	1.116	12077
4	0.000						12.40	0.000	0.000	0.117	0.117	126	66.72	0.000	0.000	0.610	0.610	3516
5	0.000						8.147	0.000	0.000	0.087	0.087	61	46.24	0.000	0.000	0.450	0.450	1798
6	0.000						4.001	0.000	0.000	0.050	0.050	17	47.82	0.000	0.000	0.697	0.697	2879
7	0.000						29.01	0.000	0.000	0.169	0.169	424	98.36	0.000	0.000	0.784	0.784	6664
8	0.000						95.71	0.000	0.000	0.800	0.800	6615	121.5	0.000	0.000	1.110	1.110	11648
9	0.000						38.25	0.000	0.000	0.196	0.196	649	110.2	0.000	0.000	0.828	0.828	7887
10	0.000						9.676	0.000	0.000	0.095	0.095	79	80.29	0.000	0.000	0.700	0.700	4856
11	0.000						46.66	0.000	0.000	0.427	0.427	1720	73.96	0.000	0.000	0.673	0.673	4303
12	0.000						10.43	0.000	0.000	0.079	0.079	71	103.8	0.000	0.000	1.000	1.000	8972
13	0.000						9.772	0.000	0.000	0.108	0.108	91	197.8	0.000	0.000	1.800	1.800	30759
14	0.000						9.585	0.000	0.000	0.107	0.107	89	119.4	0.000	0.000	1.100	1.100	11347
15	0.000						8.030	0.000	0.000	0.100	0.100	69	63.97	0.000	0.000	0.500	0.500	2764
16	0.000						7.709	0.000	0.000	0.089	0.089	59	62.36	0.000	0.000	0.566	0.566	3048
17	0.000						3.031	0.000	0.000	0.075	0.075	20	43.99	0.000	0.000	0.296	0.296	1124
18	0.000	0.000	0.000	0.000	0.000	0	1.955	0.000	0.000	0.070	0.070	12	41.72	0.000	0.000	0.267	0.267	963
19	56.08	0.000	0.000	1.300	1.300	6299	3.112	0.000	0.000	0.078	0.078	21	39.39	0.000	0.000	0.250	0.250	851
20	131.8	0.000	0.000	3.124	3.124	35565	1.828	0.000	0.000	0.059	0.059	9	29.99	0.000	0.000	0.200	0.200	518
21	48.07	0.000	0.000	1.241	1.241	5156	1.515	0.000	0.000	0.047	0.047	6	18.12	0.000	0.000	0.234	0.234	367
22	8.220	0.000	0.000	0.093	0.093	66	1.990	0.000	0.000	0.075	0.075	13	16.70	0.000	0.000	0.082	0.082	118
23	3.844	0.000	0.000	0.046	0.046	15	60.44	0.000	0.000	0.451	0.451	2354	26.56	0.000	0.000	0.383	0.383	878
24	5.170	0.000	0.000	0.060	0.060	27	221.9	0.000	0.000	4.200	4.200	80538	101.1	0.000	0.000	1.050	1.050	9171
25	2.604	0.000	0.000	0.034	0.034	8	56.80	0.000	0.000	0.443	0.443	2175	49.69	0.000	0.000	0.301	0.301	1291
26	1.991	0.000	0.000	0.030	0.030	5	41.57	0.000	0.000	0.441	0.441	1584	25.24	0.000	0.000	0.180	0.180	393
27	1.287	0.000	0.000	0.009	0.009	1	30.55	0.000	0.000	0.277	0.277	730	13.83	0.000	0.000	0.225	0.225	269
28	0.234	0.000	0.000	0.005	0.005	0	52.51	0.000	0.000	0.441	0.441	1999	62.32	0.000	0.000	0.546	0.546	2939
29	0.780	0.000	0.000	0.006	0.006	0	561.9	0.000	0.000	5.250	5.250	254862	101.2	0.000	0.000	0.930	0.930	8129
30	0.680	0.000	0.000	0.005	0.005	0	70.43	0.000	0.000	0.636	0.636	3869	47.30	0.000	0.000	0.300	0.300	1226
31							53.53	0.000	0.000	0.454	0.454	2101	135.4	0.000	0.000	1.350	1.350	15789
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	38.05	0.000	0.000	0.519	0.519	4835	107.1	0.000	0.000	1.162	1.162	16357
Ten Daily II	18.78	0.000	0.000	1.475	1.475	13955	10.21	0.000	0.000	0.119	0.119	216	77.64	0.000	0.000	0.665	0.665	6465
Ten Daily III	7.289	0.000	0.000	0.153	0.153	528	104.8	0.000	0.000	1.156	1.156	31839	54.31	0.000	0.000	0.507	0.507	3688
Monthly																		
Total						47142						400748						268792

Annual Sediment Load (Metric Tonnes) : 9113852

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Purna at Gopalkheda (01 02 17 004) **Division : Surat**

Local River : Purna **Sub-Division : Bhusawal**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	506.2	0.000	0.000	5.200	5.200	227446	43.75	0.000	0.000	0.395	0.395	1493	6.741	0.000	0.000	0.050	0.050	29
2	105.5	0.000	0.000	0.250	0.250	2279	27.57	0.000	0.000	0.160	0.160	381	6.487	0.000	0.000	0.050	0.050	28
3	66.15	0.000	0.000	0.699	0.699	3996	29.53	0.000	0.000	0.217	0.217	553	6.272	0.000	0.000	0.050	0.050	27
4	332.7	0.000	0.000	4.000	4.000	114966	122.7	0.000	0.000	0.203	0.203	2147	4.700	0.000	0.000	0.025	0.025	10
5	907.8	0.000	0.000	8.500	8.500	666715	70.58	0.000	0.000	0.270	0.270	1646	5.376	0.000	0.000	0.045	0.045	21
6	2021	0.000	0.000	14.000	14.000	2444602	57.53	0.000	0.000	0.306	0.306	1520	5.171	0.000	0.000	0.040	0.040	18
7	2515	0.000	0.000	15.200	15.200	3302899	30.48	0.000	0.000	0.180	0.180	474	5.080	0.000	0.000	0.036	0.036	16
8	1117	0.000	0.000	9.000	9.000	868579	14.56	0.000	0.000	0.228	0.228	287	5.046	0.000	0.000	0.036	0.036	16
9	398.4	0.000	0.000	4.200	4.200	144589	13.51	0.000	0.000	0.120	0.120	140	4.849	0.000	0.000	0.035	0.035	15
10	164.7	0.000	0.000	1.800	1.800	25617	13.63	0.000	0.000	0.109	0.109	128	4.428	0.000	0.000	0.030	0.030	11
11	258.0	0.000	0.000	2.500	2.500	55721	12.67	0.000	0.000	0.100	0.100	109	3.420	0.000	0.000	0.018	0.018	5
12	729.1	0.000	0.000	6.600	6.600	415770	12.76	0.000	0.000	0.097	0.097	107	4.197	0.000	0.000	0.021	0.021	8
13	223.3	0.000	0.000	2.800	2.800	54010	12.64	0.000	0.000	0.097	0.097	106	3.030	0.000	0.000	0.015	0.015	4
14	113.3	0.000	0.000	0.333	0.333	3262	13.81	0.000	0.000	0.100	0.100	119	3.508	0.000	0.000	0.020	0.020	6
15	104.5	0.000	0.000	0.174	0.174	1573	11.68	0.000	0.000	0.068	0.068	68	3.115	0.000	0.000	0.016	0.016	4
16	103.0	0.000	0.000	0.150	0.150	1335	11.47	0.000	0.000	0.060	0.060	59	3.071	0.000	0.000	0.015	0.015	4
17	108.1	0.000	0.000	0.183	0.183	1712	11.45	0.000	0.000	0.060	0.060	59	3.019	0.000	0.000	0.015	0.015	4
18	91.04	0.000	0.000	0.340	0.340	2675	11.30	0.000	0.000	0.055	0.055	54	2.320	0.000	0.000	0.010	0.010	2
19	64.32	0.000	0.000	0.309	0.309	1718	10.84	0.000	0.000	0.050	0.050	47	2.887	0.000	0.000	0.016	0.016	4
20	54.59	0.000	0.000	0.267	0.267	1258	10.13	0.000	0.000	0.045	0.045	39	2.667	0.000	0.000	0.012	0.012	3
21	47.16	0.000	0.000	0.191	0.191	778	9.510	0.000	0.000	0.040	0.040	33	2.417	0.000	0.000	0.010	0.010	2
22	42.20	0.000	0.000	0.092	0.092	334	9.300	0.000	0.000	0.031	0.031	25	2.335	0.000	0.000	0.010	0.010	2
23	195.4	0.000	0.000	2.000	2.000	33767	8.985	0.000	0.000	0.030	0.030	23	2.338	0.000	0.000	0.010	0.010	2
24	134.0	0.000	0.000	0.166	0.166	1920	7.750	0.000	0.000	0.026	0.026	17	2.229	0.000	0.000	0.010	0.010	2
25	48.41	0.000	0.000	0.508	0.508	2126	8.613	0.000	0.000	0.035	0.035	26	1.260	0.000	0.000	0.001	0.001	0
26	59.29	0.000	0.000	0.564	0.564	2890	8.193	0.000	0.000	0.025	0.025	18	0.936	0.000	0.000	0.000	0.000	0
27	38.60	0.000	0.000	0.291	0.291	970	7.200	0.000	0.000	0.018	0.018	11	0.000	0.000	0.000	0.000	0.000	0
28	41.35	0.000	0.000	0.375	0.375	1340	6.930	0.000	0.000	0.018	0.018	11	0.000	0.000	0.000	0.000	0.000	0
29	37.51	0.000	0.000	0.384	0.384	1245	7.466	0.000	0.000	0.054	0.054	35	0.000	0.000	0.000	0.000	0.000	0
30	35.61	0.000	0.000	0.350	0.350	1077	7.001	0.000	0.000	0.018	0.018	11	0.000	0.000	0.000	0.000	0.000	0
31							7.017	0.000	0.000	0.018	0.018	11						
Ten Daily Mean																		
Ten Daily I	813.5	0.000	0.000	6.285	6.285	780169	42.39	0.000	0.000	0.219	0.219	877	5.415	0.000	0.000	0.040	0.040	19
Ten Daily II	184.9	0.000	0.000	1.366	1.366	53903	11.87	0.000	0.000	0.073	0.073	77	3.123	0.000	0.000	0.016	0.016	4
Ten Daily III	67.96	0.000	0.000	0.492	0.492	4645	7.997	0.000	0.000	0.028	0.028	20	1.151	0.000	0.000	0.004	0.004	1
Monthly																		
Total						8387169						9758						243

Annual Sediment Load (Metric Tonnes) : 9113852

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Purna at Gopalkheda (01 02 17 004) **Division : Surat**

Local River : Purna **Sub-Division : Bhusawal**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
31	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 9113852

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Purna at Gopalkheda (01 02 17 004) **Division : Surat**

Local River : Purna **Sub-Division : Bhusawal**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 9113852

Annual Sediment Load for period : 2005-2013

Station Name : Purna at Gopalkheda (01 02 17 004) **Division : Surat**

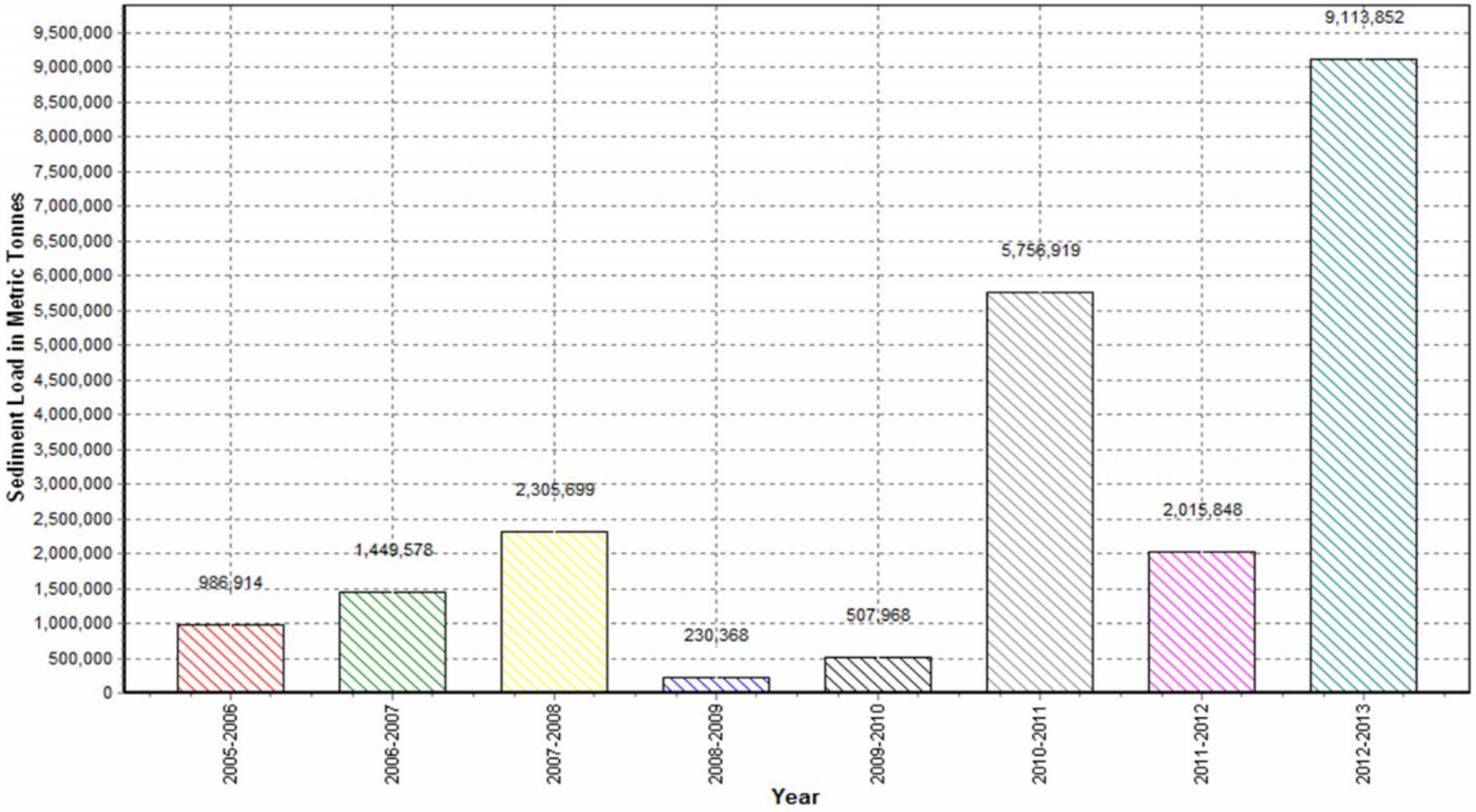
Local River : Purna **Sub-Division : Bhusawal**

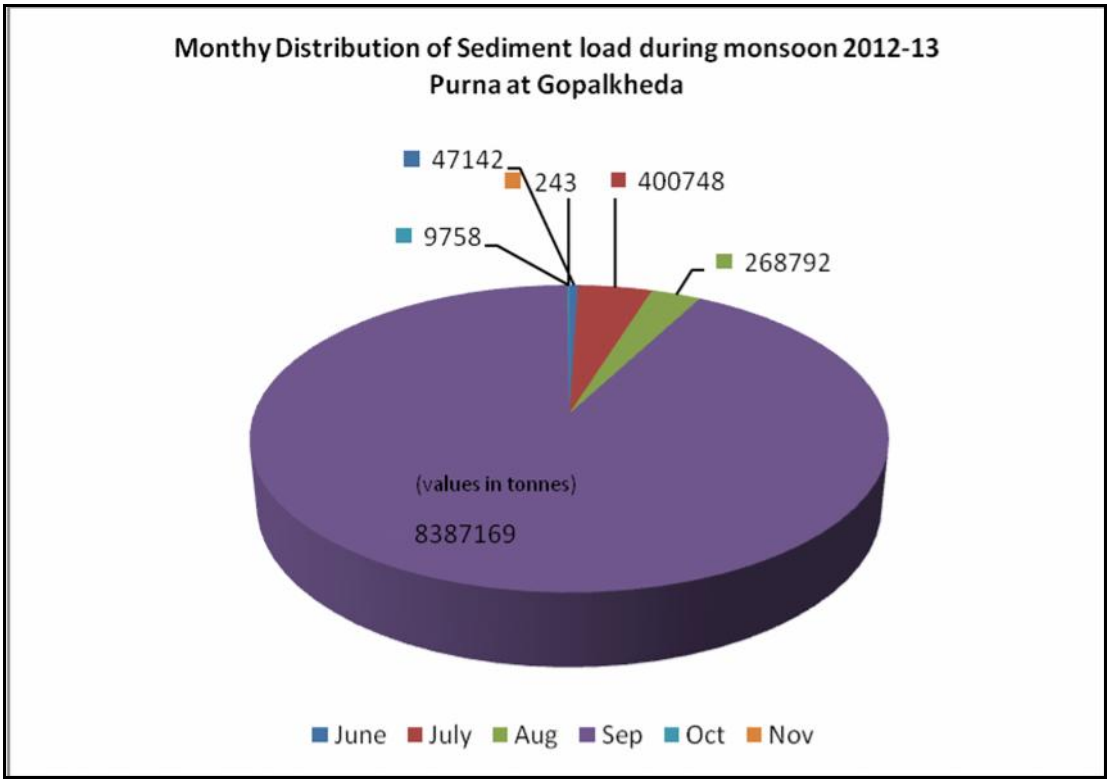
Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)	Annual Sediment yield in mm
2005-2006	986687	227	986914	630	0.0742
2006-2007	1449485	93	1449578	1986	0.1090
2007-2008	2299615	6085	2305699	2827	0.1734
2008-2009	230368	0	230368	211	0.0173
2009-2010	507967	1	507968	295	0.0382
2010-2011	5756871	48	5756919	1400	0.4329
2011-2012	2015848	0	2015848	601	0.1516
2012-2013	9113852	0	9113852	1359	0.6853

Annual Sediment Load for the period: 2005-2013

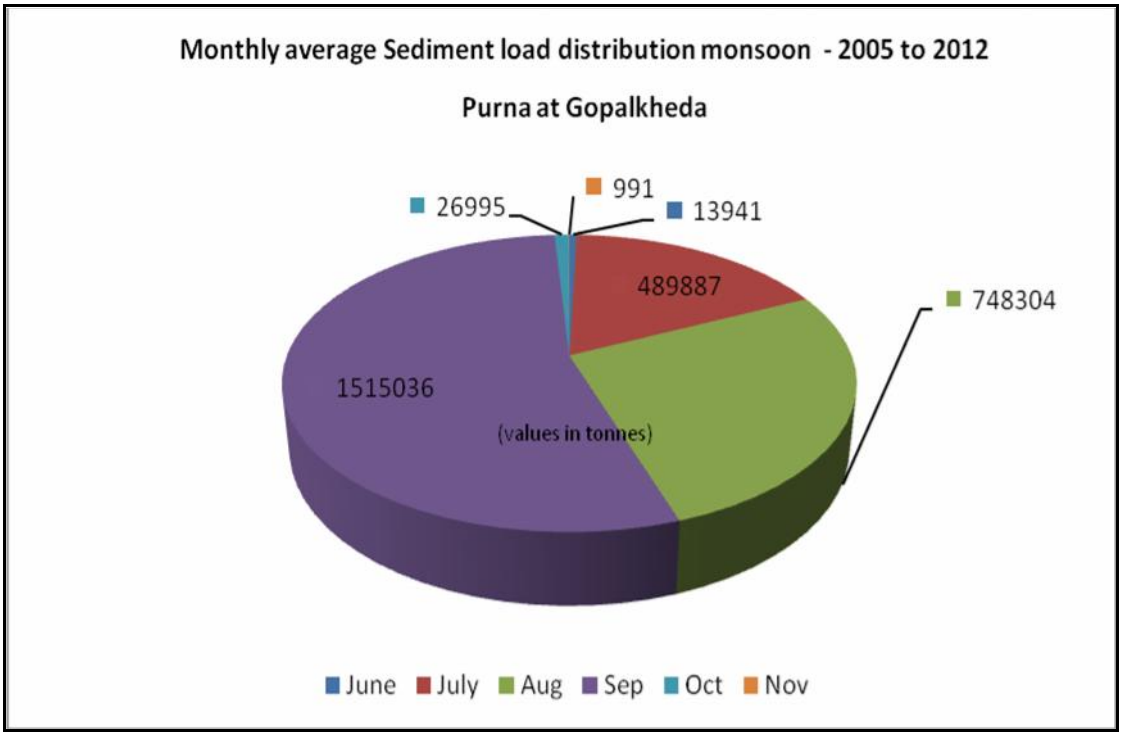
Station Name : Purna at Gopalkheda (01 02 17 004) **Division : Surat**

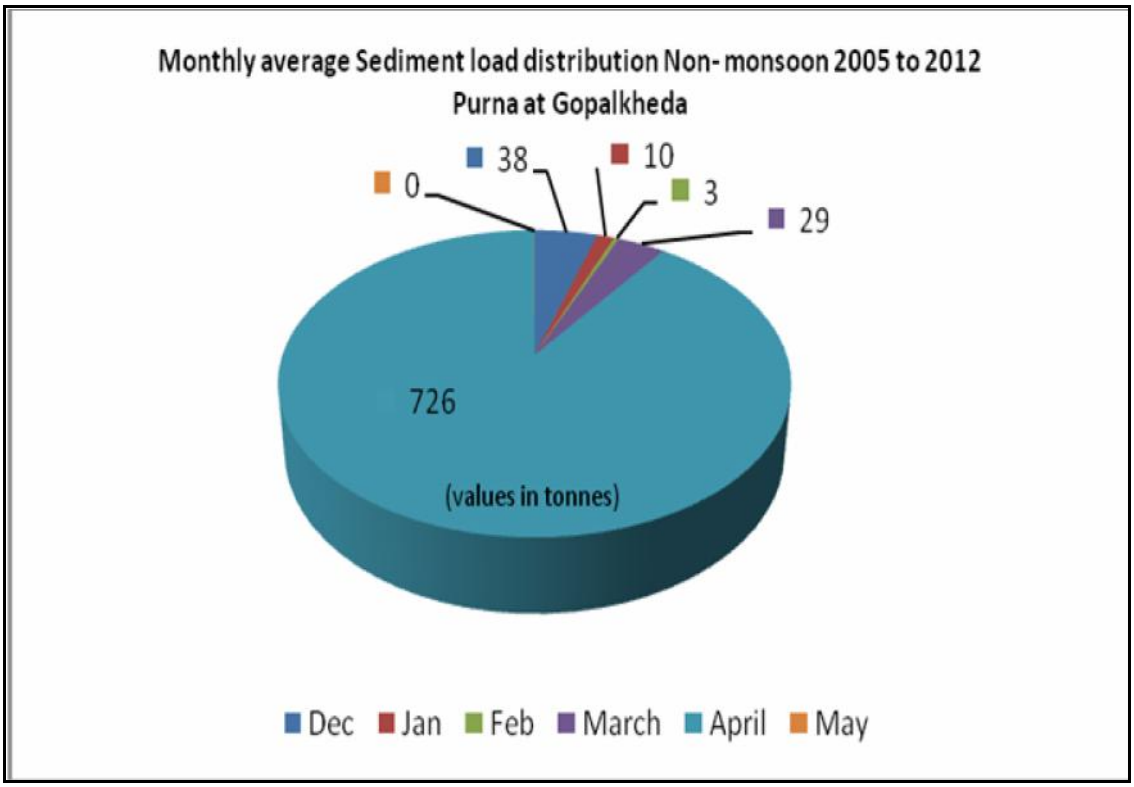
Local River : Purna **Sub-Division : Bhusawal**





Monthy Distribution of Sediment load during Non- monsoon 2012-13
Purna at Gopalkheda No sediment was observed in any month




Monthly average Sediment load distribution Non- monsoon 2005 to 2012
Purna at Gopalkheda
0
38
10
3
29
726
(values in tonnes)
Dec
Jan
Feb
March
April
May

HISTORY SHEET

		Water Year	**: 2012-2013**
Site	**: Purna at Yerli**	**Code**	**: 01 02 17 005**
State	: Maharashtra	District	Buldana
Basin	: Tapi	Independent River	: Tapi
Tributary	: Purna	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Purna
Division	: Surat	Sub-Division	: Bhusawal
Drainage Area	: 16517 Sq. Km.	Bank	: Left
Latitude	: 20°56'11" N	Longitude	: 76°28'27" E
Zero of Gauge (m)	: 213 (m.s.l)	11/11/1971	-
	Opening Date	Closing Date	
Gauge	: 11/11/1971		
Discharge	: 01/03/1972		
Sediment	: 09/04/1973		
Water Quality	: 01/06/1977	31/05/2005	

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Purna at Yerli (01 02 17 005) **Division : Surat**

Local River : **Sub-Division : Bhusawal**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000						74.00	0.000	0.000	0.300	0.300	1918	131.6	0.000	0.000	0.642	0.642	7295
2	0.000						9.800	0.000	0.000	0.250	0.250	212	188.3	0.000	0.000	0.802	0.802	13041
3	0.000						9.140	0.000	0.000	0.214	0.214	169	270.7	0.012	0.046	3.268	3.326	77785
4	0.000						35.07	0.000	0.000	0.198	0.198	600	111.8	0.000	0.000	1.203	1.203	11617
5	0.000						6.296	0.000	0.000	0.164	0.164	89	97.80	0.000	0.000	1.200	1.200	10140
6	0.000						4.911	0.000	0.000	0.204	0.204	87	69.70	0.000	0.000	1.188	1.188	7152
7	0.000						4.538	0.000	0.000	0.181	0.181	71	88.16	0.000	0.000	0.432	0.432	3291
8	0.000						38.42	0.000	0.000	0.200	0.200	664	101.5	0.000	0.000	0.416	0.416	3648
9	0.000						110.6	0.000	0.000	0.364	0.364	3479	165.8	0.000	0.000	0.552	0.552	7913
10	0.000						45.13	0.000	0.000	0.211	0.211	822	107.5	0.000	0.000	0.350	0.350	3251
11	0.000						116.9	0.000	0.000	0.343	0.343	3464	93.32	0.000	0.000	0.238	0.238	1919
12	0.000						33.27	0.000	0.000	0.176	0.176	505	1488	0.250	0.360	2.300	2.910	374043
13	0.000						30.19	0.000	0.000	0.176	0.176	458	291.8	0.019	0.057	2.950	3.026	76295
14	0.000						27.54	0.000	0.000	0.138	0.138	328	179.7	0.000	0.000	1.320	1.320	20491
15	0.000						9.800	0.000	0.000	0.250	0.250	212	160.3	0.000	0.000	1.150	1.150	15927
16	0.000						3.515	0.000	0.000	0.069	0.069	21	107.3	0.000	0.000	0.428	0.428	3968
17	0.000						4.920	0.000	0.000	0.200	0.200	85	86.96	0.000	0.000	0.366	0.366	2750
18	0.000						3.840	0.000	0.000	0.150	0.150	50	74.45	0.000	0.000	0.304	0.304	1955
19	148.4	0.000	0.000	0.558	0.558	7155	2.420	0.000	0.000	0.060	0.060	13	76.58	0.000	0.000	0.350	0.350	2316
20	230.1	0.000	0.000	0.979	0.979	19459	1.230	0.000	0.000	0.030	0.030	3	71.54	0.000	0.000	0.300	0.300	1854
21	45.76	0.000	0.000	0.226	0.226	894	0.590	0.000	0.000	0.001	0.001	0	52.31	0.000	0.000	0.272	0.272	1229
22	17.75	0.000	0.000	0.270	0.270	414	0.330	0.000	0.000	0.001	0.001	0	80.04	0.000	0.000	0.416	0.416	2877
23	13.56	0.000	0.000	0.156	0.156	183	2.000	0.000	0.000	0.060	0.060	10	57.21	0.000	0.000	0.275	0.275	1361
24	4.360	0.000	0.000	0.060	0.060	23	74.15	0.000	0.000	0.283	0.283	1812	166.3	0.000	0.000	1.156	1.156	16604
25	1.602	0.000	0.000	0.025	0.025	3	208.6	0.000	0.000	0.502	0.502	9051	72.83	0.000	0.000	0.420	0.420	2643
26	0.120	0.000	0.000	0.001	0.001	0	114.0	0.000	0.000	0.473	0.473	4663	57.07	0.000	0.000	0.260	0.260	1282
27	0.000	0.000	0.000	0.000	0.000	0	47.21	0.000	0.000	0.327	0.327	1335	68.18	0.000	0.000	0.416	0.416	2451
28	0.000	0.000	0.000	0.000	0.000	0	4.900	0.000	0.000	0.265	0.265	112	69.45	0.000	0.000	0.420	0.420	2520
29	0.000	0.000	0.000	0.000	0.000	0	499.0	0.020	0.160	1.980	2.160	93125	182.1	0.000	0.000	1.235	1.235	19434
30	0.000	0.000	0.000	0.000	0.000	0	181.4	0.000	0.000	0.900	0.900	14106	104.1	0.000	0.000	0.680	0.680	6116
31							107.5	0.000	0.000	0.556	0.556	5166	124.0	0.000	0.000	0.860	0.860	9214
Ten Daily Mean																		
Ten Daily I	0.000						33.79	0.000	0.000	0.229	0.229	811	133.3	0.001	0.005	1.005	1.011	14513
Ten Daily II	37.85	0.000	0.000	0.768	0.768	13307	23.36	0.000	0.000	0.159	0.159	514	263.0	0.027	0.042	0.971	1.039	50152
Ten Daily III	8.315	0.000	0.000	0.074	0.074	152	112.7	0.002	0.015	0.486	0.503	11762	93.96	0.000	0.000	0.583	0.583	5976
Monthly																		
Total						28132						142632						712383

Annual Sediment Load (Metric Tonnes) : 3900342

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Purna at Yerli (01 02 17 005) **Division : Surat**

Local River : **Sub-Division : Bhusawal**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	612.5	0.037	0.215	2.864	3.116	164889	46.85	0.000	0.000	0.184	0.184	745	6.190	0.000	0.000	0.100	0.100	53
2	224.4	0.000	0.000	1.100	1.100	21327	28.57	0.000	0.000	0.100	0.100	247	6.142	0.000	0.000	0.100	0.100	53
3	152.1	0.000	0.000	1.048	1.048	13776	43.29	0.000	0.000	0.171	0.171	640	5.828	0.000	0.000	0.060	0.060	30
4	253.7	0.000	0.098	2.011	2.109	46225	77.89	0.000	0.000	0.257	0.257	1729	11.18	0.000	0.000	0.200	0.200	193
5	905.0	0.088	0.270	2.744	3.102	242555	122.9	0.000	0.000	0.445	0.445	4725	13.35	0.000	0.000	0.200	0.200	231
6	1475	0.200	0.310	2.294	2.804	357342	112.3	0.000	0.000	0.357	0.357	3463	20.52	0.000	0.000	0.300	0.300	532
7	2224	0.180	0.360	3.146	3.686	708278	59.40	0.000	0.000	0.200	0.200	1026	12.62	0.000	0.000	0.200	0.200	218
8	2348	0.250	0.600	4.064	4.914	996889	30.67	0.000	0.000	0.180	0.180	477	7.850	0.000	0.000	0.100	0.100	68
9	859.0	0.065	0.180	2.600	2.845	211149	31.85	0.000	0.000	0.207	0.207	570	6.620	0.000	0.000	0.085	0.085	49
10	293.3	0.000	0.032	1.202	1.234	31270	25.90	0.000	0.000	0.208	0.208	466	2.430	0.000	0.000	0.050	0.050	10
11	292.5	0.000	0.000	1.126	1.126	28454	28.64	0.000	0.000	0.295	0.295	730	0.590	0.000	0.000	0.001	0.001	0
12	689.5	0.042	0.256	0.920	1.218	72562	26.58	0.000	0.000	0.297	0.297	682	0.590	0.000	0.000	0.001	0.001	0
13	424.6	0.000	0.019	0.761	0.780	28617	21.17	0.000	0.000	0.193	0.193	353	0.590	0.000	0.000	0.001	0.001	0
14	257.6	0.000	0.000	0.533	0.533	11863	18.03	0.000	0.000	0.160	0.160	249	0.330	0.000	0.000	0.000	0.000	0
15	228.9	0.000	0.000	0.497	0.497	9830	15.19	0.000	0.000	0.200	0.200	262	0.330	0.000	0.000	0.000	0.000	0
16	173.2	0.000	0.000	0.350	0.350	5238	14.12	0.000	0.000	0.197	0.197	240	0.330	0.000	0.000	0.000	0.000	0
17	216.1	0.000	0.000	0.435	0.435	8121	11.18	0.000	0.000	0.120	0.120	116	0.330	0.000	0.000	0.000	0.000	0
18	117.8	0.000	0.000	0.402	0.402	4091	13.77	0.000	0.000	0.200	0.200	238	0.330	0.000	0.000	0.000	0.000	0
19	113.9	0.000	0.000	0.374	0.374	3680	13.12	0.000	0.000	0.200	0.200	227	0.330	0.000	0.000	0.000	0.000	0
20	97.06	0.000	0.000	0.231	0.231	1937	12.63	0.000	0.000	0.200	0.200	218	0.330	0.000	0.000	0.000	0.000	0
21	78.11	0.000	0.000	0.199	0.199	1343	9.805	0.000	0.000	0.100	0.100	85	0.120	0.000	0.000	0.000	0.000	0
22	88.29	0.000	0.000	0.208	0.208	1587	11.40	0.000	0.000	0.177	0.177	174	0.120	0.000	0.000	0.000	0.000	0
23	244.2	0.000	0.000	0.500	0.500	10549	9.137	0.000	0.000	0.090	0.090	71	0.120	0.000	0.000	0.000	0.000	0
24	153.8	0.000	0.000	0.364	0.364	4836	9.137	0.000	0.000	0.090	0.090	71	0.120	0.000	0.000	0.000	0.000	0
25	97.79	0.000	0.000	0.196	0.196	1656	9.137	0.000	0.000	0.090	0.090	71	0.120	0.000	0.000	0.000	0.000	0
26	106.2	0.000	0.000	0.194	0.194	1780	9.137	0.000	0.000	0.090	0.090	71	0.120	0.000	0.000	0.000	0.000	0
27	82.43	0.000	0.000	0.195	0.195	1389	9.137	0.000	0.000	0.090	0.090	71	0.120	0.000	0.000	0.000	0.000	0
28	73.07	0.000	0.000	0.789	0.789	4981	8.480	0.000	0.000	0.080	0.080	59	0.120	0.000	0.000	0.000	0.000	0
29	66.91	0.000	0.000	0.179	0.179	1035	6.678	0.000	0.000	0.130	0.130	75	0.000	0.000	0.000	0.000	0.000	0
30	37.40	0.000	0.000	0.075	0.075	242	6.598	0.000	0.000	0.100	0.100	57	0.000	0.000	0.000	0.000	0.000	0
31							6.351	0.000	0.000	0.100	0.100	55						
Ten Daily Mean																		
Ten Daily I	934.7	0.082	0.207	2.307	2.596	279370	57.96	0.000	0.000	0.231	0.231	1409	9.273	0.000	0.000	0.140	0.140	144
Ten Daily II	261.1	0.004	0.028	0.563	0.595	17439	17.44	0.000	0.000	0.206	0.206	332	0.408	0.000	0.000	0.000	0.000	0
Ten Daily III	102.8	0.000	0.000	0.290	0.290	2940	8.636	0.000	0.000	0.103	0.103	78	0.096	0.000	0.000	0.000	0.000	0
Monthly																		
Total						2997494						18263						1438

Annual Sediment Load (Metric Tonnes) : 3900342

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Purna at Yerli (01 02 17 005) **Division : Surat**

Local River : **Sub-Division : Bhusawal**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
31	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0		0.000	0.000	0.000	0.000	
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 3900342

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Purna at Yerli (01 02 17 005) **Division : Surat**

Local River : **Sub-Division : Bhusawal**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
2		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
3		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
4		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
5		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
6		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
7		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
8		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
9		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
10		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
11		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
12		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
13		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
14		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
15		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
16		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
17		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
18		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
19		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
20		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
21		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
22		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
23		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
24		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
25		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
26		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
27		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
28		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
29		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
30		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
31		0.000	0.000	0.000	0.000									0.000	0.000	0.000	0.000	
Ten Daily Mean																		
Ten Daily I		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
Ten Daily II		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
Ten Daily III		0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000			0.000	0.000	0.000	0.000	
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 3900342

Annual Sediment Load for period : 2005-2013

Station Name : Purna at Yerli (01 02 17 005) **Division : Surat**

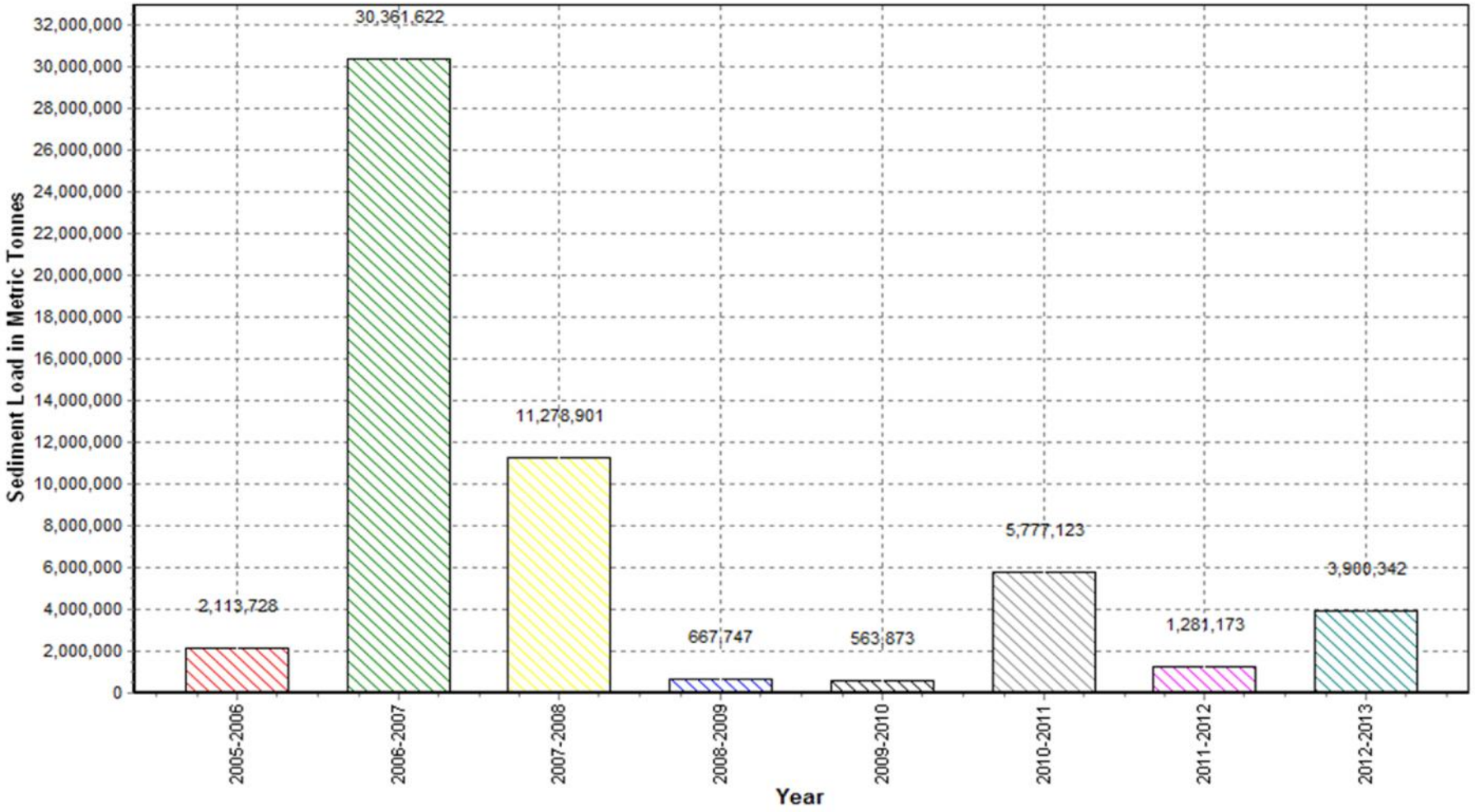
Local River : **Sub-Division : Bhusawal**

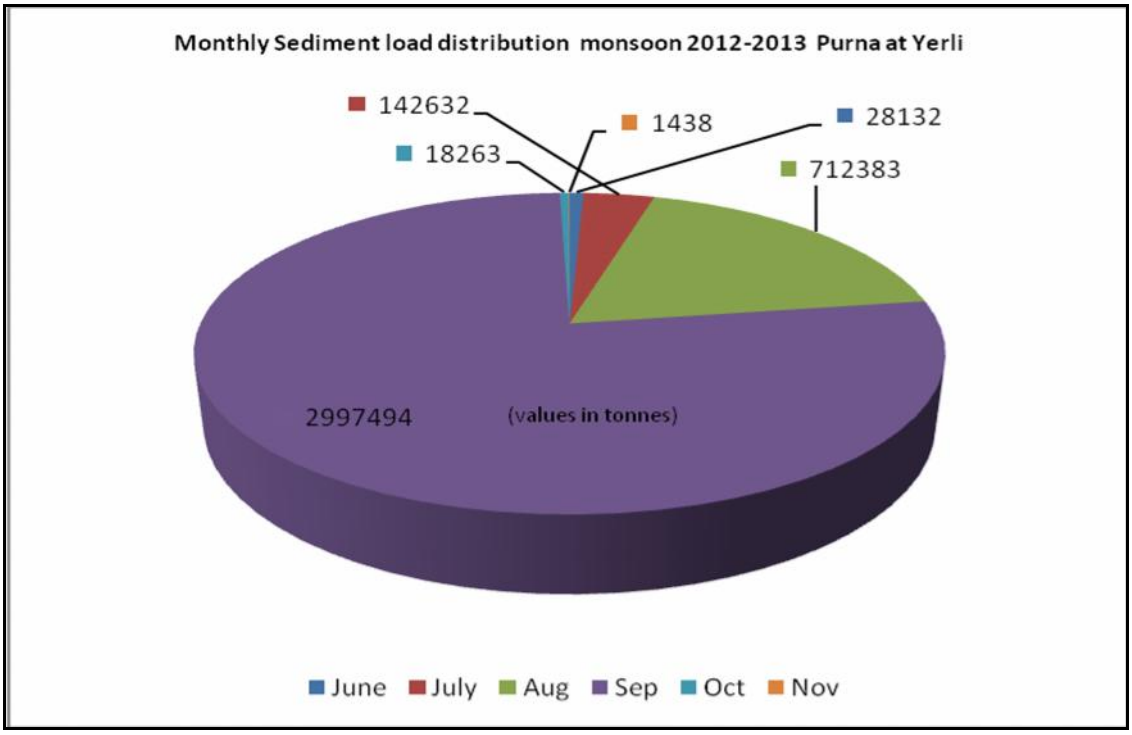
Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)	Annual Sediment yield in mm
2005-2006	2110313	3415	2113728	1041	0.0914
2006-2007	30361621	2	30361622	3518	1.3130
2007-2008	11278856	45	11278901	3340	0.4878
2008-2009	667747	0	667747	365	0.0289
2009-2010	557587	6286	563873	640	0.0244
2010-2011	5777103	20	5777123	2433	0.2498
2011-2012	1281173	0	1281173	855	0.0554
2012-2013	3900342	0	3900342	1832	0.1687

Annual Sediment Load for the period: 2005-2013

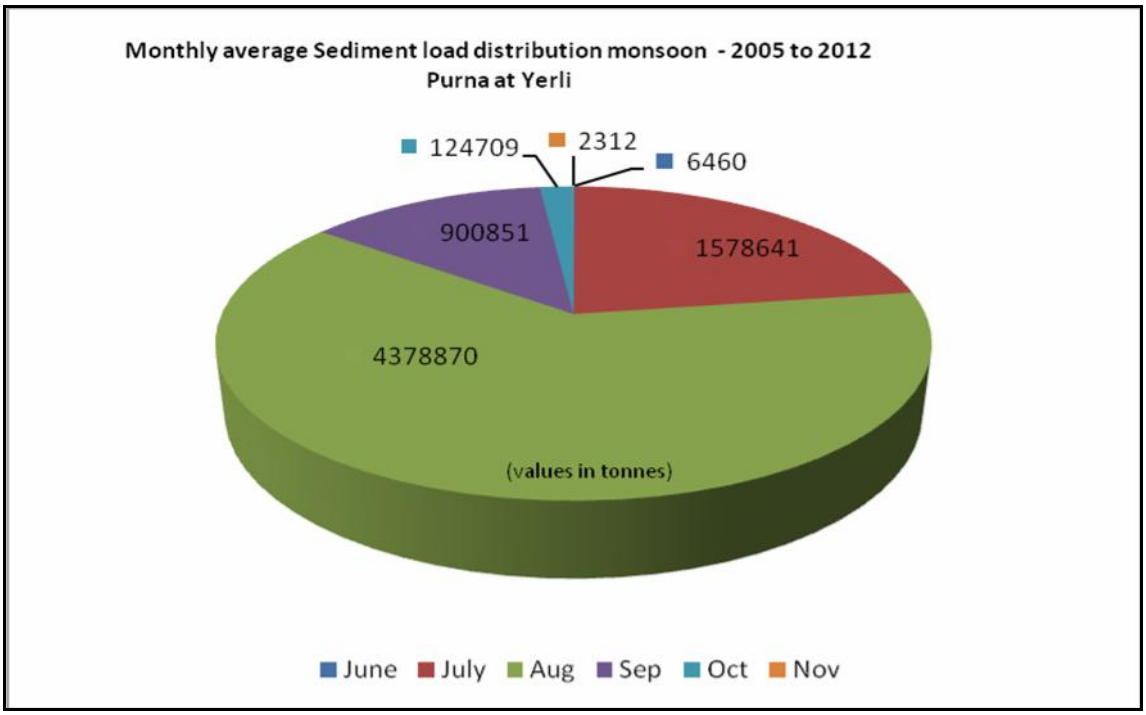
Station Name : Purna at Yerli (01 02 17 005) **Division : Surat**

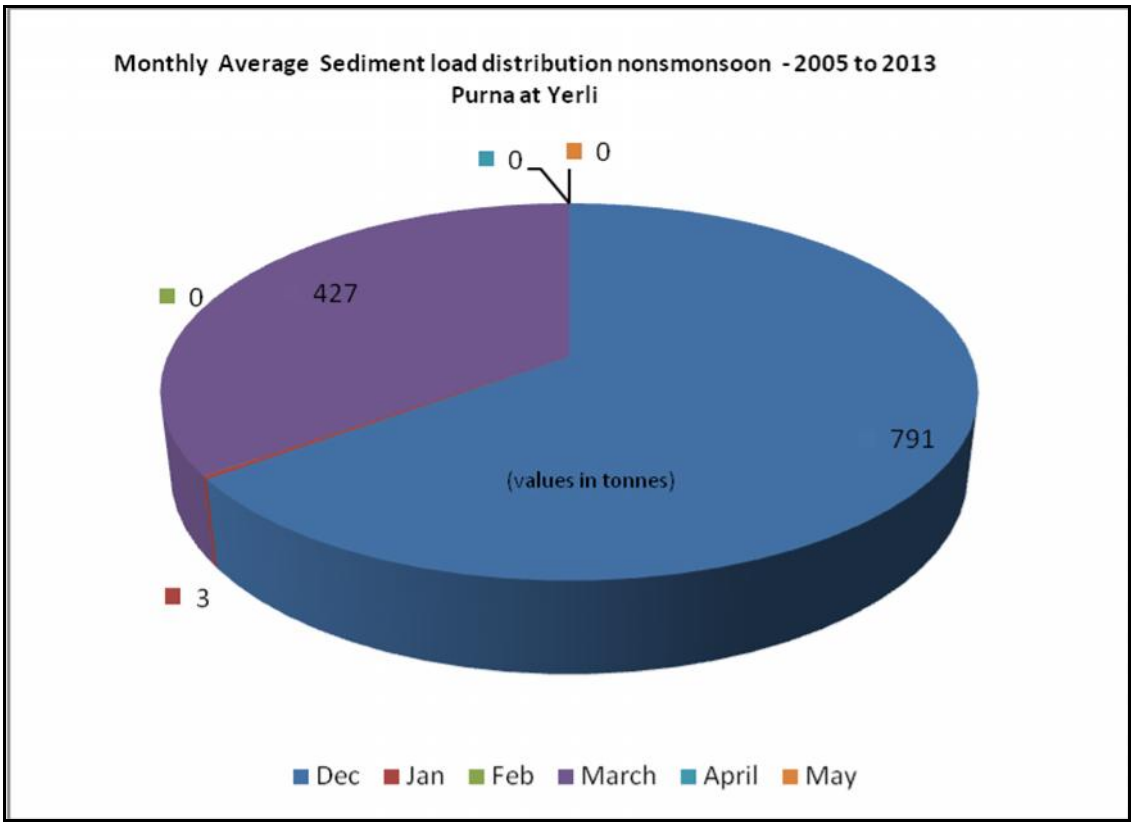
Local River : **Sub-Division : Bhusawal**





Monthy Distribution of Sediment load during Non- monsoon 2012-13
Purna at Yerli No sediment was observed in any month




Monthly Average Sediment load distribution nonsmonsoon - 2005 to 2013
Purna at Yerli
0
0
0
427
791
(values in tonnes)
3
Dec
Jan
Feb
March
April
May

HISTORY SHEET

		Water Year	**: 2012-2013**
Site	**: Tapi at Sarangkheda**	**Code**	**: 01 02 17 015**
State	: Maharashtra	District	Nandurbar
Basin	: Tapi	Independent River	: Tapi
Tributary	:	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Tapi
Division	: Surat	Sub-Division	: MTSD, Dhule
Drainage Area	: 58400 Sq. Km.	Bank	: Right
Latitude	: 21°25'55" N	Longitude	: 74°31'37" E
Zero of Gauge (m)	: 108 (m.s.l)	21/09/1971	-
	Opening Date	Closing Date	
Gauge	: 29/07/1976		
Discharge	: 19/10/1977		
Sediment	: 13/07/1984		
Water Quality	: 01/01/1980		

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Tapi at Sarangkheda (01 02 17 015) **Division : Surat**

Local River : **Sub-Division : Dhule**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1217	0.000	0.000	0.400	0.400	42047
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1232	0.000	0.000	0.354	0.354	37667
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1649	0.000	0.000	0.398	0.398	56704
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	660.9	0.000	0.000	0.150	0.150	8566
5	0.000	0.000	0.000	0.000	0.000	0	282.2	0.000	0.000	0.180	0.180	4389	615.6	0.000	0.000	0.130	0.130	6914
6	0.000	0.000	0.000	0.000	0.000	0	134.7	0.000	0.000	0.065	0.065	756	570.7	0.000	0.000	0.120	0.120	5917
7	0.000	0.000	0.000	0.000	0.000	0	134.7	0.000	0.000	0.065	0.065	756	483.2	0.000	0.000	0.300	0.300	12525
8	0.000	0.000	0.000	0.000	0.000	0	134.7	0.000	0.000	0.065	0.065	756	4332	0.000	0.000	8.164	8.164	3055931
9	0.000	0.000	0.000	0.000	0.000	0	267.7	0.000	0.000	0.296	0.296	6847	2260	0.000	0.000	3.050	3.050	595484
10	0.000	0.000	0.000	0.000	0.000	0	440.4	0.000	0.000	0.970	0.970	36909	1335	0.000	0.000	1.000	1.000	115304
11	0.000	0.000	0.000	0.000	0.000	0	340.2	0.000	0.000	0.730	0.730	21457	703.4	0.000	0.000	0.200	0.200	12155
12	0.000	0.000	0.000	0.000	0.000	0	225.9	0.000	0.000	0.440	0.440	8588	820.0	0.000	0.000	0.500	0.500	35424
13	0.000	0.000	0.000	0.000	0.000	0	247.6	0.000	0.000	0.296	0.296	6332	2928	0.000	0.000	5.700	5.700	1442126
14	0.000	0.000	0.000	0.000	0.000	0	229.1	0.000	0.000	0.280	0.280	5542	1240	0.000	0.000	0.349	0.349	37404
15	0.000	0.000	0.000	0.000	0.000	0	203.7	0.000	0.000	0.210	0.210	3695	1049	0.000	0.000	0.250	0.250	22658
16	0.000	0.000	0.000	0.000	0.000	0	88.47	0.000	0.000	0.170	0.170	1299	730.9	0.000	0.000	0.210	0.210	13262
17	0.000	0.000	0.000	0.000	0.000	0	91.16	0.000	0.000	0.156	0.156	1229	535.9	0.000	0.000	0.376	0.376	17410
18	0.000	0.000	0.000	0.000	0.000	0	95.86	0.000	0.000	0.114	0.114	944	489.6	0.000	0.000	0.308	0.308	13029
19	0.000	0.000	0.000	0.000	0.000	0	99.28	0.000	0.000	0.280	0.280	2402	416.0	0.000	0.000	0.240	0.240	8626
20	0.000	0.000	0.000	0.000	0.000	0	90.83	0.000	0.000	0.276	0.276	2166	396.0	0.000	0.000	0.210	0.210	7185
21	0.000	0.000	0.000	0.000	0.000	0	4.490	0.000	0.000	0.050	0.050	19	318.1	0.000	0.000	0.206	0.206	5662
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	1770	0.000	0.000	1.500	1.500	229392
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	573.1	0.000	0.000	0.200	0.200	9903
24	0.000	0.000	0.000	0.000	0.000	0	3196	0.000	0.000	6.250	6.250	1725840	688.9	0.000	0.000	0.180	0.180	10714
25	0.000	0.000	0.000	0.000	0.000	0	4416	0.000	0.000	8.344	8.344	3183590	338.0	0.000	0.000	0.080	0.080	2336
26	0.000	0.000	0.000	0.000	0.000	0	1313	0.000	0.000	1.420	1.420	161089	284.4	0.000	0.000	0.060	0.060	1474
27	0.000	0.000	0.000	0.000	0.000	0	795.1	0.000	0.000	1.002	1.002	68834	284.9	0.000	0.000	0.085	0.085	2092
28	0.000	0.000	0.000	0.000	0.000	0	328.3	0.000	0.000	0.184	0.184	5219	396.0	0.000	0.000	0.250	0.250	8554
29	0.000	0.000	0.000	0.000	0.000	0	2446	0.000	0.000	2.300	2.300	486015	1210	0.000	0.000	0.338	0.338	35336
30	0.000	0.000	0.000	0.000	0.000	0	2299	0.000	0.000	2.120	2.120	421103	353.9	0.000	0.000	0.320	0.320	9785
31							1731	0.000	0.000	1.792	1.792	268009	626.7	0.000	0.000	0.300	0.300	16244
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	139.4	0.000	0.000	0.164	0.164	5041	1435	0.000	0.000	1.407	1.407	393706
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	171.2	0.000	0.000	0.295	0.295	5365	931.0	0.000	0.000	0.834	0.834	160928
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	1503	0.000	0.000	2.133	2.133	574520	622.2	0.000	0.000	0.320	0.320	30136
Monthly																		
Total						0						6423788						5877830

Annual Sediment Load (Metric Tonnes) : 32524509

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Tapi at Sarangkheda (01 02 17 015) **Division : Surat**

Local River : **Sub-Division : Dhule**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	1616	0.000	0.000	0.410	0.410	57245	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	989.5	0.000	0.000	0.250	0.250	21373	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	763.4	0.000	0.000	0.200	0.200	13192	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	614.3	0.000	0.000	0.170	0.170	9023	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	1050	0.000	0.000	0.340	0.340	30845	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	7220	0.200	0.036	6.870	7.106	4432940	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	10481	0.300	0.080	11.040	11.420	10341477	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	3653	0.150	0.024	6.000	6.174	1948633	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	3274	0.065	0.010	4.600	4.675	1322434	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	1933	0.000	0.000	3.250	3.250	542786	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	1120	0.000	0.000	0.300	0.300	29030	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	3129	0.000	0.000	4.100	4.100	1108417	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	1611	0.000	0.000	1.200	1.200	167028	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	1301	0.000	0.000	1.000	1.000	112406	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	767.5	0.000	0.000	0.300	0.300	19894	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	457.5	0.000	0.000	0.100	0.100	3953	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	443.1	0.000	0.000	0.080	0.080	3063	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	772.4	0.000	0.000	0.150	0.150	10010	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	573.5	0.000	0.000	0.140	0.140	6937	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	432.5	0.000	0.000	0.060	0.060	2242	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	431.2	0.000	0.000	0.060	0.060	2235	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	352.9	0.000	0.000	0.040	0.040	1220	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	766.6	0.000	0.000	0.180	0.180	11922	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	999.6	0.000	0.000	0.150	0.150	12955	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	472.1	0.000	0.000	0.070	0.070	2855	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	677.1	0.000	0.000	0.150	0.150	8775	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31							0.000	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	3159	0.072	0.015	3.313	3.400	1871995	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	1061	0.000	0.000	0.743	0.743	146298	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	369.9	0.000	0.000	0.065	0.065	3996	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						20222891						0						0

Annual Sediment Load (Metric Tonnes) : 32524509

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Tapi at Sarangkheda (01 02 17 015) **Division : Surat**

Local River : **Sub-Division : Dhule**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
31	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 32524509

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Tapi at Sarangkheda (01 02 17 015) **Division : Surat**

Local River : **Sub-Division : Dhule**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 32524509

Annual Sediment Load for period : 2005-2013

Station Name : Tapi at Sarangkheda (01 02 17 015) **Division : Surat**

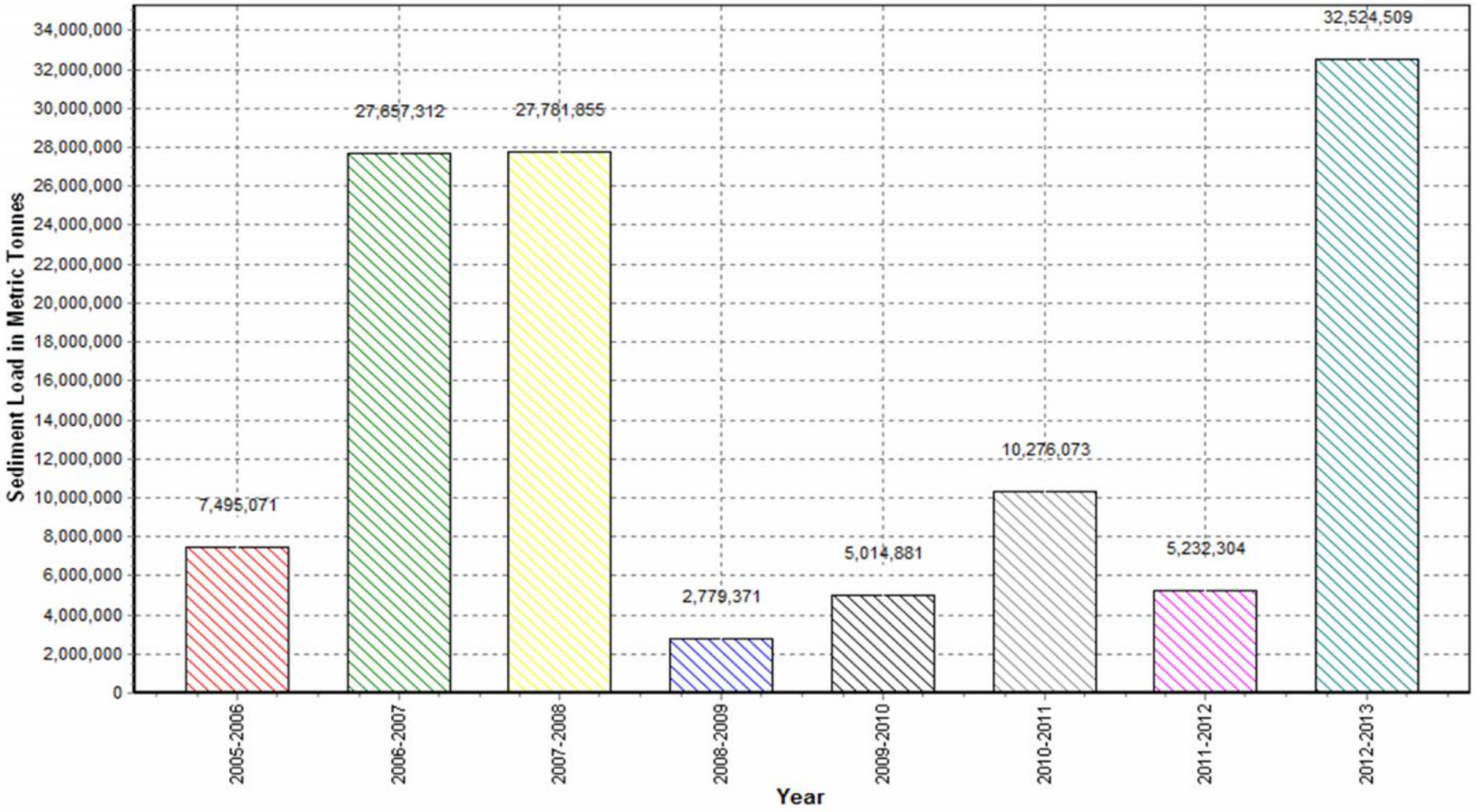
Local River : **Sub-Division : Dhule**

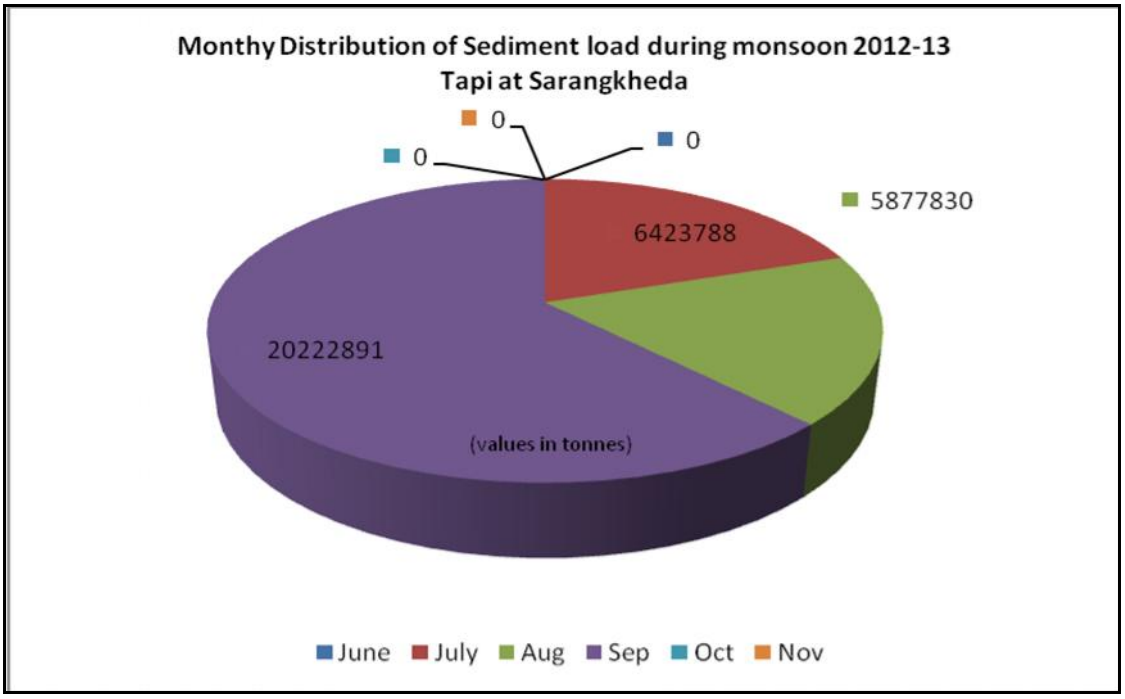
Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)	Annual Sediment yield in mm
2005-2006	7495071	0	7495071	5043	0.0917
2006-2007	27657085	227	27657312	17486	0.3383
2007-2008	27781784	71	27781855	11414	0.3398
2008-2009	2779371	0	2779371	3443	0.0340
2009-2010	5014881	0	5014881	3071	0.0613
2010-2011	10276073	0	10276073	7001	0.1257
2011-2012	5232304	0	5232304	6202	0.0640
2012-2013	32524509	0	32524509	8298	0.3978

Annual Sediment Load for the period: 2005-2013

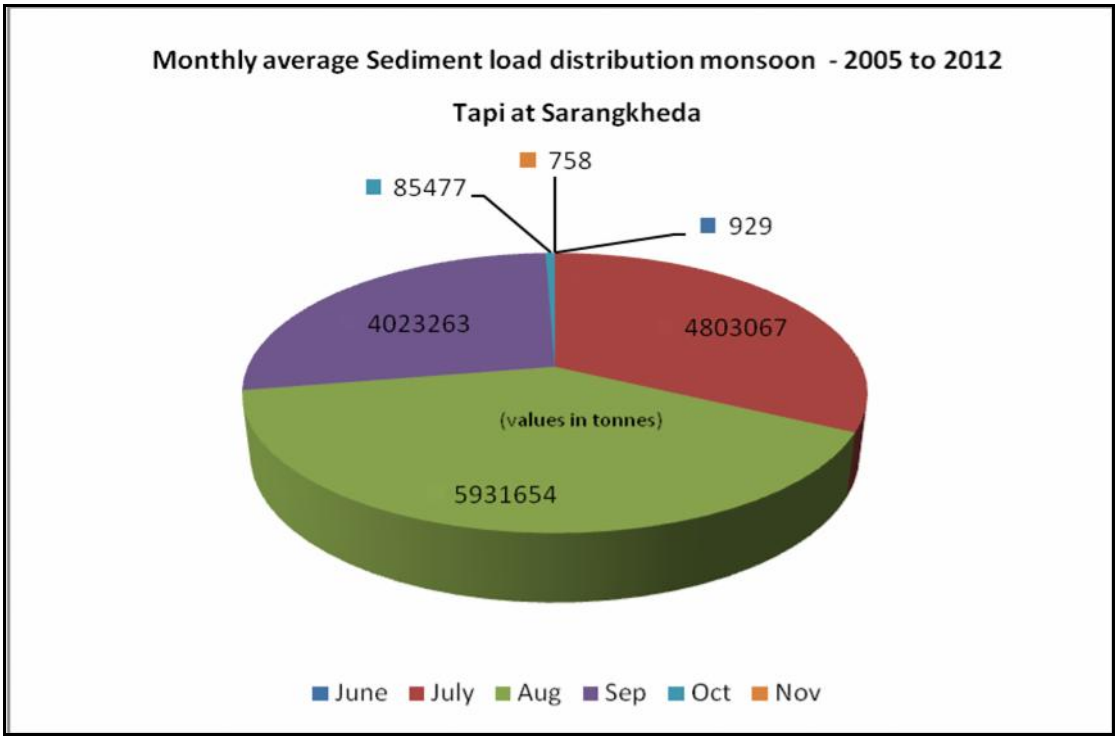
Station Name : Tapi at Sarangkheda (01 02 17 015) **Division : Surat**

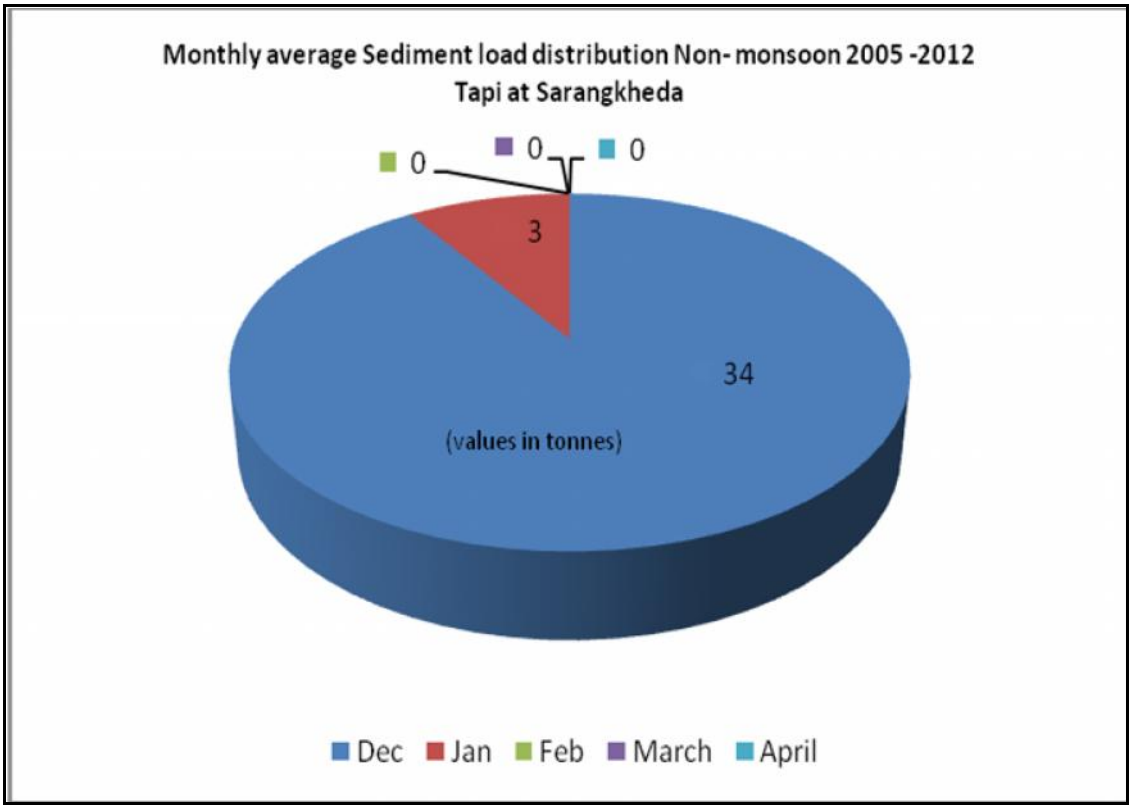
Local River : **Sub-Division : Dhule**





Monthy Distribution of Sediment load during Non- monsoon 2012-13
Tapi at Sarangkheda No sediment was observed in any month




Monthly average Sediment load distribution Non- monsoon 2005 -2012
Tapi at Sarangkheda
0
0
0
3
34
(values in tonnes)
Dec
Jan
Feb
March
April

4.3 Banas Basin

The Banas river rises near Pindwara village in Sirohi district of Rajasthan at an elevation of 372.5 m above mean sea level. The total length of the river from origin to its outfall into the little Rann of Kachchh It drains an area of 8,674 sq km out of which nearly 38 % lies in Rajasthan State and the remaining 62 % falls in Gujarat state. The basin lies between the geographical co-ordinates of $71^0$15' to 73^0 15' east longitudes and 23^0 30' to 24^0 55' north latitudes. The river flows in a south – westerly direction and empties into little Rann of Kachchh. It is bounded by Luni basin in the north, Sarasvati basin in the south, Aravalli Hill ranges in the east and finally, Arabian Sea in the west.

The number of principal tributaries, which contribute significantly, is seven. Sipu is the only major tributary on the right bank. The other six tributaries namely Batria, Sukli, Sewaran, Suket, Balaram and Khari drain into the main channel from left bank. Hence draining system on the left bank of the Banas river is more extensive as compared to the right bank area.

The average rainfall in the Banas basin is 921 mm. Owing to topographical characteristics, the climate is variable. The Mount Abu is one of the coldest regions and is one of the famous hill stations of India.

The Dantiwada dam and Swaroopganj dam are two main irrigation structures existing on the main channel of Banas river. The earthen dam on river Sipu, a tributary of Banas, is another project, which is under progress.

There is one monitoring station at Kamalpur for analysis of sediment load of river Banas. A brief about the station is given in section- 4.3.1.

4.3.1. Banas at Kamalpur

The station has a Catchment area of 6,960 sq km. The sediment rating curve at the site is given in **Fig-18**.The maximum sediment concentration of 0.304 g/l was observed on 14.08.2012. The total sediment load during the year is 613 metric tonnes. The monsoon load constitutes 100 % of the total load. The annual sediment yield over the catchment during water year 2012-13 is 0.0001 mm. Annual sediment yield over the period of observations is given in **Fig-19**. It is seen from the analysis that sediment yield does not follow any trend over the years. It is seen from **Fig-20** that only moderately strong positive correlation exists between annual yield and annual runoff.

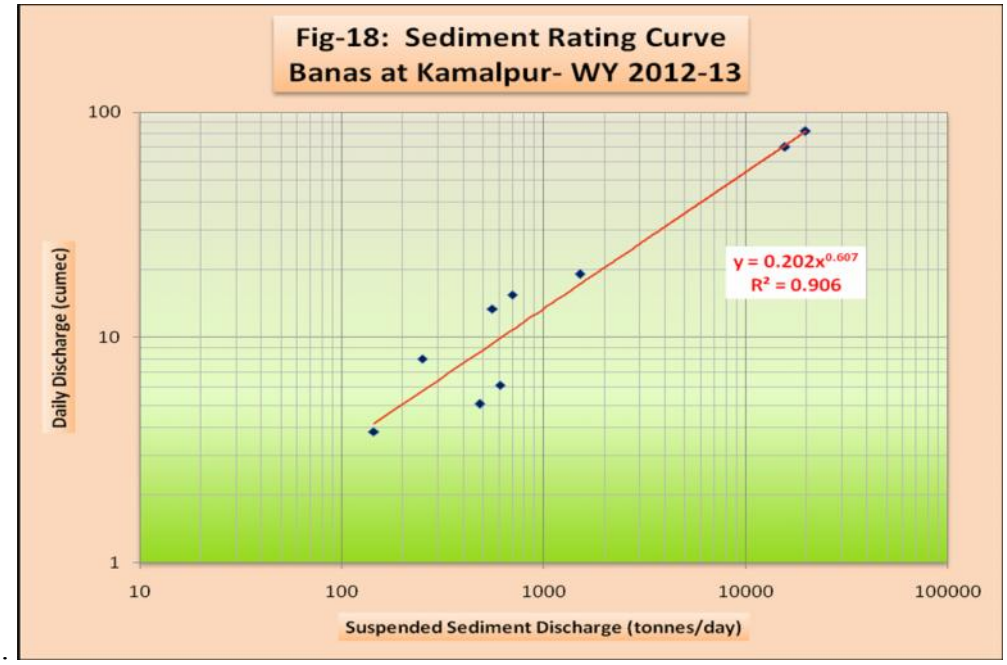


Fig-18: Sediment Rating Curve
Banas at Kamalpur- WY 2012-13
Daily Discharge (cumec)
100
10
1
10
100
1000
10000
100000
Suspended Sediment Discharge (tonnes/day)
y = 0.202x^0.607
R² = 0.906

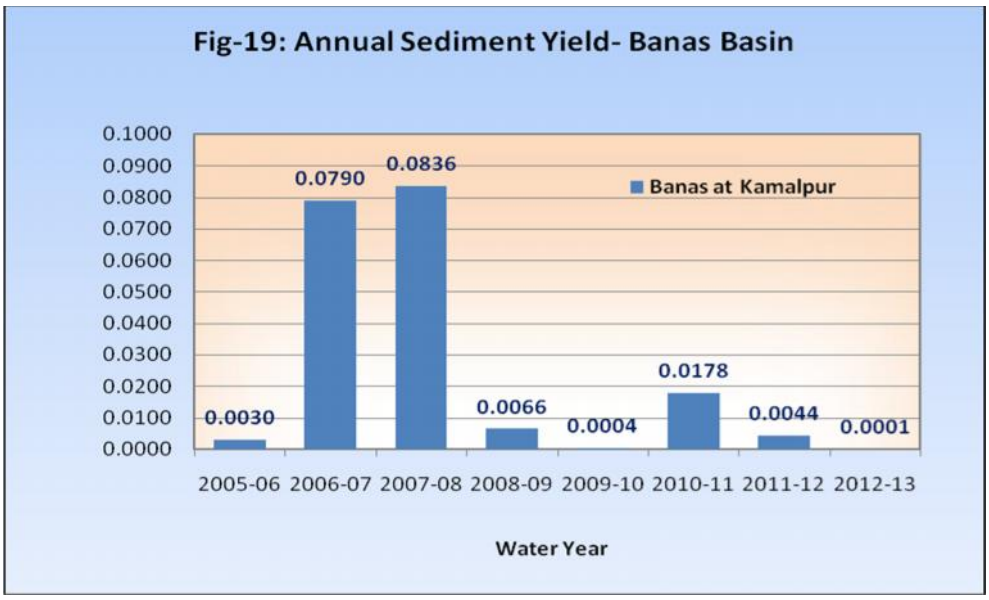


Fig-19: Annual Sediment Yield- Banas Basin
0.1000
0.0900
0.0800
0.0700
0.0600
0.0500
0.0400
0.0300
0.0200
0.0100
0.0000
0.0030
0.0790
0.0836
0.0066
0.0004
0.0178
0.0044
0.0001
Banas at Kamalpur
2005-06 2006-07 2007-08 2008-09 2009-10 2010-11 2011-12 2012-13
Water Year

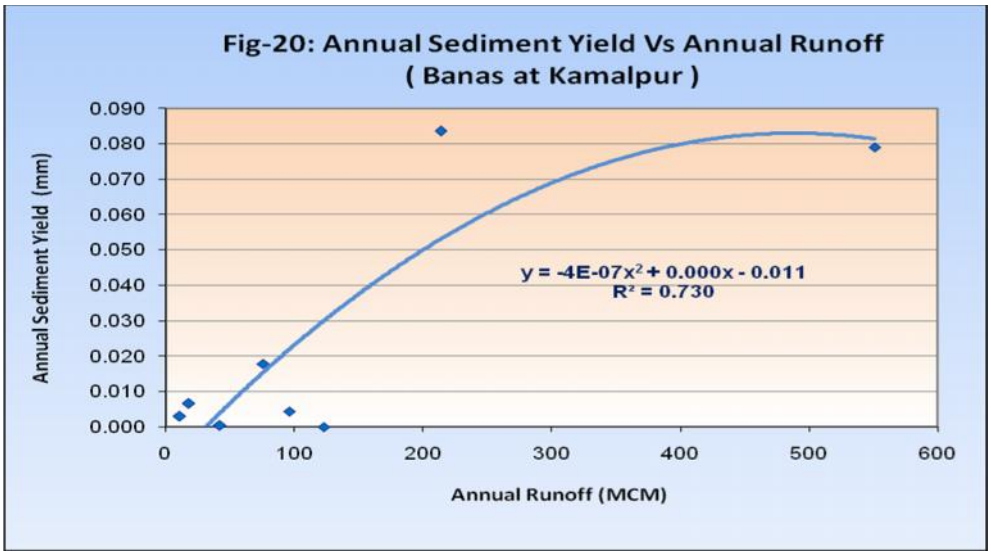
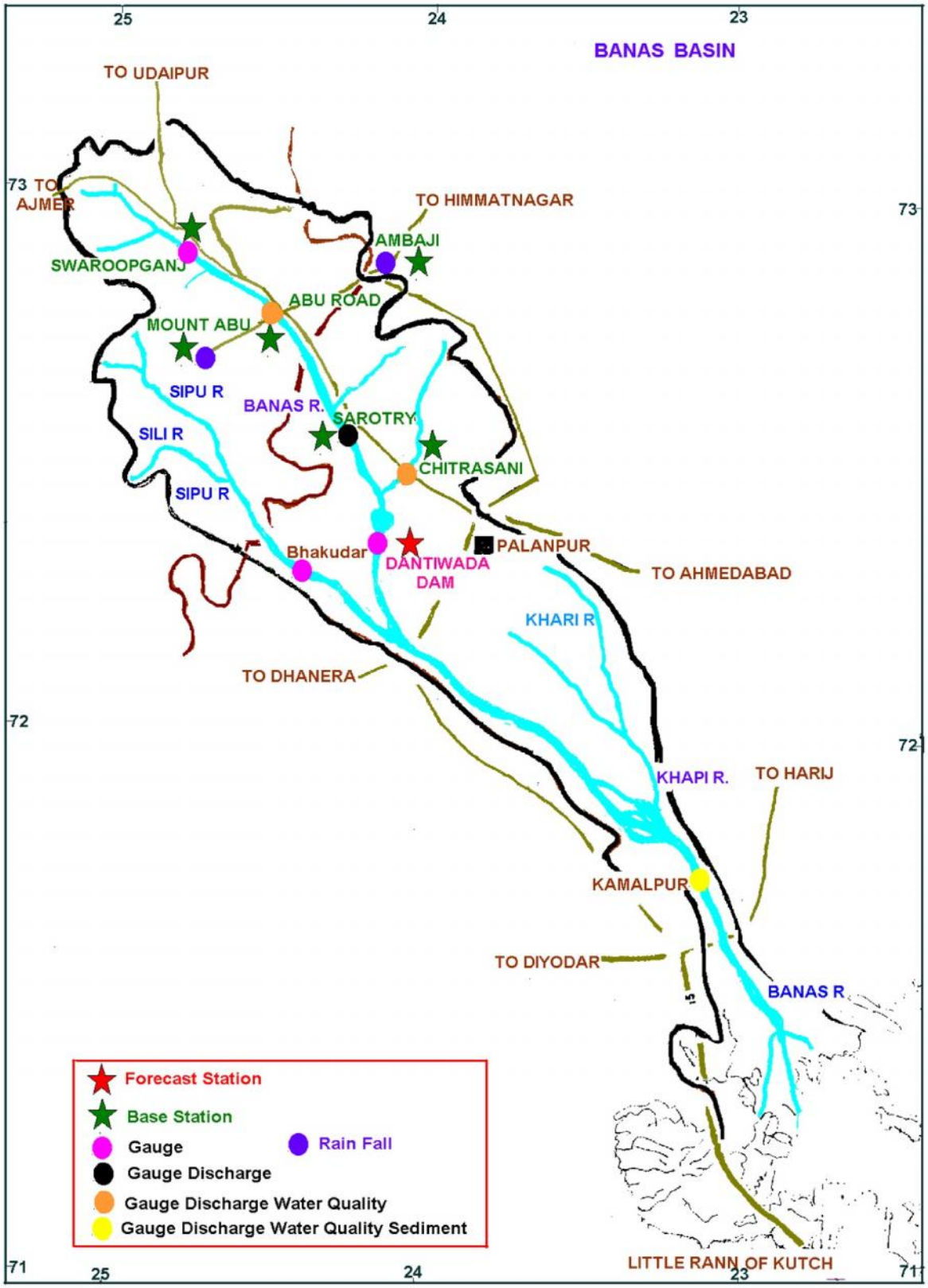


Fig-20: Annual Sediment Yield Vs Annual Runoff
(Banas at Kamalpur)
Annual Sediment Yield (mm)
0.090
0.080
0.070
0.060
0.050
0.040
0.030
0.020
0.010
0.000
0
100
200
300
400
500
600
Annual Runoff (MCM)
y = -4E-07x² + 0.000x - 0.011
R² = 0.730

Plate – 4.3 Banas Basin



HISTORY SHEET

		Water Year	**: 2012-2013**
Site	**: Banas at Kamalpur**	**Code**	**: 01 02 02 007**
State	: Gujarat	District	Banaskantha
Basin	: WFR of Kach.-Saur. & Luni	Independent River	: Banas
Tributary	: -	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Banas
Division	: Mahi Division, Gandhinagar	Sub-Division	: B.L.Sub Divn, Palanpur
Drainage Area	: 6960 Sq. Km.	Bank	: Right
Latitude	: 23°47'59" N	Longitude	: 71°45'00" E
Zero of Gauge (m)	: 34 (m.s.l)	01/06/1970	-
	Opening Date	Closing Date	
Gauge	: 21/07/1971		
Discharge	: 25/07/1971		
Sediment	: 25/08/1973		
Water Quality	: 01/06/1977		

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Banas at Kamalpur (01 02 02 007) **Division : Mahi Division, Gandhinagar**

Local River : Banas **Sub-Division : B.L.Sub Divn, Palanpur**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000						0.000						0.000					
2	0.000						0.000						0.000					
3	0.000						0.000						0.000					
4	0.000						0.000						0.000					
5	0.000						0.000						0.000					
6	0.000						0.000						0.000					
7	0.000						0.000						0.000					
8	0.000						0.000						0.000					
9	0.000						0.000						0.000					
10	0.000						0.000						0.000					
11	0.000						0.000						7.781	0.000	0.000	0.000	0.000	0
12	0.000						0.000						13.73	0.000	0.000	0.000	0.000	0
13	0.000						0.000						11.05	0.000	0.000	0.000	0.000	0
14	0.000						9.797	0.000	0.000	0.000	0.000	0	23.33	0.000	0.088	0.216	0.304	613
15	0.000						4.350	0.000	0.000	0.000	0.000	0	32.59	0.000	0.000	0.000	0.000	0
16	0.000						0.000						30.75	0.000	0.000	0.000	0.000	0
17	0.000						0.000						30.80	0.000	0.000	0.000	0.000	0
18	2.973	0.000	0.000	0.000	0.000	0	0.000						33.64	0.000	0.000	0.000	0.000	0
19	3.620	0.000	0.000	0.000	0.000	0	0.000						30.99	0.000	0.000	0.000	0.000	0
20	5.158	0.000	0.000	0.000	0.000	0	0.000						29.67	0.000	0.000	0.000	0.000	0
21	5.579	0.000	0.000	0.000	0.000	0	0.000						34.85	0.000	0.000	0.000	0.000	0
22	3.305	0.000	0.000	0.000	0.000	0	0.000						33.81	0.000	0.000	0.000	0.000	0
23	0.000						0.000						27.02	0.000	0.000	0.000	0.000	0
24	0.000						0.000						23.64	0.000	0.000	0.000	0.000	0
25	0.000						0.000						22.58	0.000	0.000	0.000	0.000	0
26	0.000						0.000						23.33	0.000	0.000	0.000	0.000	0
27	0.000						0.000						21.98	0.000	0.000	0.000	0.000	0
28	0.000						0.000						17.10	0.000	0.000	0.000	0.000	0
29	0.000						0.000						20.74	0.000	0.000	0.000	0.000	0
30	0.000						0.000						34.46	0.000	0.000	0.000	0.000	0
31							0.000						27.18	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	0.000						0.000						0.000					
Ten Daily II	1.175	0.000	0.000	0.000	0.000	0	1.415	0.000	0.000	0.000	0.000	0	24.43	0.000	0.009	0.022	0.030	61
Ten Daily III	0.888	0.000	0.000	0.000	0.000	0	0.000						26.06	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						613

Annual Sediment Load (Metric Tonnes) : 613

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Banas at Kamalpur (01 02 02 007) **Division : Mahi Division, Gandhinagar**

Local River : Banas **Sub-Division : B.L.Sub Divn, Palanpur**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000						0.000					
2	0.000	0.000	0.000	0.000	0.000	0	0.000						0.000					
3	9.545	0.000	0.000	0.000	0.000	0	0.000						0.000					
4	20.05	0.000	0.000	0.000	0.000	0	0.000						0.000					
5	25.76	0.000	0.000	0.000	0.000	0	0.000						0.000					
6	32.63	0.000	0.000	0.000	0.000	0	0.000						0.000					
7	24.76	0.000	0.000	0.000	0.000	0	0.000						0.000					
8	32.83	0.000	0.000	0.000	0.000	0	0.000						0.000					
9	35.90	0.000	0.000	0.000	0.000	0	0.000						0.000					
10	28.56	0.000	0.000	0.000	0.000	0	0.000						0.000					
11	32.78	0.000	0.000	0.000	0.000	0	0.000						0.000					
12	35.36	0.000	0.000	0.000	0.000	0	0.000						0.000					
13	38.49	0.000	0.000	0.000	0.000	0	0.000						0.000					
14	38.57	0.000	0.000	0.000	0.000	0	0.000						0.000					
15	27.10	0.000	0.000	0.000	0.000	0	0.000						0.000					
16	19.70	0.000	0.000	0.000	0.000	0	0.000						0.000					
17	8.394	0.000	0.000	0.000	0.000	0	0.000						0.000					
18	17.26	0.000	0.000	0.000	0.000	0	0.000						0.000					
19	25.36	0.000	0.000	0.000	0.000	0	0.000						0.000					
20	20.45	0.000	0.000	0.000	0.000	0	0.000						0.000					
21	21.00	0.000	0.000	0.000	0.000	0	0.000						0.000					
22	20.23	0.000	0.000	0.000	0.000	0	0.000						0.000					
23	26.30	0.000	0.000	0.000	0.000	0	0.000						0.000					
24	31.75	0.000	0.000	0.000	0.000	0	0.000						0.000					
25	26.71	0.000	0.000	0.000	0.000	0	0.000						0.000					
26	25.43	0.000	0.000	0.000	0.000	0	0.000						0.000					
27	24.52	0.000	0.000	0.000	0.000	0	0.000						0.000					
28	26.94	0.000	0.000	0.000	0.000	0	0.000						0.000					
29	22.46	0.000	0.000	0.000	0.000	0	0.000						0.000					
30	17.07	0.000	0.000	0.000	0.000	0	0.000						0.000					
31							0.000											
Ten Daily Mean																		
Ten Daily I	21.00	0.000	0.000	0.000	0.000	0	0.000						0.000					
Ten Daily II	26.35	0.000	0.000	0.000	0.000	0	0.000						0.000					
Ten Daily III	24.24	0.000	0.000	0.000	0.000	0	0.000						0.000					
Monthly Total						0												

Annual Sediment Load (Metric Tonnes) : 613

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Banas at Kamalpur (01 02 02 007) **Division : Mahi Division, Gandhinagar**

Local River : Banas **Sub-Division : B.L.Sub Divn, Palanpur**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000						0.000						0.000					
2	0.000						0.000						0.000					
3	27.64	0.000	0.000	0.000	0.000	0	0.000						0.000					
4	17.72	0.000	0.000	0.000	0.000	0	0.000						0.000					
5	0.000						0.000						0.000					
6	0.000						0.000						0.000					
7	0.000						0.000						0.000					
8	0.000						0.000						0.000					
9	0.000						0.000						0.000					
10	0.000						0.000						0.000					
11	0.000						0.000						0.000					
12	0.000						0.000						0.000					
13	0.000						0.000						0.000					
14	0.000						0.000						0.000					
15	0.000						0.000						0.000					
16	0.000						0.000						0.000					
17	0.000						0.000						0.000					
18	0.000						0.000						0.000					
19	0.000						0.000						0.000					
20	0.000						0.000						0.000					
21	0.000						0.000						0.000					
22	0.000						0.000						0.000					
23	0.000						0.000						0.000					
24	0.000						0.000						0.000					
25	0.000						0.000						0.000					
26	0.000						0.000						0.000					
27	0.000						0.000						0.000					
28	0.000						0.000						0.000					
29	0.000						0.000											
30	0.000						0.000											
31	0.000						0.000											
Ten Daily Mean																		
Ten Daily I	4.536	0.000	0.000	0.000	0.000	0	0.000						0.000					
Ten Daily II	0.000						0.000						0.000					
Ten Daily III	0.000						0.000						0.000					
Monthly																		
Total						0												

Annual Sediment Load (Metric Tonnes) : 613

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Banas at Kamalpur (01 02 02 007) **Division : Mahi Division, Gandhinagar**

Local River : Banas **Sub-Division : B.L.Sub Divn, Palanpur**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000						0.000						0.000					
2	0.000						0.000						0.000					
3	0.000						0.000						0.000					
4	0.000						0.000						0.000					
5	0.000						0.000						0.000					
6	6.208	0.000	0.000	0.000	0.000	0	0.000						0.000					
7	19.42	0.000	0.000	0.000	0.000	0	0.000						0.000					
8	0.000						0.000						0.000					
9	0.000						0.000						0.000					
10	0.000						0.000						0.000					
11	0.000						0.000						0.000					
12	0.000						0.000						0.000					
13	0.000						0.000						0.000					
14	0.000						0.000						0.000					
15	0.000						0.000						0.000					
16	0.000						0.000						0.000					
17	0.000						0.000						4.316	0.000	0.000	0.000	0.000	0
18	0.000						0.000						0.000					
19	0.000						0.000						0.000					
20	0.000						0.000						0.000					
21	0.000						0.000						0.000					
22	0.000						0.000						0.000					
23	0.000						0.000						0.000					
24	0.000						0.000						0.000					
25	0.000						0.000						0.000					
26	0.000						0.000						0.000					
27	0.000						0.000						0.000					
28	0.000						0.000						0.000					
29	0.000						0.000						0.000					
30	0.000						0.000						0.000					
31	0.000												0.000					
Ten Daily Mean																		
Ten Daily I	2.563	0.000	0.000	0.000	0.000	0	0.000						0.000					
Ten Daily II	0.000						0.000						0.432	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000						0.000						0.000					
Monthly																		
Total						0												0

Annual Sediment Load (Metric Tonnes) : 613

Annual Sediment Load for period : 2005-2013

Station Name : Banas at Kamalpur (01 02 02 007) **Division : Mahi Division, Gandhinagar**

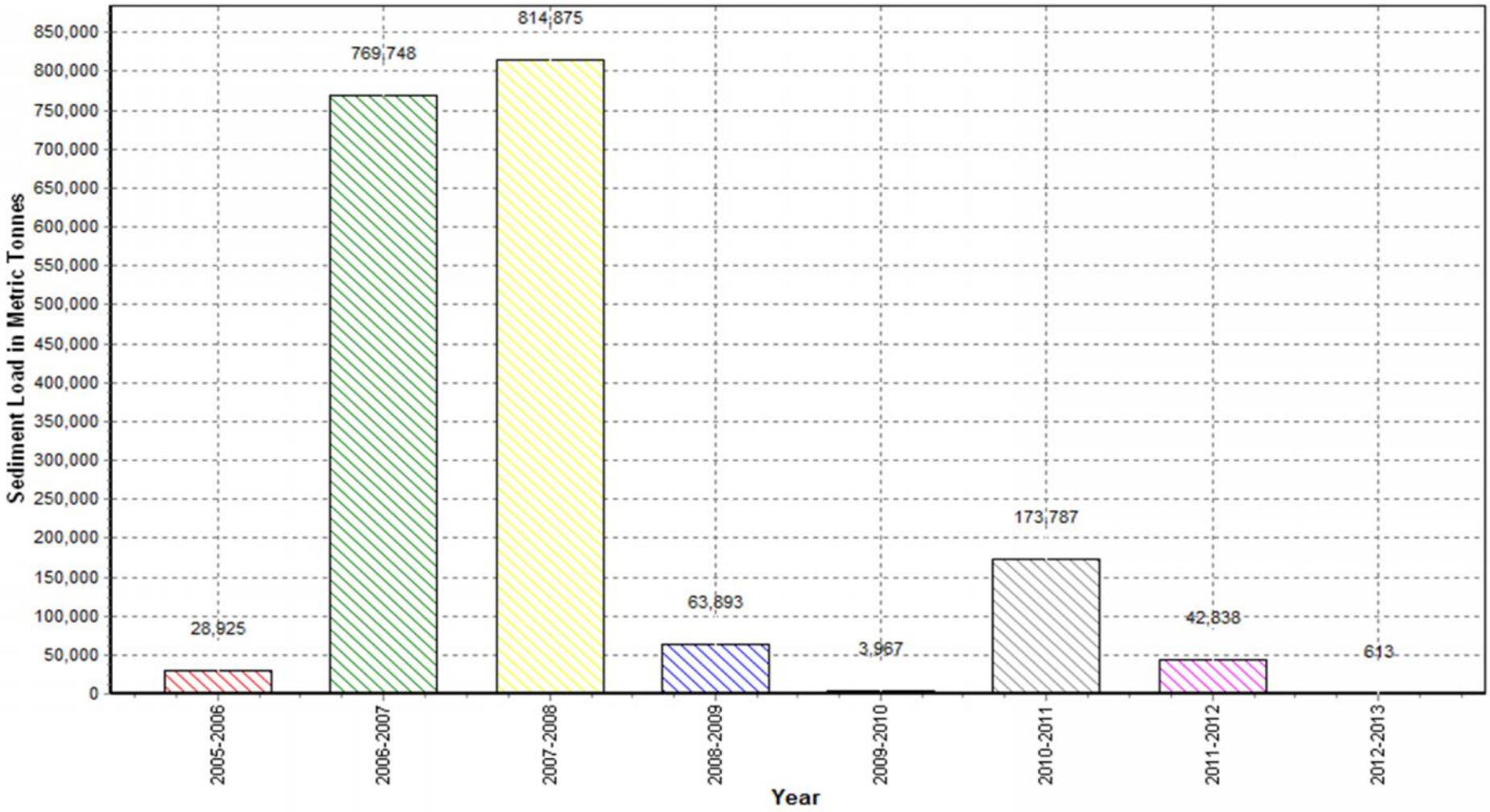
Local River : Banas **Sub-Division : B.L.Sub Divn, Palanpur**

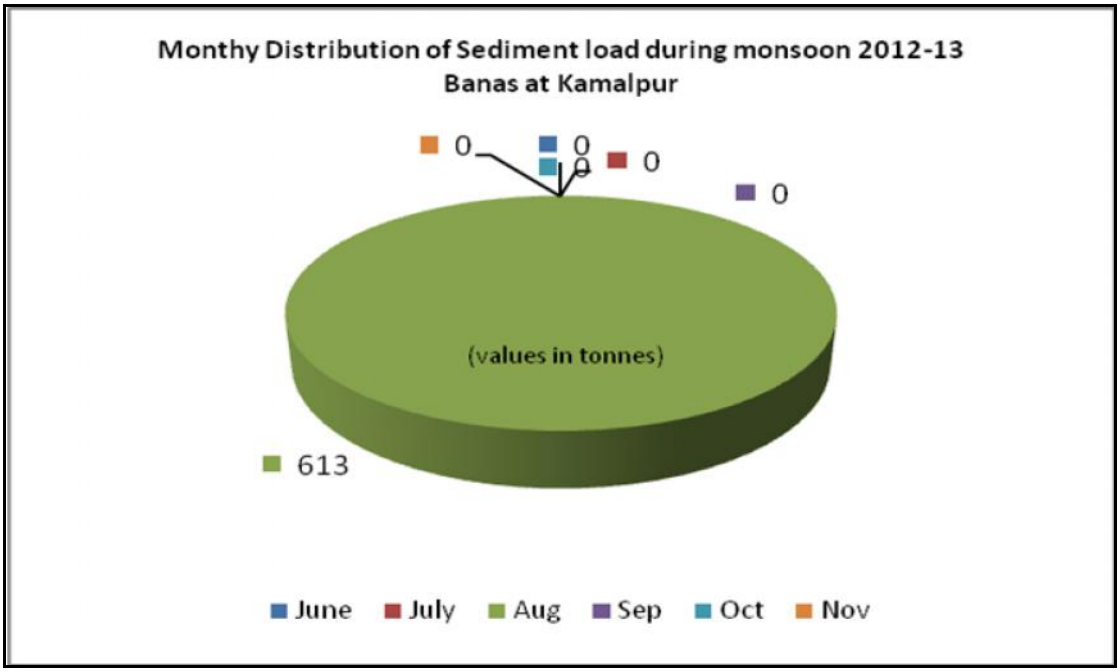
Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)	Annual Sediment yield in mm
2005-2006	28925	0	28925	11	0.0030
2006-2007	769748	0	769748	551	0.0790
2007-2008	814875	0	814875	214	0.0836
2008-2009	63893	0	63893	18	0.0066
2009-2010	3560	407	3967	42	0.0004
2010-2011	173787	0	173787	78	0.0178
2011-2012	42838	0	42838	96	0.0044
2012-2013	613	0	613	117	0.0001

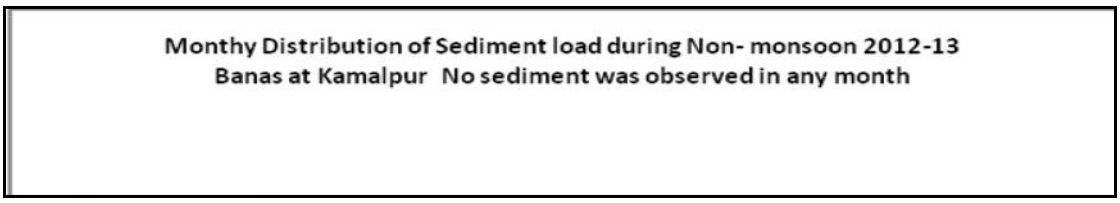
Annual Sediment Load for the period: 2005-2013

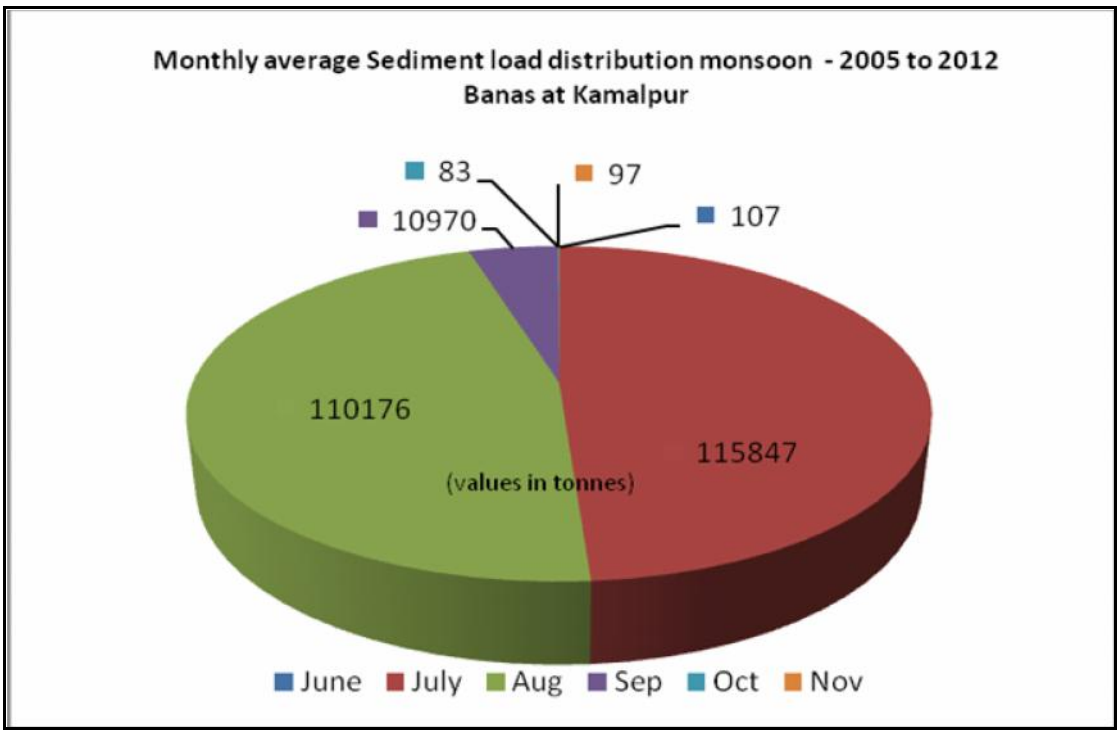
Station Name : Banas at Kamalpur (01 02 02 007) **Division : Mahi Division, Gandhinagar**

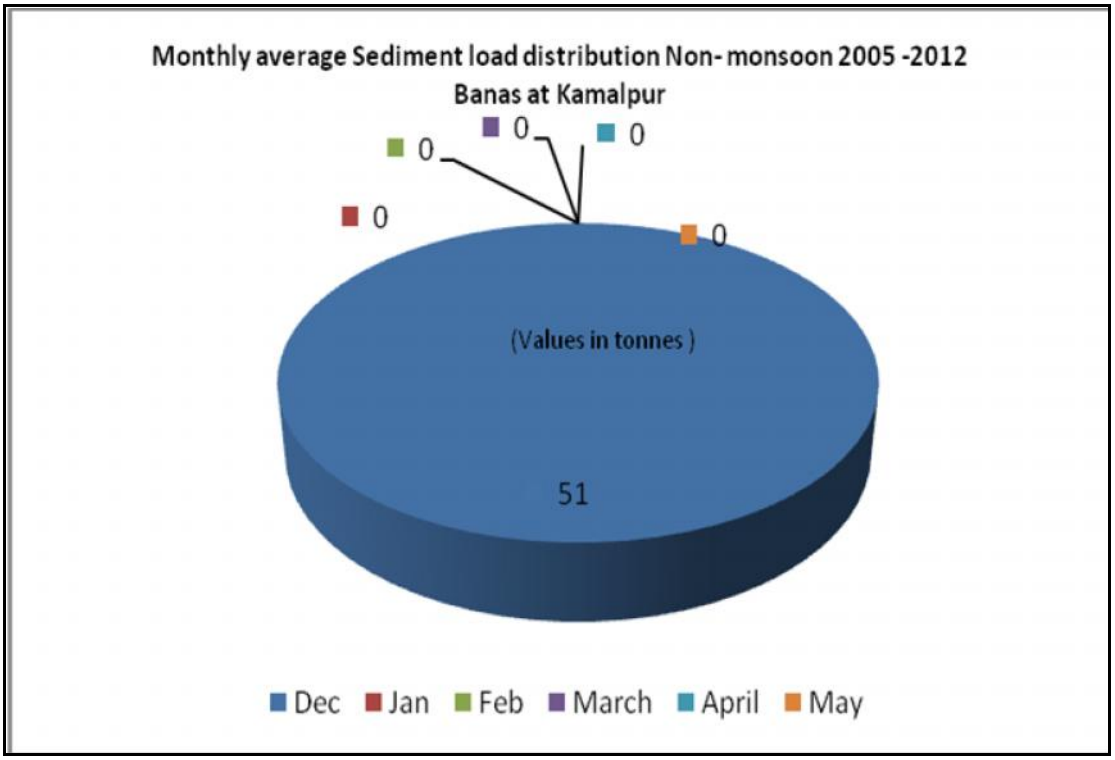
Local River : Banas **Sub-Division : B.L.Sub Divn, Palanpur**




Monthy Distribution of Sediment load during monsoon 2012-13
Banas at Kamalpur
0
0
0
0
0
(values in tonnes)
613
June
July
Aug
Sep
Oct
Nov


Monthy Distribution of Sediment load during Non- monsoon 2012-13
Banas at Kamalpur No sediment was observed in any month


Monthly average Sediment load distribution monsoon - 2005 to 2012
Banas at Kamalpur
83
97
107
10970
110176
115847
(values in tonnes)
June
July
Aug
Sep
Oct
Nov


Monthly average Sediment load distribution Non- monsoon 2005 -2012
Banas at Kamalpur
0
0
0
0
0
(Values in tonnes)
51
Dec
Jan
Feb
March
April
May

4.4 Bhadar Basin

The Bhadar is one of the major rivers of Kathaiwar (Saurashtra) peninsula in Gujarat. It originates near Vaddi (Aniali Village) about 26 km north – west of Jasdan in Rajkot district at an elevation of 261 m above mean sea level.

It flows towards South up to Jasdan and turns towards south - west upto Jetpur and finally changes its direction towards west till its confluence with Arabian sea at Naviobandar (Porbandar). The total length of this river is 198 km. It has a drainage area of 7094 sq.km out of which 706 sq km is in hilly and the rest in plain regions of Saurashtra. The basin lies between geographical co-ordinates of 21^0 25' and 22^0 10' north latitudes and 69^0 45' and 71^0 20' east longitudes. It drains about $1/7^{th}$ of the area of Saurashtra.

The Bhadar receives several tributaries on both the banks. There are 9 major tributaries having lengths more than 25 km out of which 6 tributaries namely Gandali, Chapparwadi, Phopal, Utawali, Moj and Venu are feeding from the right and the remaining 3 tributaries namely Vasavadi, Surwa and Galolio from the left. The drainage system of the river on right bank is more extensive as compared to the left bank.

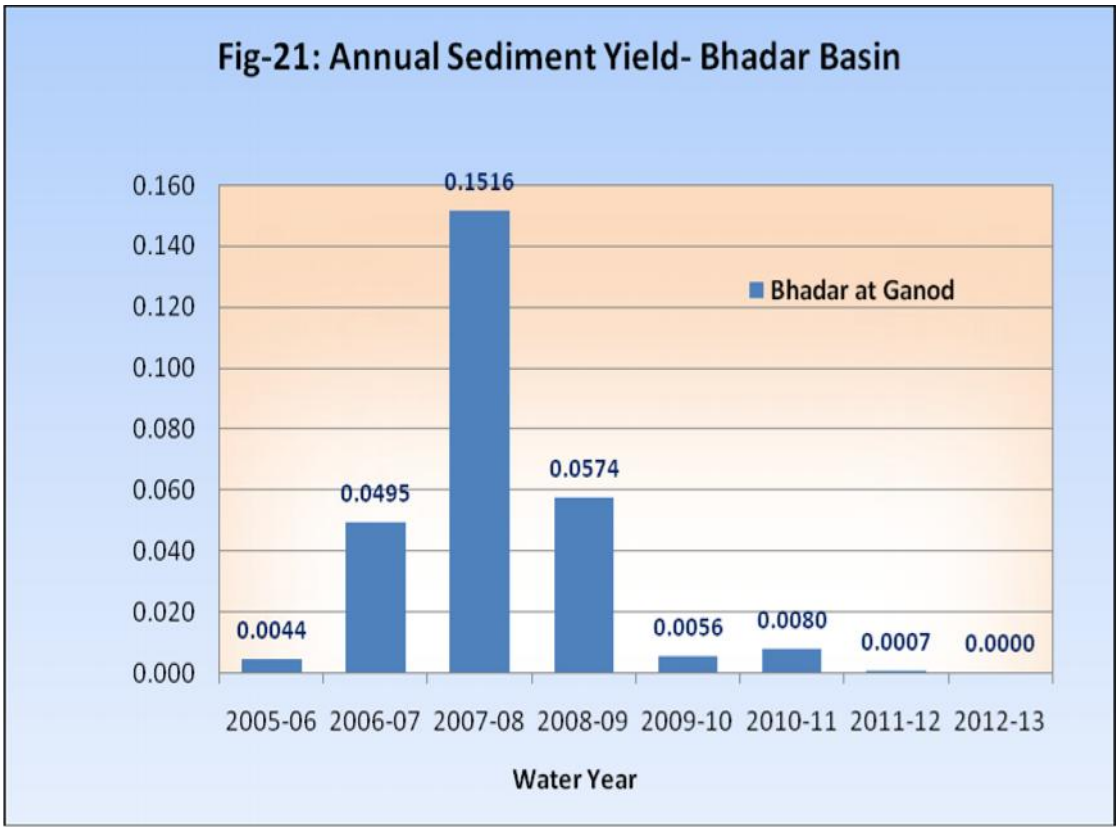
The average rainfall in Bhadar basin is 625 mm. In winter the temperature vary between 4^0C and 15^0C in different Parts of the region. May is the hottest month. Maximum temperature varies between 40^0C and 45^0C.

At present, there are 12 completed structures, either reservoirs or weirs, in Bhadar catchment.

There is only one monitoring station for gauge-discharge and sediment load analysis in this basin, which is near the mouth of river in plains of Rajkot district at Ganod. A brief about the station is given in section- 4.4.1

4.4.1. Bhadar at Ganod

The station has a Catchment area of 6,266 sq km. The Bhadar river is in dry condition during water year 2012-13. Annual sediment yield over the period of observations is given in **Fig-21**. It is seen from the analysis that sediment yield does not follow any definite trend over the years though increasingly lower values are observed since 2007-08. It is seen from **Fig-22** that fairly strong positive correlation exists between annual yield and annual runoff.



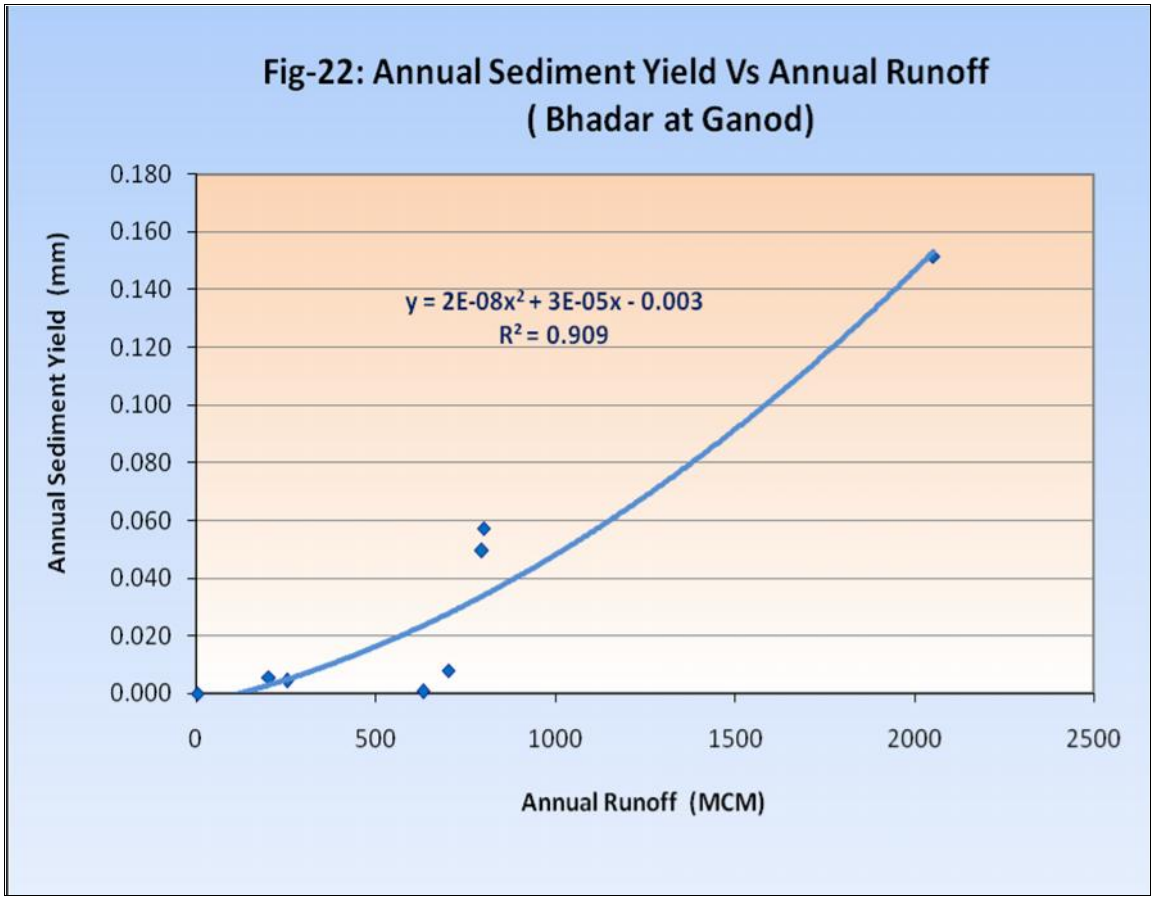
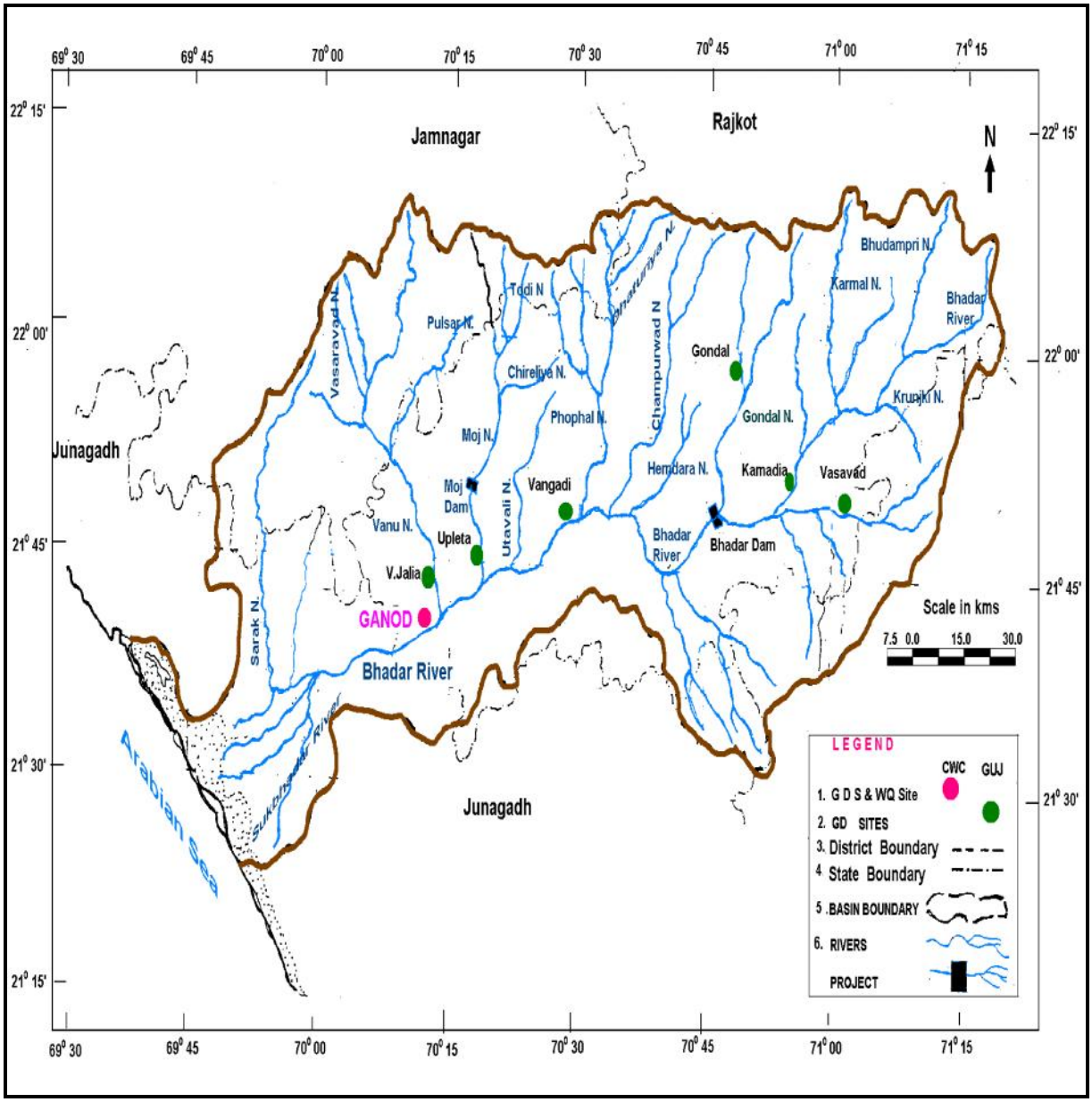


Fig-22: Annual Sediment Yield Vs Annual Runoff
(Bhadar at Ganod)
Annual Sediment Yield (mm)
0.180
0.160
0.140
0.120
0.100
0.080
0.060
0.040
0.020
0.000
y = 2E-08x² + 3E-05x - 0.003
R² = 0.909
0
500
1000
1500
2000
2500
Annual Runoff (MCM)

Plate – 4.4 Bhadar Basin



HISTORY SHEET

		Water Year	**: 2012-2013**
Site	**: Bhadar at Ganod**	**Code**	**: 01 02 07 001**
State	: Gujarat	District	Rajkot
Basin	: WFR of Kach.-Saur. & Luni	Independent River	: Bhadar
Tributary	: Bhadar	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Bhadar
Division	: Mahi Division, Gandhinagar	Sub-Division	: Sabarmati , Ahmedabad
Drainage Area	: 6266 Sq. Km.	Bank	: Right
Latitude	: 21°39'53" N	Longitude	: 70°10'52" E
Zero of Gauge (m)	: 26 (m.s.l)	14/11/1970	-
	Opening Date	Closing Date	
Gauge	: 14/11/1970		
Discharge	: 14/11/1970		
Sediment	: 07/07/1973		
Water Quality	: 01/07/1977		

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Bhadar at Ganod (01 02 07 001) **Division : Mahi Division, Gandhinagar**

Local River : Bhadar **Sub-Division : Sabarmati Sub Divn., Ahmedabad**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000						0.000						0.000					
2	0.000						0.000						0.000					
3	0.000						0.000						0.000					
4	0.000						0.000						0.000					
5	0.000						0.000						0.000					
6	0.000						0.000						0.000					
7	0.000						0.000						0.000					
8	0.000						0.000						0.000					
9	0.000						0.000						0.000					
10	0.000						0.000						0.000					
11	0.000						0.000						0.000					
12	0.000						0.000						0.000					
13	0.000						0.000						0.000					
14	0.000						0.000						0.000					
15	0.000						0.000						0.000					
16	0.000						0.000						0.000					
17	0.000						0.000						0.000					
18	0.000						0.000						0.000					
19	0.000						0.000						0.000					
20	0.000						0.000						0.000					
21	0.000						0.000						0.000					
22	0.000						0.000						0.000					
23	0.000						0.000						0.000					
24	0.000						0.000						0.000					
25	0.000						0.000						0.000					
26	0.000						0.000						0.000					
27	0.000						0.000						0.000					
28	0.000						0.000						0.000					
29	0.000						0.000						0.000					
30	0.000						0.000						0.000					
31							0.000						0.000					
Ten Daily Mean																		
Ten Daily I	0.000						0.000						0.000					
Ten Daily II	0.000						0.000						0.000					
Ten Daily III	0.000						0.000						0.000					
Monthly Total																		

Annual Sediment Load (Metric Tonnes) : 0

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Bhadar at Ganod (01 02 07 001) **Division : Mahi Division, Gandhinagar**

Local River : Bhadar **Sub-Division : Sabarmati Sub Divn., Ahmedabad**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000						0.000						0.000					
2	0.000						0.000						0.000					
3	0.000						0.000						0.000					
4	0.000						0.000						0.000					
5	0.000						0.000						0.000					
6	0.000						0.000						0.000					
7	0.000						0.000						0.000					
8	0.000						0.000						0.000					
9	0.000						0.000						0.000					
10	0.000						0.000						0.000					
11	0.000						0.000						0.000					
12	0.000						0.000						0.000					
13	0.000						0.000						0.000					
14	0.000						0.000						0.000					
15	0.000						0.000						0.000					
16	0.000						0.000						0.000					
17	0.000						0.000						0.000					
18	0.000						0.000						0.000					
19	0.000						0.000						0.000					
20	0.000						0.000						0.000					
21	0.000						0.000						0.000					
22	0.000						0.000						0.000					
23	0.000						0.000						0.000					
24	0.000						0.000						0.000					
25	0.000						0.000						0.000					
26	0.000						0.000						0.000					
27	0.000						0.000						0.000					
28	0.000						0.000						0.000					
29	0.000						0.000						0.000					
30	0.000						0.000						0.000					
31							0.000											
Ten Daily Mean																		
Ten Daily I	0.000						0.000						0.000					
Ten Daily II	0.000						0.000						0.000					
Ten Daily III	0.000						0.000						0.000					
Monthly Total																		

Annual Sediment Load (Metric Tonnes) : 0

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Bhadar at Ganod (01 02 07 001) **Division : Mahi Division, Gandhinagar**

Local River : Bhadar **Sub-Division : Sabarmati Sub Divn., Ahmedabad**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000						0.000						0.000					
2	0.000						0.000						0.000					
3	0.000						0.000						0.000					
4	0.000						0.000						0.000					
5	0.000						0.000						0.000					
6	0.000						0.000						0.000					
7	0.000						0.000						0.000					
8	0.000						0.000						0.000					
9	0.000						0.000						0.000					
10	0.000						0.000						0.000					
11	0.000						0.000						0.000					
12	0.000						0.000						0.000					
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14	0.000						0.000						0.000					
15	0.000						0.000						0.000					
16	0.000						0.000						0.000					
17	0.000						0.000						0.000					
18	0.000						0.000						0.000					
19	0.000						0.000						0.000					
20	0.000						0.000						0.000					
21	0.000						0.000						0.000					
22	0.000						0.000						0.000					
23	0.000						0.000						0.000					
24	0.000						0.000						0.000					
25	0.000						0.000						0.000					
26	0.000						0.000						0.000					
27	0.000						0.000						0.000					
28	0.000						0.000						0.000					
29	0.000						0.000											
30	0.000						0.000											
31	0.000						0.000											
Ten Daily Mean																		
Ten Daily I	0.000						0.000						0.000					
Ten Daily II	0.000						0.000						0.000					
Ten Daily III	0.000						0.000						0.000					
Monthly Total																		

Annual Sediment Load (Metric Tonnes) : 0

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Bhadar at Ganod (01 02 07 001) **Division : Mahi Division, Gandhinagar**

Local River : Bhadar **Sub-Division : Sabarmati Sub Divn., Ahmedabad**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000						0.000						0.000					
2	0.000						0.000						0.000					
3	0.000						0.000						0.000					
4	0.000						0.000						0.000					
5	0.000						0.000						0.000					
6	0.000						0.000						0.000					
7	0.000						0.000						0.000					
8	0.000						0.000						0.000					
9	0.000						0.000						0.000					
10	0.000						0.000						0.000					
11	0.000						0.000						0.000					
12	0.000						0.000						0.000					
13	0.000						0.000						0.000					
14	0.000						0.000						0.000					
15	0.000						0.000						0.000					
16	0.000						0.000						0.000					
17	0.000						0.000						0.000					
18	0.000						0.000						0.000					
19	0.000						0.000						0.000					
20	0.000						0.000						0.000					
21	0.000						0.000						0.000					
22	0.000						0.000						0.000					
23	0.000						0.000						0.000					
24	0.000						0.000						0.000					
25	0.000						0.000						0.000					
26	0.000						0.000						0.000					
27	0.000						0.000						0.000					
28	0.000						0.000						0.000					
29	0.000						0.000						0.000					
30	0.000						0.000						0.000					
31	0.000												0.000					
Ten Daily Mean																		
Ten Daily I	0.000						0.000						0.000					
Ten Daily II	0.000						0.000						0.000					
Ten Daily III	0.000						0.000						0.000					
Monthly Total																		

Annual Sediment Load (Metric Tonnes) : 0

Annual Sediment Load for period : 2005-2013

Station Name : Bhadar at Ganod (01 02 07 001) **Division : Mahi Division, Gandhinagar**

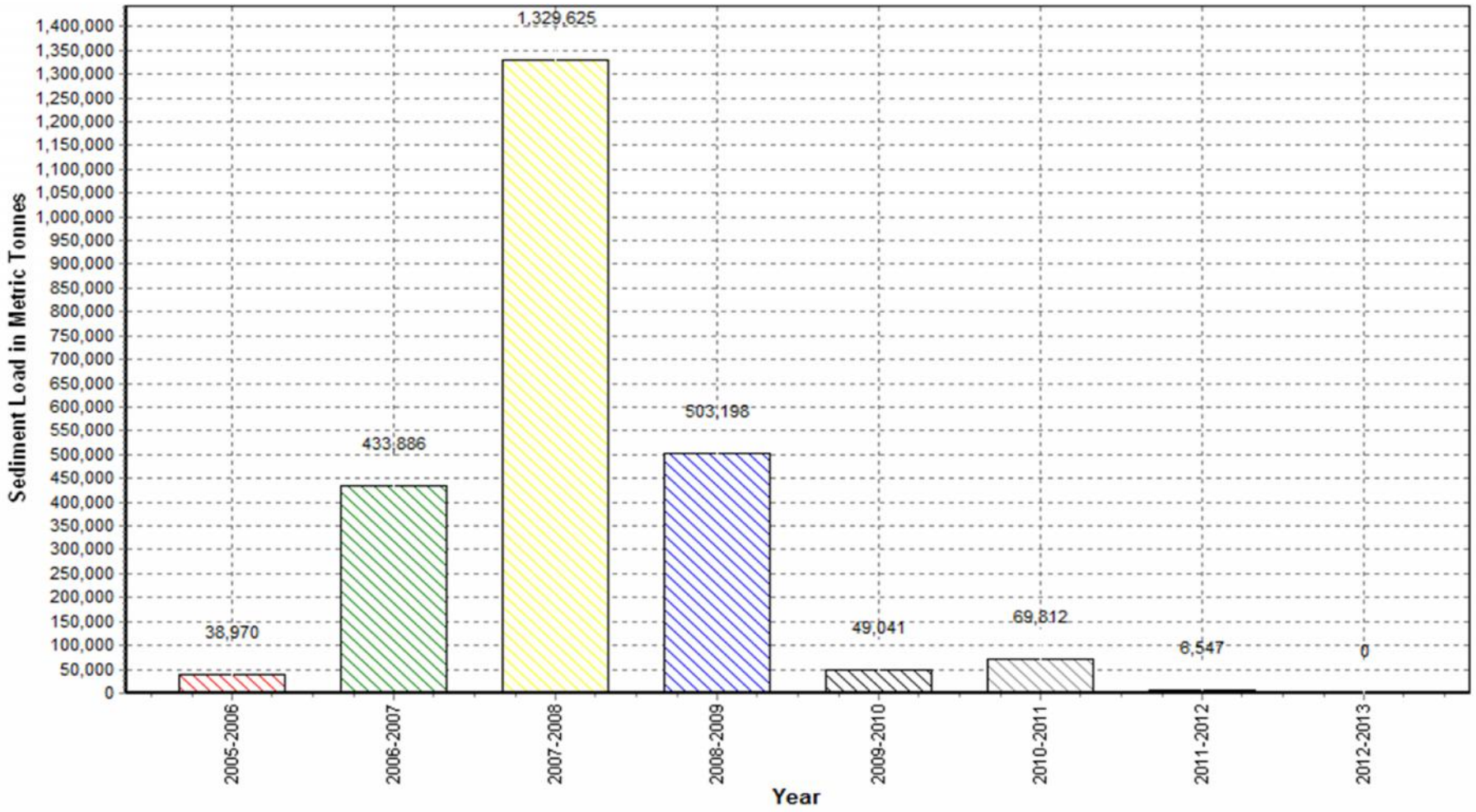
Local River : Bhadar **Sub-Division : Sabarmati Sub Divn., Ahmedabad**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)	Annual Sediment yield in mm
2005-2006	38970	0	38970	252	0.0044
2006-2007	433886	0	433886	795	0.0495
2007-2008	1329625	0	1329625	2052	0.1516
2008-2009	502740	459	503198	800	0.0574
2009-2010	48969	71	49041	201	0.0056
2010-2011	69812	0	69812	703	0.0080
2011-2012	6547	0	6547	632	0.0007
2012-2013	0	0	0	0	0.0000

Annual Sediment Load for the period: 2005-2013

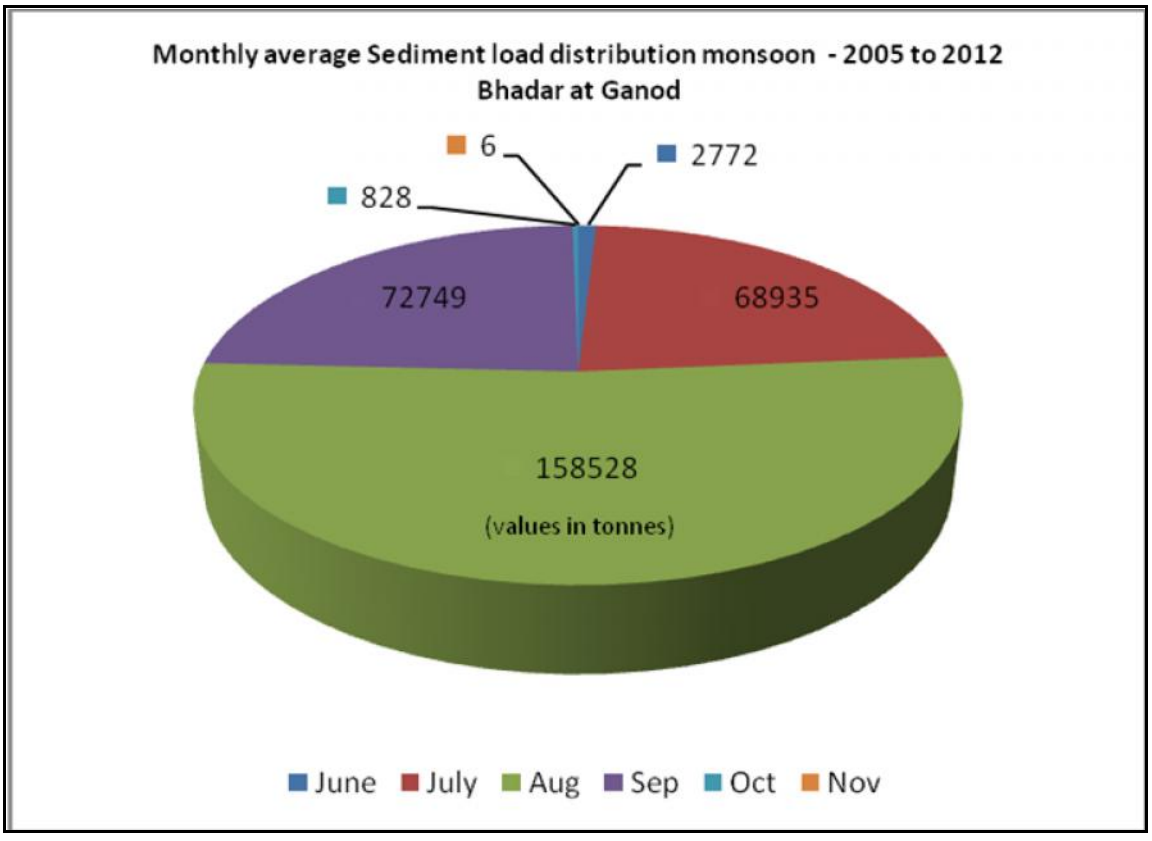
Station Name : Bhadar at Ganod (01 02 07 001) **Division : Mahi Division, Gandhinagar**

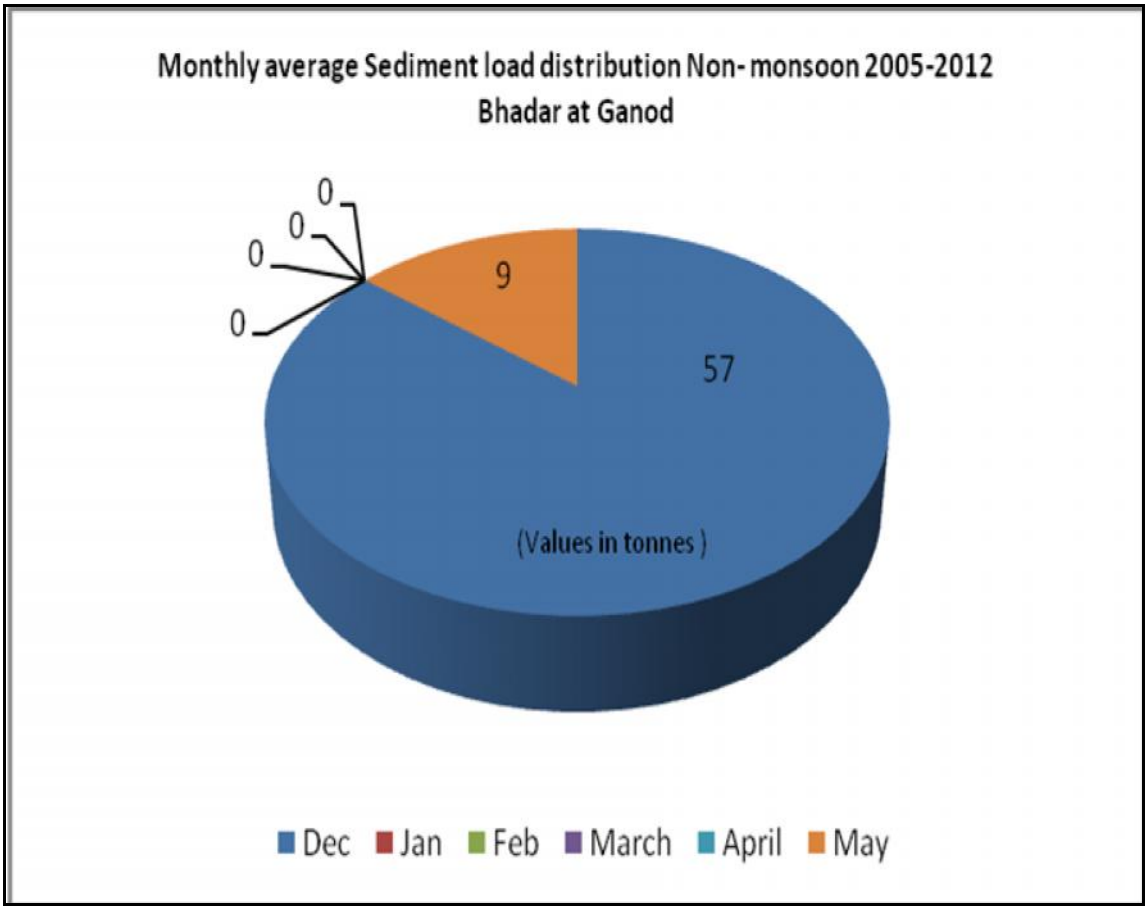
Local River : Bhadar **Sub-Division : Sabarmati Sub Divn., Ahmedabad**



Monthy Distribution of Sediment load during monsoon 2012-13
Bhadar at Ganod No sediment was observed in any month

Monthy Distribution of Sediment load during Non- monsoon 2012-13
Bhadar at Ganod No sediment was observed in any month




Monthly average Sediment load distribution Non- monsoon 2005-2012
Bhadar at Ganod
0
0
0
0
9
57
(Values in tonnes)
Dec
Jan
Feb
March
April
May

4.5 Shetrunji Basin

The Shetrunji is one of the major rivers of Saurashtra. It rises at Chachai hills in Gir Forest of Junagadh district of Gujarat at an elevation of 380 m above mean sea level. It flows towards east direction and empties into the gulf of Cambay. The total length of this east flowing river from its origin to the outfall is 182 km. The river drains an area of 5514 sq.km. The basin is situated approximately between east longitudes of 700 50' and 72^0 10' and between north latitudes of 21^0 00' and 21^0 47'.

The Shetrunji receives several tributaries on both the banks. There are 9 tributaries having length more than 15 km. Out of which Safara, Shel, Kharai and Talaji are four tributaries on the right bank and remaining five tributaries viz. Stali, Thebu, Gagadia, Rajawal and Kharo are on the left bank. The drainage system on left bank of Shetrunji is more extensive as compared to the right bank area.

The average rainfall in the Shetrunji basin is 604 mm. In winter, the minimum temperature varies form 60C to 180C.

At present, there are 16 completed irrigation schemes. "Shetrunji Irrigation Scheme" is a major project and remaining 15 projects are medium irrigation schemes.

The only one monitoring station for sediment analysis is selected at Luwara. A brief about the station is given in section- 4.5.1

4.5.1 Shetrunji at Lowara

The station has a Catchment area of 3,953 sq km. The sediment rating curve at the site is given in **Fig-23**. The maximum sediment concentration of 1.305 g/l was observed on 02.09.2012. The total sediment load during the year is 49,085 metric tonnes. The monsoon load constitutes 100 % of the total load. The annual sediment yield over the catchment during water year 2012-13 is 0.0089 mm. Annual sediment yield over the period of observations is given in **Fig-24**. It is seen from the analysis that sediment yield does not follow any trend over the years. It is seen from **Fig-25** that fairly strong positive correlation exists between annual yield and annual runoff.

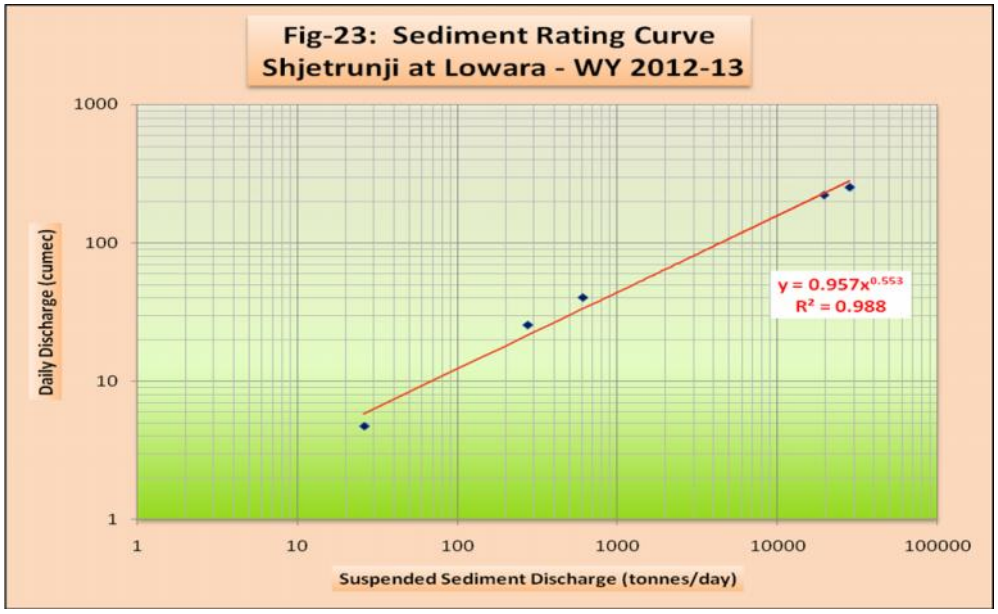


Fig-23: Sediment Rating Curve
Shjetrunji at Lowara - WY 2012-13
Daily Discharge (cumec)
1000
100
10
1
1
10
100
1000
10000
100000
Suspended Sediment Discharge (tonnes/day)
y = 0.957x^0.553
R² = 0.988

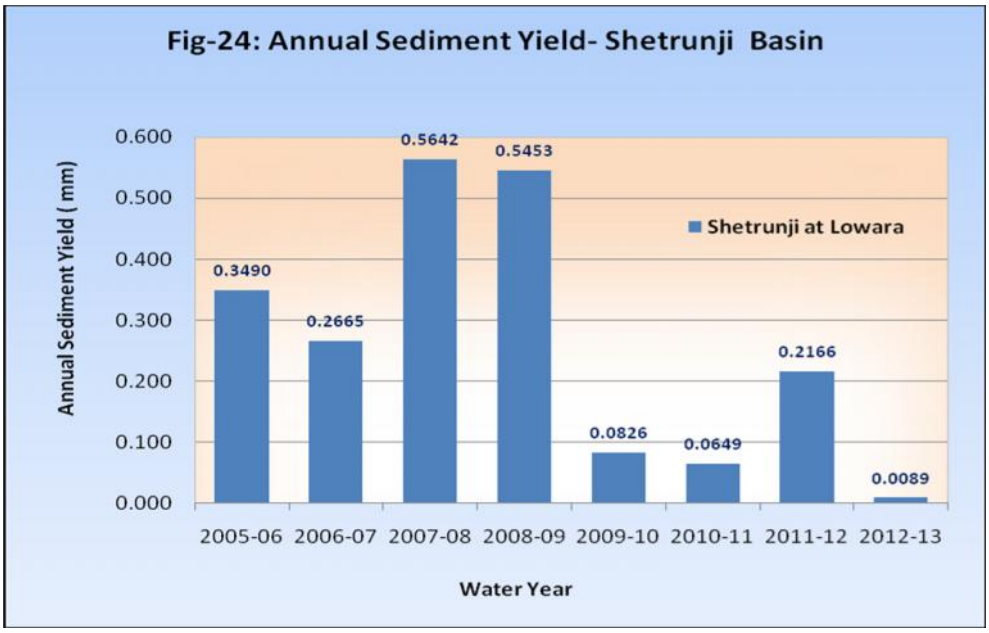


Fig-24: Annual Sediment Yield- Shetrunji Basin
Annual Sediment Yield (mm)
0.600
0.500
0.400
0.300
0.200
0.100
0.000
0.3490
0.2665
0.5642
0.5453
0.0826
0.0649
0.2166
0.0089
Shetrunji at Lowara
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
Water Year

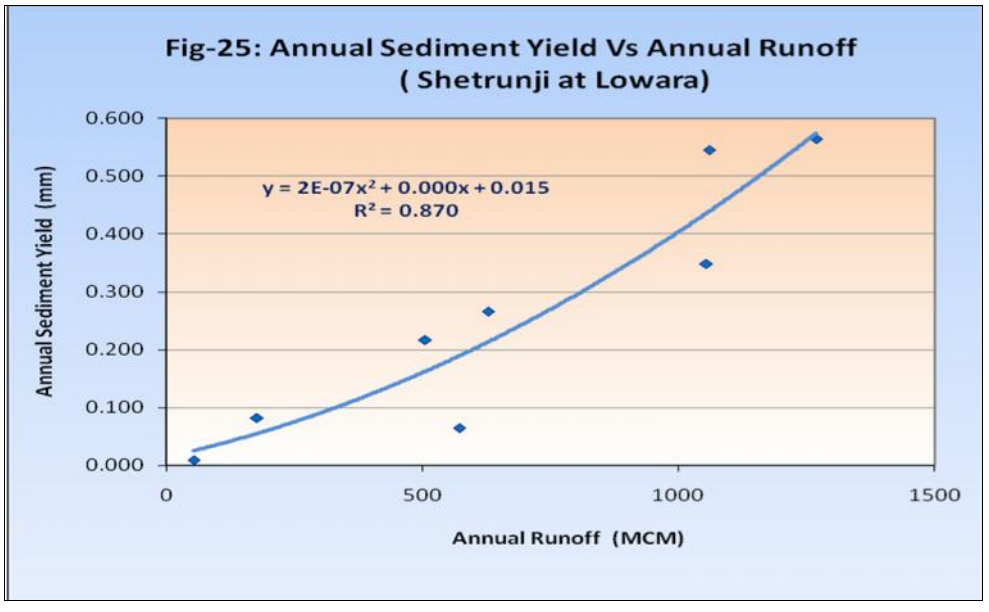
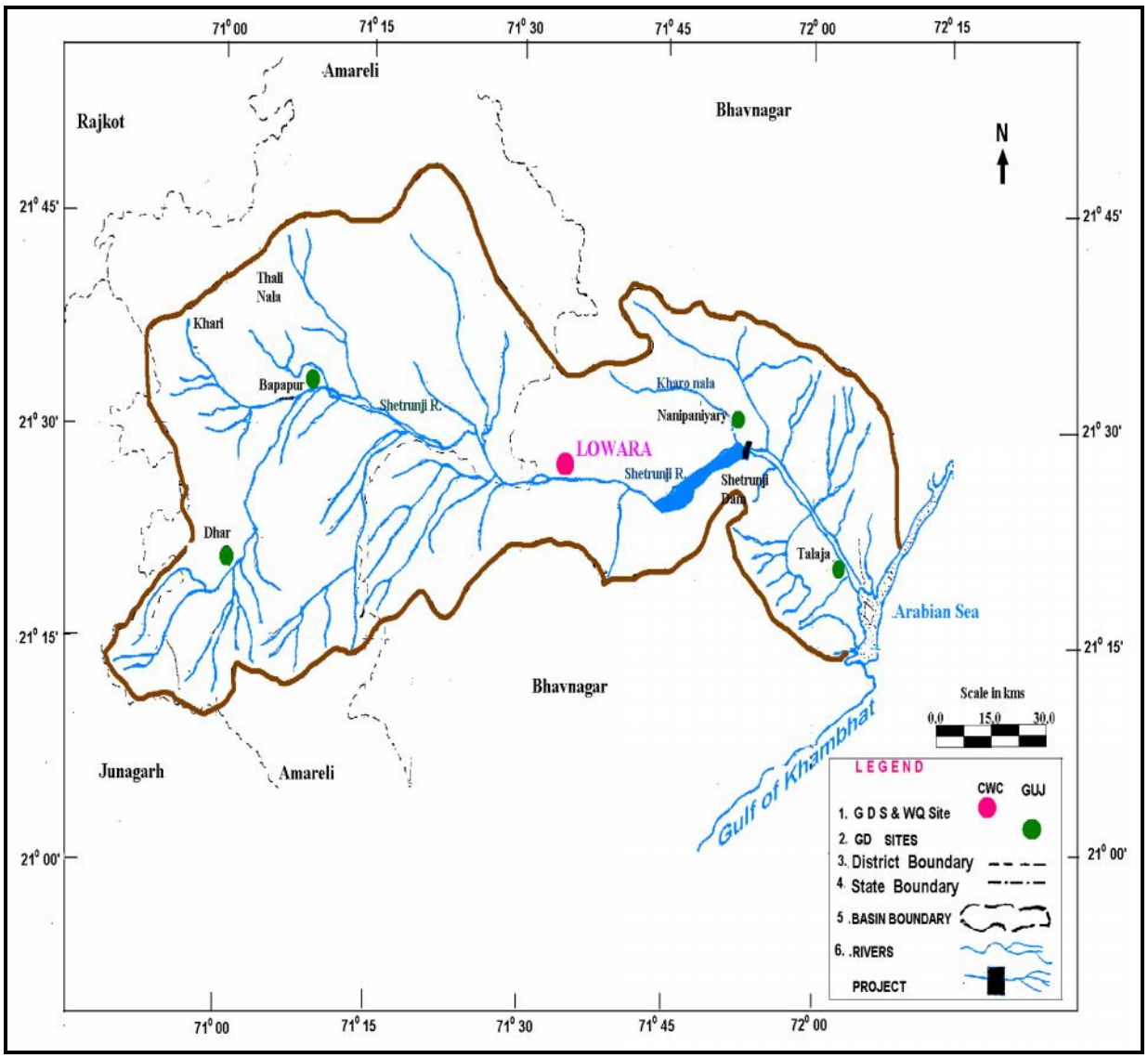


Fig-25: Annual Sediment Yield Vs Annual Runoff
(Shetrunji at Lowara)
Annual Sediment Yield (mm)
0.600
0.500
0.400
0.300
0.200
0.100
0.000
y = 2E-07x² + 0.000x + 0.015
R² = 0.870
0
500
1000
1500
Annual Runoff (MCM)

Plate – 4.5 Shetrunji Basin



HISTORY SHEET

		Water Year	**: 2012-2013**
Site	**: Shetrunji at Lowara**	**Code**	**: 01 02 09 001**
State	: Gujarat	District	Bhavnagar
Basin	: WFR of Kach.-Saur. & Luni	Independent River	: Shetrunji
Tributary	: Shetrunji	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Shetrunji
Division	: Mahi Division, Gandhinagar	Sub-Division	: Sabarmati, Ahmedabad
Drainage Area	: 3953 Sq. Km.	Bank	: Left
Latitude	: 21°26'36" N	Longitude	: 71°33'42" E
Zero of Gauge (m)	: 56 (m.s.l)	01/02/1991	-

	Opening Date	Closing Date
Gauge	: 29/11/1970	
Discharge	: 29/11/1970	
Sediment	: 25/07/1973	
Water Quality	: 01/07/1977	

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Shetrunji at Lowara (01 02 09 001) **Division : Mahi Division, Gandhinagar**

Local River : Shetrunji **Sub-Division : Sabarmati Sub Divn., Ahmedabad**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000						0.000						0.000					
2	0.000						0.000						0.000					
3	0.000						0.000						0.000					
4	0.000						0.000						0.000					
5	0.000						0.000						0.000					
6	0.000						0.000						0.000					
7	0.000						0.000						0.000					
8	0.000						0.000						0.000					
9	0.000						0.000						0.000					
10	0.000						0.000						0.000					
11	0.000						0.000						0.000					
12	0.000						0.000						0.000					
13	0.000						0.000						0.000					
14	0.000						0.000						0.000					
15	0.000						0.000						0.000					
16	0.000						0.000						0.000					
17	0.000						0.000						0.000					
18	0.000						0.000						0.000					
19	0.000						0.000						0.000					
20	0.000						0.000						0.000					
21	0.000						0.000						0.000					
22	0.000						0.000						0.000					
23	0.000						0.000						0.000					
24	0.000						0.000						0.000					
25	0.000						0.000						0.000					
26	0.000						0.000						0.000					
27	0.000						0.000						0.000					
28	0.000						0.000						0.000					
29	0.000						0.000						0.000					
30	22.22	0.000	0.000	0.000	0.000	0	0.000						0.000					
31							0.000						0.000					
Ten Daily Mean																		
Ten Daily I	0.000						0.000						0.000					
Ten Daily II	0.000						0.000						0.000					
Ten Daily III	4.444	0.000	0.000	0.000	0.000	0	0.000						0.000					
Monthly																		
Total						0												

Annual Sediment Load (Metric Tonnes) : 49085

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Shetrunji at Lowara (01 02 09 001) **Division : Mahi Division, Gandhinagar**

Local River : Shetrunji **Sub-Division : Sabarmati Sub Divn., Ahmedabad**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.460	0.000	0.000	0.000	0.000	0	0.000						0.000					
2	250.4	0.090	0.225	0.990	1.305	28231	0.000						0.000					
3	220.0	0.075	0.125	0.825	1.025	19481	0.000						0.000					
4	25.34	0.000	0.000	0.125	0.125	274	0.000						0.000					
5	40.01	0.000	0.000	0.175	0.175	605	0.000						0.000					
6	4.712	0.000	0.000	0.064	0.064	26	0.000						0.000					
7	1.740	0.000	0.000	0.000	0.000	0	0.000						0.000					
8	1.352	0.000	0.000	0.000	0.000	0	0.000						0.000					
9	1.460	0.000	0.000	0.000	0.000	0	0.000						0.000					
10	0.970	0.000	0.000	0.000	0.000	0	0.000						0.000					
11	1.910	0.000	0.000	0.000	0.000	0	0.000						0.000					
12	0.830	0.000	0.000	0.000	0.000	0	0.000						0.000					
13	0.360	0.000	0.000	0.000	0.000	0	0.000						0.000					
14	0.000						0.000						0.000					
15	0.000						0.000						0.000					
16	0.000						0.000						0.000					
17	0.000						0.000						0.000					
18	0.000						0.000						0.000					
19	0.000						0.000						0.000					
20	0.000						0.000						0.000					
21	0.000						0.000						0.000					
22	0.000						0.000						0.000					
23	13.43	0.000	0.000	0.000	0.000	0	0.000						0.000					
24	31.77	0.000	0.000	0.163	0.163	447	0.000						0.000					
25	2.719	0.000	0.000	0.089	0.089	21	0.000						0.000					
26	1.346	0.000	0.000	0.000	0.000	0	0.000						0.000					
27	1.864	0.000	0.000	0.000	0.000	0	0.000						0.000					
28	0.964	0.000	0.000	0.000	0.000	0	0.000						0.000					
29	0.600	0.000	0.000	0.000	0.000	0	0.000						0.000					
30	0.130	0.000	0.000	0.000	0.000	0	0.000						0.000					
31							0.000											
Ten Daily Mean																		
Ten Daily I	54.64	0.017	0.035	0.218	0.269	4862	0.000						0.000					
Ten Daily II	0.310	0.000	0.000	0.000	0.000	0	0.000						0.000					
Ten Daily III	5.282	0.000	0.000	0.025	0.025	47	0.000						0.000					
Monthly Total						49085												

Annual Sediment Load (Metric Tonnes) : 49085

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Shetrunji at Lowara (01 02 09 001) **Division : Mahi Division, Gandhinagar**

Local River : Shetrunji **Sub-Division : Sabarmati Sub Divn., Ahmedabad**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000						0.000						0.000					
2	0.000						0.000						0.000					
3	0.000						0.000						0.000					
4	0.000						0.000						0.000					
5	0.000						0.000						0.000					
6	0.000						0.000						0.000					
7	0.000						0.000						0.000					
8	0.000						0.000						0.000					
9	0.000						0.000						0.000					
10	0.000						0.000						0.000					
11	0.000						0.000						0.000					
12	0.000						0.000						0.000					
13	0.000						0.000						0.000					
14	0.000						0.000						0.000					
15	0.000						0.000						0.000					
16	0.000						0.000						0.000					
17	0.000						0.000						0.000					
18	0.000						0.000						0.000					
19	0.000						0.000						0.000					
20	0.000						0.000						0.000					
21	0.000						0.000						0.000					
22	0.000						0.000						0.000					
23	0.000						0.000						0.000					
24	0.000						0.000						0.000					
25	0.000						0.000						0.000					
26	0.000						0.000						0.000					
27	0.000						0.000						0.000					
28	0.000						0.000											
29	0.000						0.000											
30	0.000						0.000											
31	0.000						0.000											
Ten Daily Mean																		
Ten Daily I	0.000																	
Ten Daily II	0.000																	
Ten Daily III	0.000																	
Monthly Total																		

Annual Sediment Load (Metric Tonnes) : 49085

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Shetrunji at Lowara (01 02 09 001) **Division : Mahi Division, Gandhinagar**

Local River : Shetrunji **Sub-Division : Sabarmati Sub Divn., Ahmedabad**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000						0.000						0.000					
2	0.000						0.000						0.000					
3	0.000						0.000						0.000					
4	0.000						0.000						0.000					
5	0.000						0.000						0.000					
6	0.000						0.000						0.000					
7	0.000						0.000						0.000					
8	0.000						0.000						0.000					
9	0.000						0.000						0.000					
10	0.000						0.000						0.000					
11	0.000						0.000						0.000					
12	0.000						0.000						0.000					
13	0.000						0.000						0.000					
14	0.000						0.000						0.000					
15	0.000						0.000						0.000					
16	0.000						0.000						0.000					
17	0.000						0.000						0.000					
18	0.000						0.000						0.000					
19	0.000						0.000						0.000					
20	0.000						0.000						0.000					
21	0.000						0.000						0.000					
22	0.000						0.000						0.000					
23	0.000						0.000						0.000					
24	0.000						0.000						0.000					
25	0.000						0.000						0.000					
26	0.000						0.000						0.000					
27	0.000						0.000						0.000					
28	0.000						0.000						0.000					
29	0.000						0.000						0.000					
30	0.000						0.000						0.000					
31	0.000												0.000					
Ten Daily Mean																		
Ten Daily I																		
Ten Daily II																		
Ten Daily III																		
Monthly Total																		

Annual Sediment Load (Metric Tonnes) : 49085

Annual Sediment Load for period : 2005-2013

Station Name : Shetrunji at Lowara (01 02 09 001) **Division : Mahi Division, Gandhinagar**

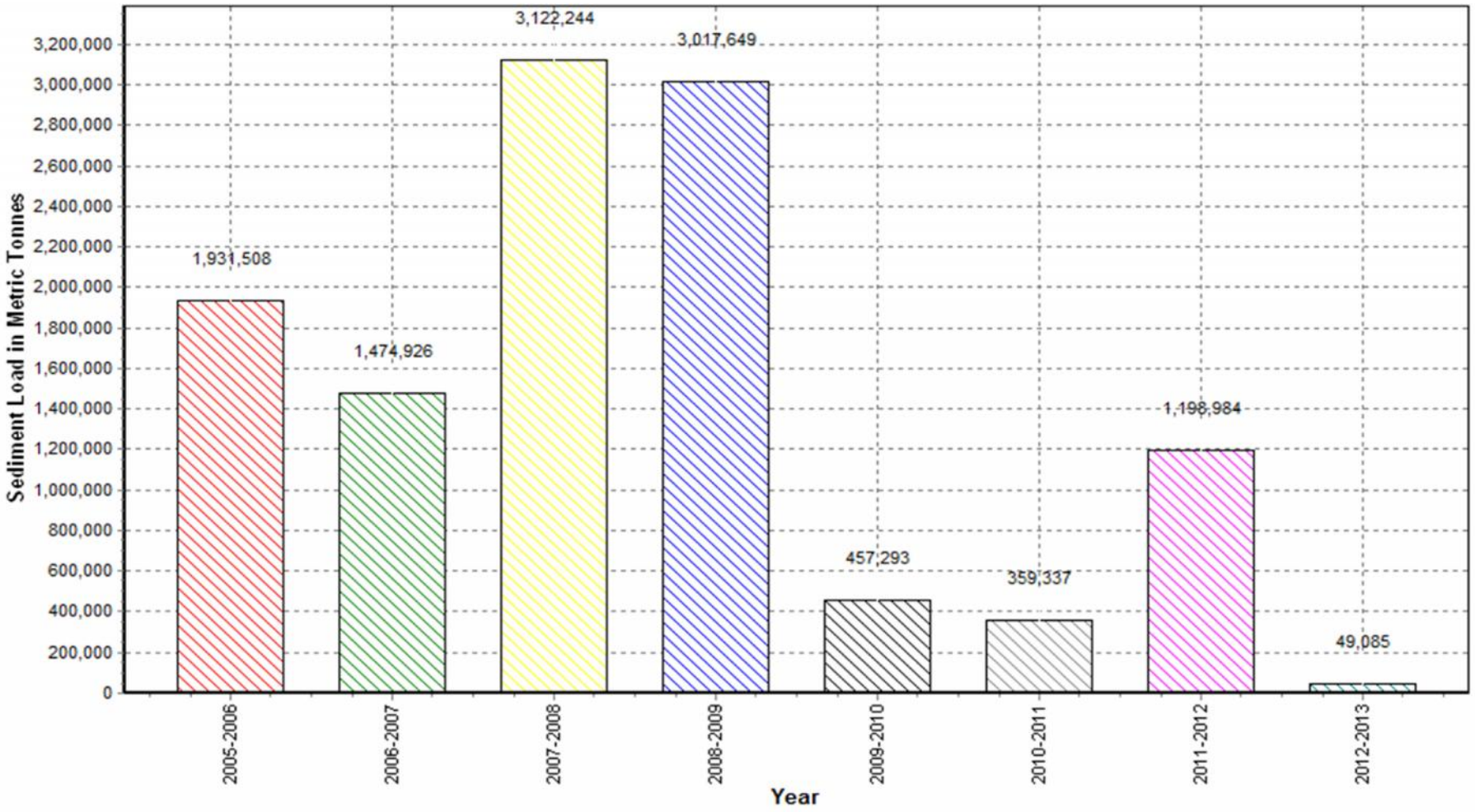
Local River : Shetrunji **Sub-Division : Sabarmati Sub Divn., Ahmedabad**

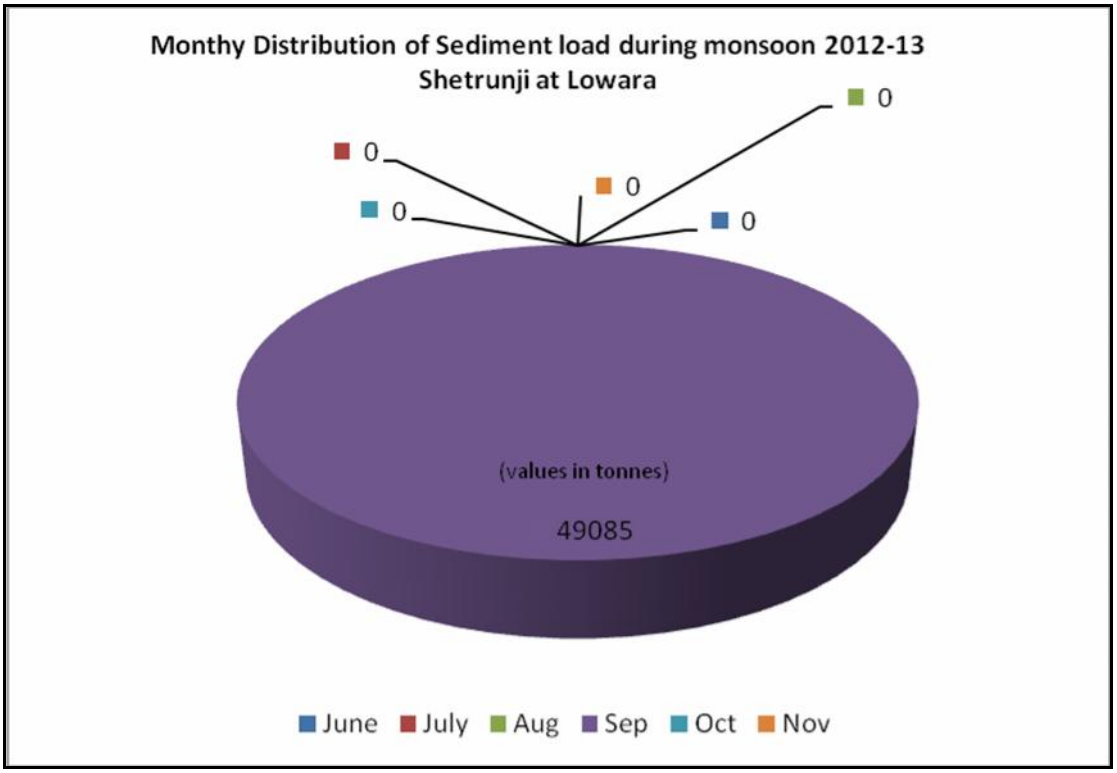
Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)	Annual Sediment yield in mm
2005-2006	1931508	0	1931508	1055	0.3490
2006-2007	1474926	0	1474926	629	0.2665
2007-2008	3122244	0	3122244	1269	0.5642
2008-2009	3017649	0	3017649	1061	0.5453
2009-2010	457293	0	457293	177	0.0826
2010-2011	359337	0	359337	572	0.0649
2011-2012	1198984	0	1198984	506	0.2166
2012-2013	49085	0	49085	54	0.0089

Annual Sediment Load for the period: 2005-2013

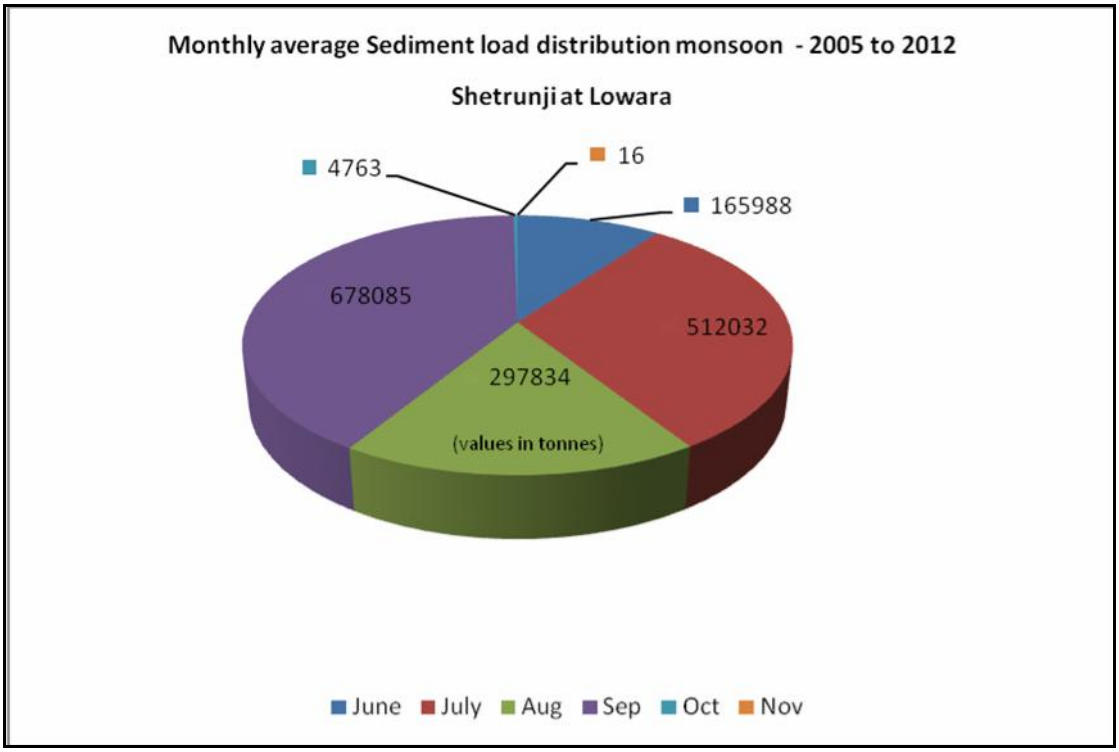
Station Name : Shetrunji at Lowara (01 02 09 001) **Division : Mahi Division, Gandhinagar**

Local River : Shetrunji **Sub-Division : Sabarmati Sub Divn., Ahmedabad**





Monthy Distribution of Sediment load during Non- monsoon 2012-13
Shetruniji at Lowara No sediment was observed in any month



Monthly average Sediment load distribution Non- monsoon 2005-2012
Shetruniji at Lowara No sediment was observed in any month

4.6 Sabarmati Basin

The Sabarmati is one of the major west flowing interstate rivers in India. It originates in the foothills of Aravalli range at an elevation of 762 m above mean sea level. It traverses a length of 371 km in southwest direction. It flows initially in Rajasthan for about 48 km and enters Gujarat where it flows for 323 km to join Gulf of Cambay in the Arabian sea. The river drains an area of 21,674 sq.km. The basin is triangular in shape with the main river as the base and Watrak as the apex point. The basin lies in between 72^0 20' and 73^0 30' east longitudes and 20^0 and 25^0 north latitudes

The important tributaries are Sai, Wakal, Harnav, Hathmati and Watrak. The left bank tributary Wakal joins the river at 51 km of its run from the origin. It receives the Sai, a major right bank tributary near Mahuri and then Harnav on the left bank at about 103 km. Below this confluence, the Sabarmati flows through the Dharoi gorge. Emerging from the gorge, it passes through the plains. Two major tributaries viz. Hathmati and Watrak joins on the left bank of main stream at a distance of 170 km and 235 km respectively from the origin

The average annual rainfall in the Sabarmati basin is about 787 mm. The climate varies widely. In winter, the minimum temperature generally varies from 9^0C to 14^0C. However, lower temperatures have also been recorded in several areas. The maximum temperature in the basin varies from 40^0C to 48^0C.

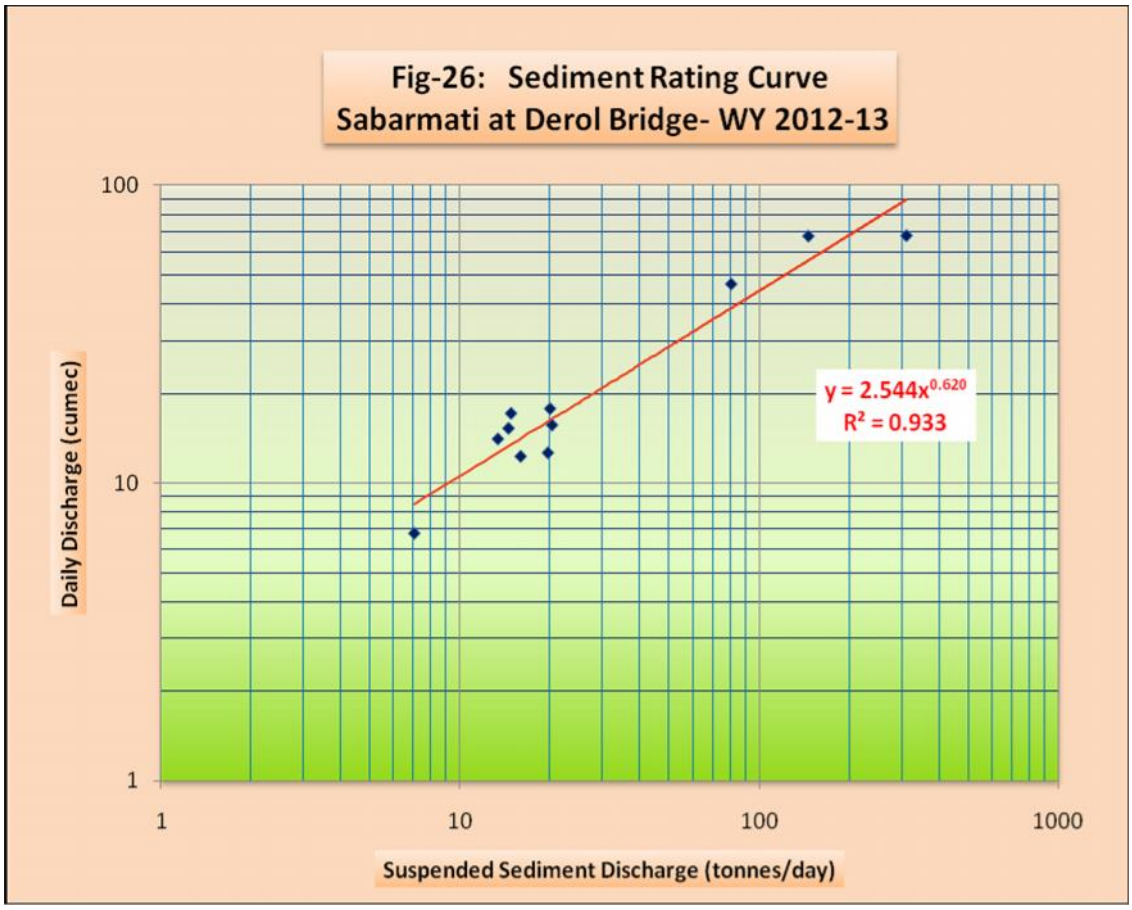
At present, there are 13 major/medium irrigation schemes. However, Dharoi Dam and Watrak project have 80 percent of the storage capacity of all the projects of the basin.

Dharoi Dam is located at Dharoi village, which is about 70km from Mehsana. In the Gujarat State the direct benefits of this project are water supply to Ahmedabad city and providing irrigation facilities. There is provision for 1.4 MW hydropower generations also.

There is only one monitoring station on main river Sabarmati for sediment analysis at Derol Bridge in Sabarkantha district. A brief about the station is given in section-4.6.1

4.6.1 Sabarmati at Derol Bridge

The station has a Catchment area of 6,724 sq km. The sediment rating curve at the site is given in **Fig-26**.The maximum sediment concentration of 0.053 g/l was observed on 12.09.2012. The total sediment load during the year is 759 metric tonnes. The monsoon load constitutes 100 % of the total load. The annual sediment yield over the catchment during water year 2012-13 is 0.0001 mm. Annual sediment yield over the period of observations is given in **Fig-27**. It is seen from the analysis that sediment yield does not follow any definite trend though very low values are being observed since the peak occurrence in 2006-07. It is seen from **Fig-28** that very strong positive correlation exists between annual yield and annual runoff.



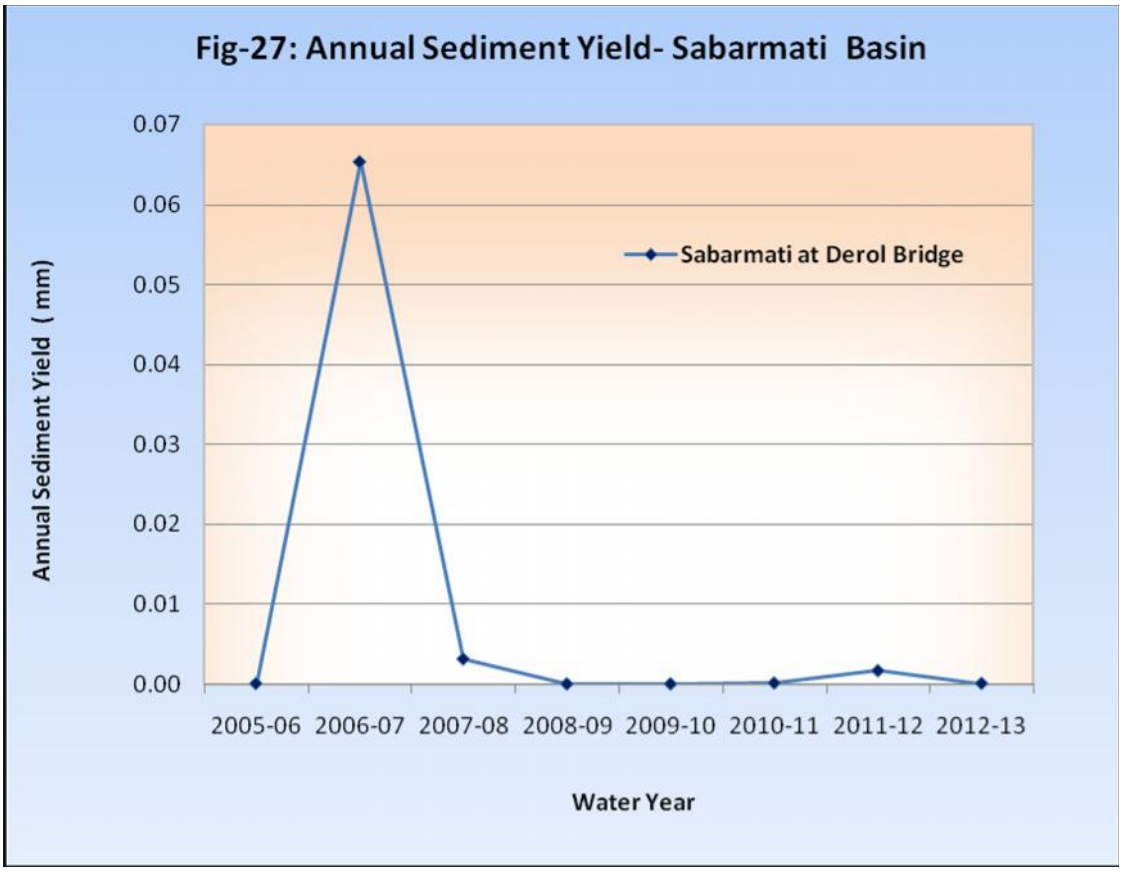


Fig-27: Annual Sediment Yield- Sabarmati Basin
Annual Sediment Yield (mm)
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
Sabarmati at Derol Bridge
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
Water Year

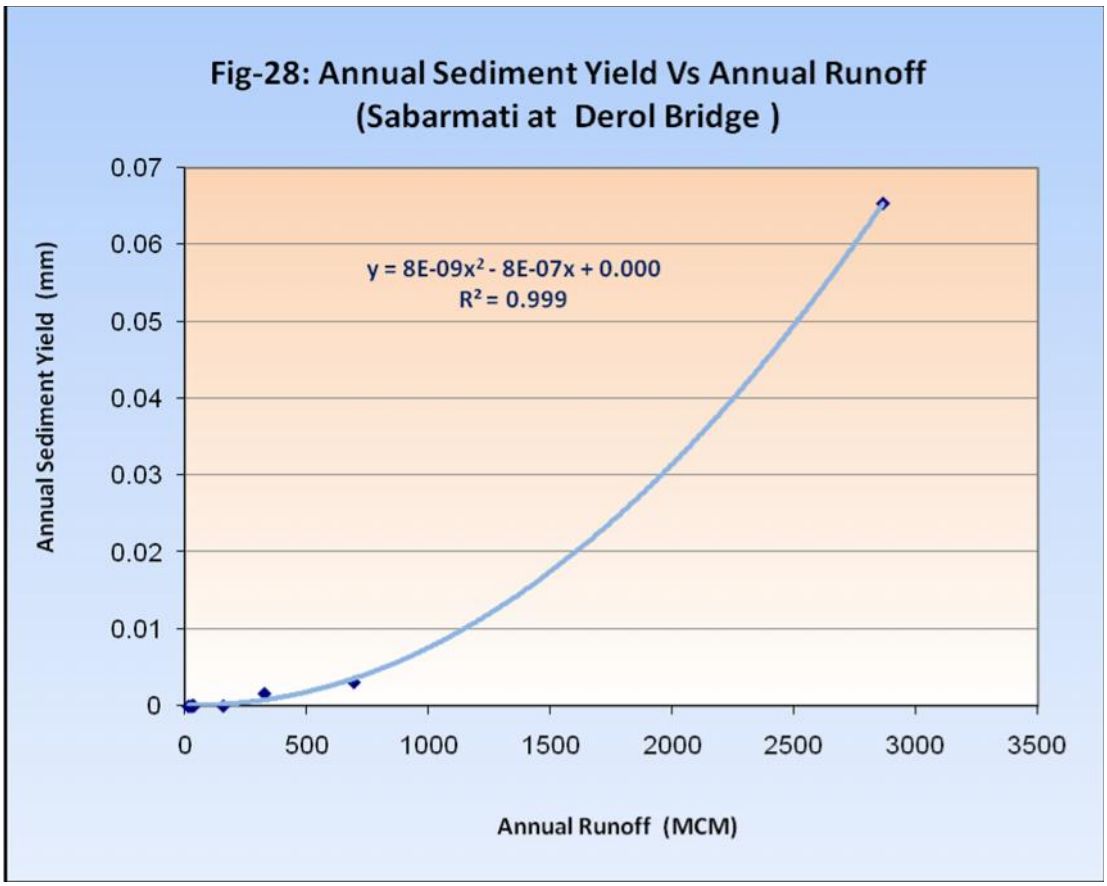
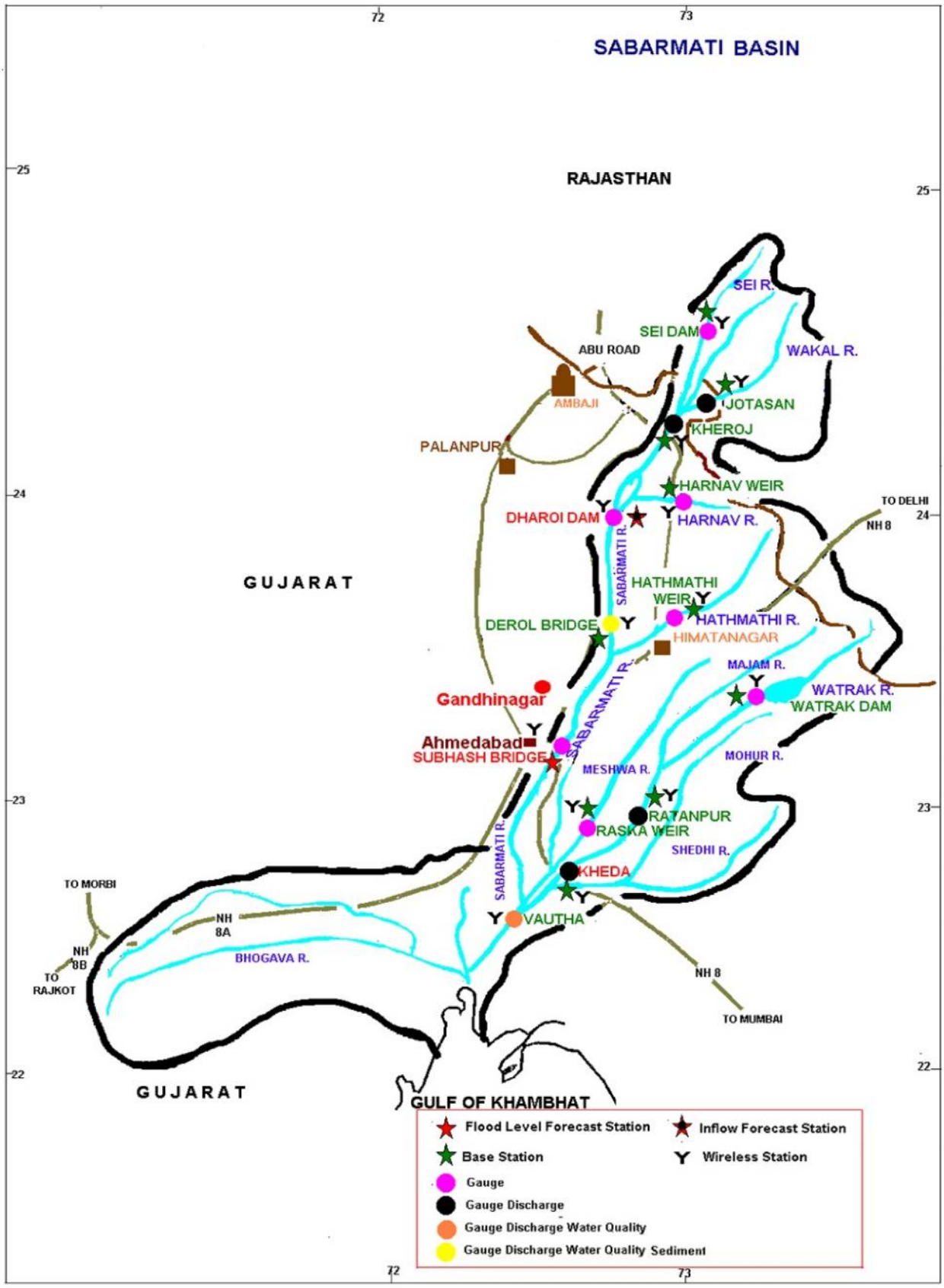


Fig-28: Annual Sediment Yield Vs Annual Runoff
(Sabarmati at Derol Bridge)
Annual Sediment Yield (mm)
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
y = 8E-09x² - 8E-07x + 0.000
R² = 0.999
0
500
1000
1500
2000
2500
3000
3500
Annual Runoff (MCM)

Plate – 4.6 Sabarmati Basin



HISTORY SHEET

		Water Year	**: 2012-2013**
Site	**: Sabarmati at Derol Bridge**	**Code**	**: 01 02 12 006**
State	: Gujarat	District	Sabarkantha
Basin	: Sabarmati	Independent River	: Sabarmati
Tributary	: Sabarmati	Sub Tributary	:
Sub-Sub Tributary	:	Local River	: Sabarmati
Division	: Mahi Division, Gandhinagar	Sub-Division	: N.W.R.S.D., Himatnagar
Drainage Area	: 6724 Sq. Km.	Bank	: Left
Latitude	: 23°34'24" N	Longitude	: 72°48'25" E
Zero of Gauge (m)	: 89 (m.s.l)	19/08/1980	- 31/05/2005
	87 (m.s.l)	01/06/2005	-

	Opening Date	Closing Date
Gauge	: 19/08/1980	
Discharge	: 01/06/1991	
Sediment	: 25/09/1992	
Water Quality	: 15/07/1992	

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Sabarmati at Derol Bridge (01 02 12 006) **Division : Mahi Division, Gandhinagar**

Local River : Sabarmati **Sub-Division : N.W.R.Sub Div., Himatnagar**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000						2.440					
2	0.000						0.000						2.300					
3	0.000						0.000						2.300					
4	0.000						0.000						2.170					
5	0.000						0.000						2.170					
6	0.000						0.000						2.040					
7	0.000						0.000						2.040					
8	0.000						0.000						1.910					
9	0.000						0.000						1.910					
10	0.000						0.000						1.910					
11	0.000						0.000						1.790					
12	0.000						7.700	0.000	0.000	0.000	0.000	0	1.790					
13	0.000						11.91	0.000	0.000	0.014	0.014	14	3.520					
14	0.000						5.598	0.000	0.000	0.014	0.014	7	3.870					
15	0.000						6.500	0.000	0.000	0.000	0.000	0	3.690					
16	0.000						5.400	0.000	0.000	0.000	0.000	0	3.520					
17	0.000						5.000	0.000	0.000	0.000	0.000	0	3.520					
18	0.000						4.800	0.000	0.000	0.000	0.000	0	3.350					
19	0.000						4.040	0.000	0.000	0.000	0.000	0	3.190					
20	0.000						3.500	0.000	0.000	0.000	0.000	0	3.190					
21	0.000						3.350	0.000	0.000	0.000	0.000	0	3.030					
22	0.000						3.190	0.000	0.000	0.000	0.000	0	3.030					
23	0.000						3.190	0.000	0.000	0.000	0.000	0	2.880					
24	0.000						3.030	0.000	0.000	0.000	0.000	0	2.880					
25	0.000						2.880	0.000	0.000	0.000	0.000	0	2.730					
26	0.000						2.880	0.000	0.000	0.000	0.000	0	2.730					
27	0.000						2.880	0.000	0.000	0.000	0.000	0	2.730					
28	0.000						2.730	0.000	0.000	0.000	0.000	0	2.580					
29	0.000						2.580	0.000	0.000	0.000	0.000	0	2.580					
30	0.000						2.300	0.000	0.000	0.000	0.000	0	2.580					
31							2.300	0.000	0.000	0.000	0.000	0	2.580					
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000						2.119					
Ten Daily II	0.000						5.445	0.000	0.000	0.003	0.003	2	3.143					
Ten Daily III	0.000						2.846	0.000	0.000	0.000	0.000	0	2.757					
Monthly																		
Total						0						21						

Annual Sediment Load (Metric Tonnes) : 759

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Sabarmati at Derol Bridge (01 02 12 006) **Division : Mahi Division, Gandhinagar**

Local River : Sabarmati **Sub-Division : N.W.R.Sub Div., Himatnagar**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	2.440						5.273	0.000	0.000	0.000	0.000	0	0.000					
2	2.440						4.943	0.000	0.000	0.000	0.000	0	0.000					
3	2.300						4.729	0.000	0.000	0.000	0.000	0	0.000					
4	2.300						4.014	0.000	0.000	0.000	0.000	0	0.000					
5	2.300						2.523	0.000	0.000	0.000	0.000	0	0.000					
6	4.400						2.483	0.000	0.000	0.000	0.000	0	0.000					
7	12.31	0.000	0.000	0.015	0.015	16	0.000						0.000					
8	67.54	0.000	0.000	0.025	0.025	146	0.000						0.000					
9	46.65	0.000	0.000	0.020	0.020	81	0.000						0.000					
10	17.16	0.000	0.000	0.010	0.010	15	0.000						0.000					
11	15.29	0.000	0.000	0.011	0.011	15	0.000						0.000					
12	67.77	0.000	0.000	0.053	0.053	310	0.000						0.000					
13	17.80	0.000	0.000	0.013	0.013	20	0.000						0.000					
14	12.65	0.000	0.000	0.018	0.018	20	0.000						0.000					
15	11.90	0.000	0.000	0.015	0.015	15	0.000						0.000					
16	14.08	0.000	0.000	0.011	0.011	13	0.000						0.000					
17	6.790	0.000	0.000	0.012	0.012	7	0.000						0.000					
18	6.441	0.000	0.000	0.009	0.009	5	0.000						0.000					
19	4.703	0.000	0.000	0.007	0.007	3	0.000						0.000					
20	4.445	0.000	0.000	0.007	0.007	3	0.000						0.000					
21	4.272	0.000	0.000	0.000	0.000	0	0.000						0.000					
22	6.526	0.000	0.000	0.014	0.014	8	0.000						0.000					
23	6.549	0.000	0.000	0.017	0.017	10	0.000						0.000					
24	7.032	0.000	0.000	0.015	0.015	9	0.000						0.000					
25	6.839	0.000	0.000	0.013	0.013	8	0.000						0.000					
26	6.649	0.000	0.000	0.013	0.013	7	0.000						0.000					
27	6.349	0.000	0.000	0.015	0.015	8	0.000						0.000					
28	6.402	0.000	0.000	0.013	0.013	7	0.000						0.000					
29	6.122	0.000	0.000	0.009	0.009	5	0.000						0.000					
30	6.122	0.000	0.000	0.014	0.014	7	0.000						0.000					
31							0.000											
Ten Daily Mean																		
Ten Daily I	15.98	0.000	0.000	0.018	0.018	64	2.396	0.000	0.000	0.000	0.000	0	0.000					
Ten Daily II	16.19	0.000	0.000	0.016	0.016	41	0.000						0.000					
Ten Daily III	6.286	0.000	0.000	0.012	0.012	7	0.000						0.000					
Monthly																		
Total						738						0						

Annual Sediment Load (Metric Tonnes) : 759

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Sabarmati at Derol Bridge (01 02 12 006) **Division : Mahi Division, Gandhinagar**

Local River : Sabarmati **Sub-Division : N.W.R.Sub Div., Himatnagar**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000						0.000						0.000					
2	0.000						0.000						0.000					
3	0.000						0.000						0.000					
4	0.000						0.000						0.000					
5	0.000						0.000						0.000					
6	0.000						0.000						0.000					
7	0.000						0.000						0.000					
8	0.000						0.000						0.000					
9	0.000						0.000						0.000					
10	0.000						0.000						0.000					
11	0.000						0.000						0.000					
12	0.000						0.000						0.000					
13	0.000						0.000						0.000					
14	0.000						0.000						0.000					
15	0.000						0.000						0.000					
16	0.000						0.000						0.000					
17	0.000						0.000						0.000					
18	0.000						0.000						0.000					
19	0.000						0.000						0.000					
20	0.000						0.000						0.000					
21	0.000						0.000						0.000					
22	0.000						0.000						0.000					
23	0.000						0.000						0.000					
24	0.000						0.000						0.000					
25	0.000						0.000						0.000					
26	0.000						0.000						0.000					
27	0.000						0.000						0.000					
28	0.000						0.000						0.000					
29	0.000						0.000											
30	0.000						0.000											
31	0.000																	
Ten Daily Mean																		
Ten Daily I	0.000						0.000						0.000					
Ten Daily II	0.000						0.000						0.000					
Ten Daily III	0.000						0.000						0.000					
Monthly Total																		

Annual Sediment Load (Metric Tonnes) : 759

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Sabarmati at Derol Bridge (01 02 12 006) **Division : Mahi Division, Gandhinagar**

Local River : Sabarmati **Sub-Division : N.W.R.Sub Div., Himatnagar**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000						0.000						0.000					
2	0.000						0.000						0.000					
3	0.000						0.000						0.000					
4	0.000						0.000						0.000					
5	0.000						0.000						0.000					
6	0.000						0.000						0.000					
7	0.000						0.000						0.000					
8	0.000						0.000						0.000					
9	0.000						0.000						0.000					
10	0.000						0.000						0.000					
11	0.000						0.000						0.000					
12	0.000						0.000						0.000					
13	0.000						0.000						0.000					
14	0.000						0.000						0.000					
15	0.000						0.000						0.000					
16	0.000						0.000						0.000					
17	0.000						0.000						0.000					
18	0.000						0.000						0.000					
19	0.000						0.000						0.000					
20	0.000						0.000						0.000					
21	0.000						0.000						0.000					
22	0.000						0.000						0.000					
23	0.000						0.000						0.000					
24	0.000						0.000						0.000					
25	0.000						0.000						0.000					
26	0.000						0.000						0.000					
27	0.000						0.000						0.000					
28	0.000						0.000						0.000					
29	0.000						0.000						0.000					
30	0.000						0.000						0.000					
31	0.000												0.000					
Ten Daily Mean																		
Ten Daily I	0.000						0.000						0.000					
Ten Daily II	0.000						0.000						0.000					
Ten Daily III	0.000						0.000						0.000					
Monthly Total																		

Annual Sediment Load (Metric Tonnes) : 759

Annual Sediment Load for period : 2005-2013

Station Name : Sabarmati at Derol Bridge (01 02 12 006) **Division : Mahi Division, Gandhinagar**

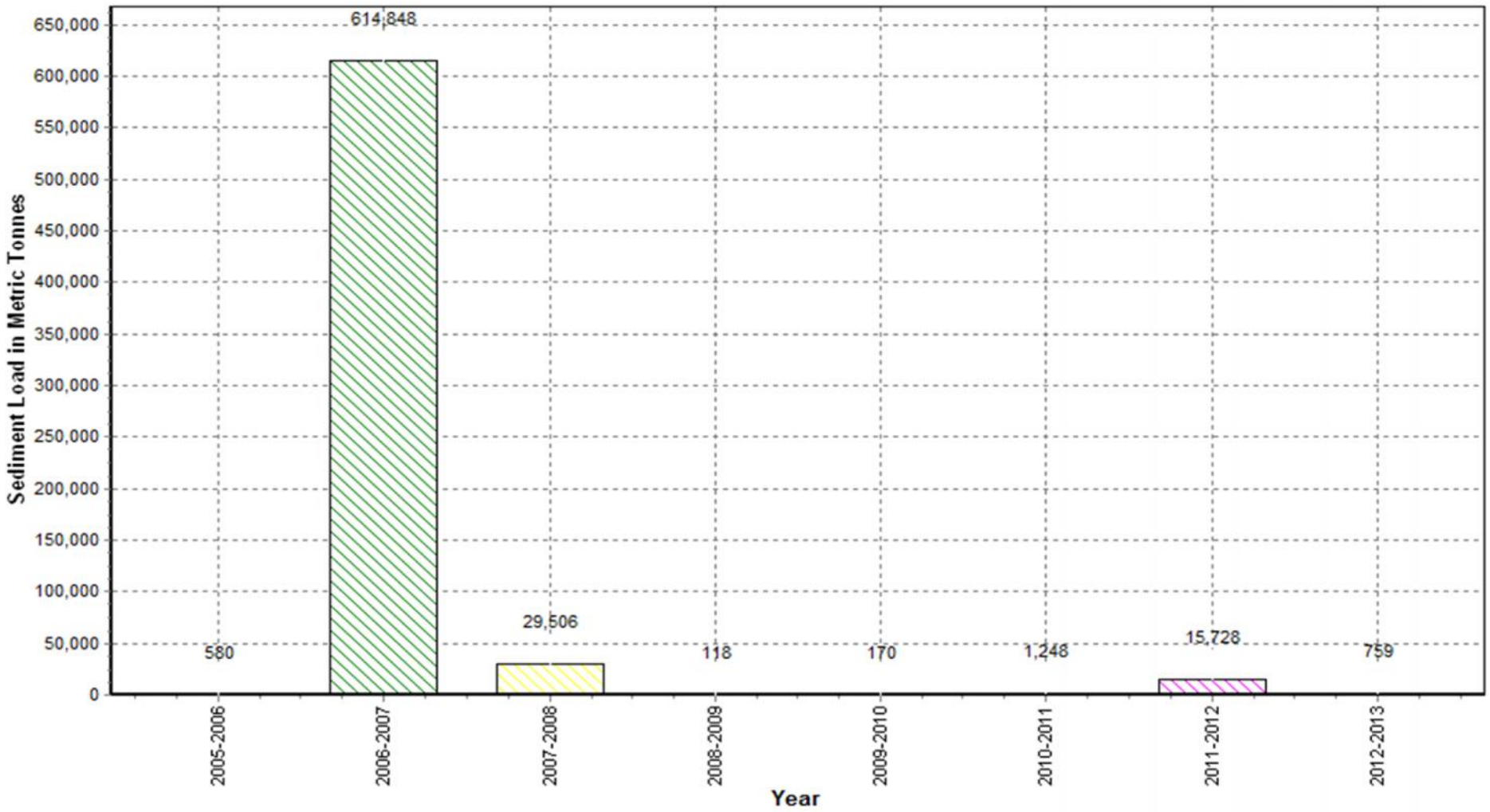
Local River : Sabarmati **Sub-Division : N.W.R.Sub Div., Himatnagar**

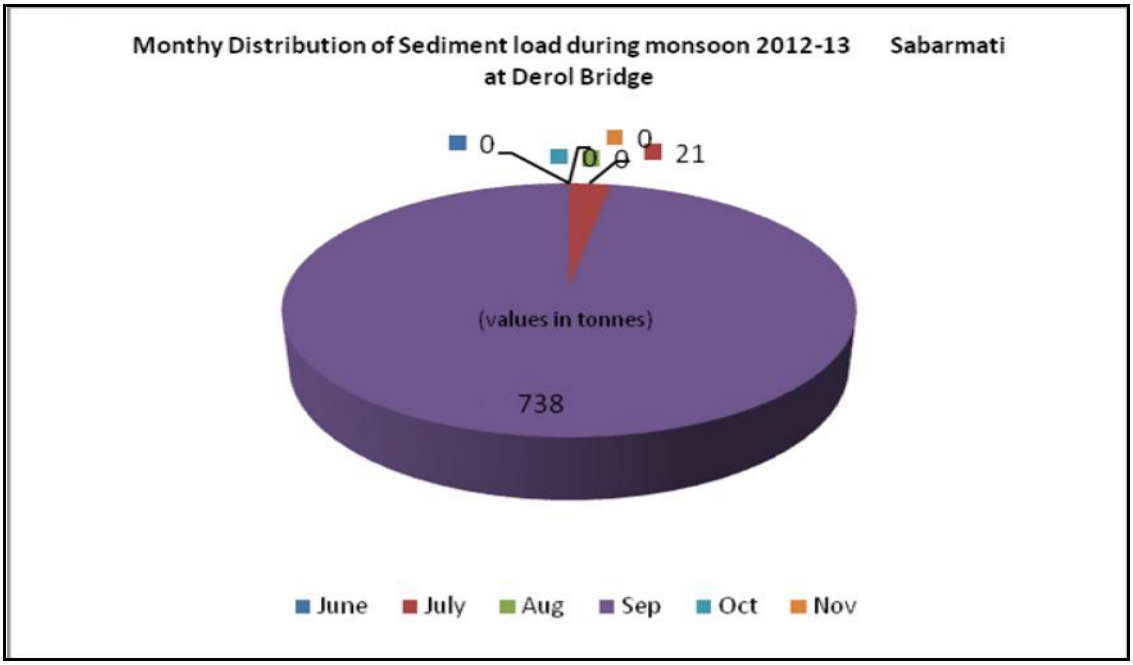
Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)	Annual Sediment yield in mm
2005-2006	580	0	580	157	0.0001
2006-2007	614848	0	614848	2864	0.0653
2007-2008	29506	0	29506	693	0.0031
2008-2009	118	0	118	26	0.0000
2009-2010	170	0	170	14	0.0000
2010-2011	1248	0	1248	32	0.0001
2011-2012	15728	0	15728	326	0.0017
2012-2013	759	0	759	50	0.0001

Annual Sediment Load for the period: 2005-2013

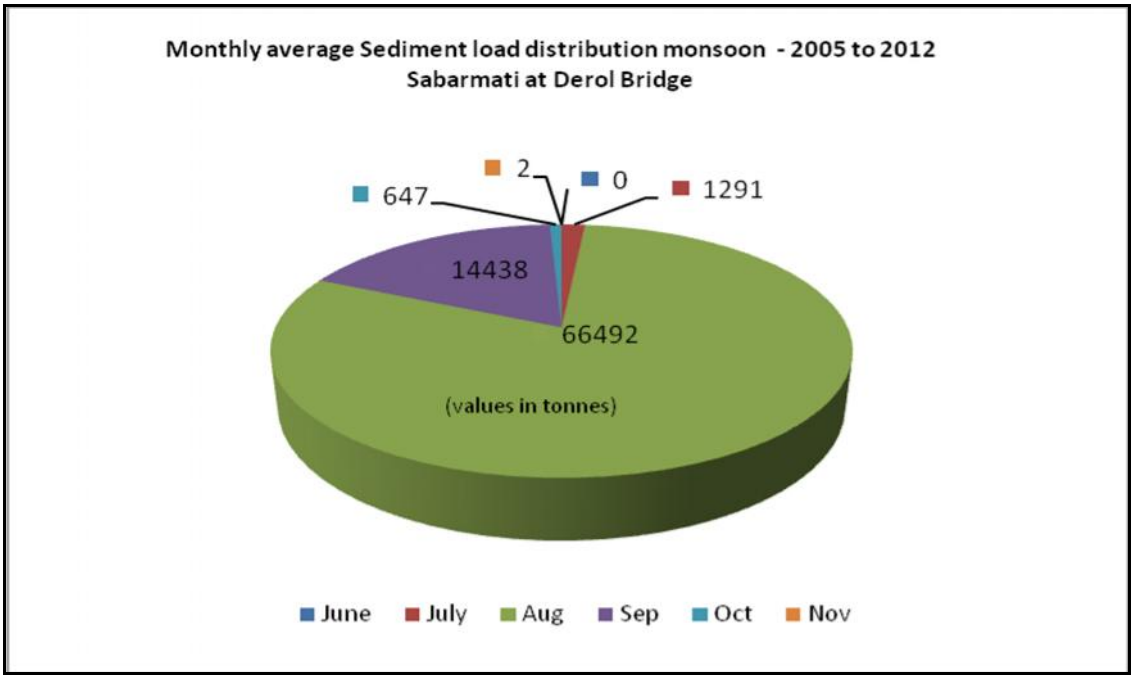
Station Name : Sabarmati at Derol Bridge (01 02 12 006) **Division : Mahi Division, Gandhinagar**

Local River : Sabarmati **Sub-Division : N.W.R.Sub Div., Himatnagar**





Monthy Distribution of Sediment load during Non- monsoon 2012-13 Sabarmati at Derol Bridge No sediment was observed in any month



Monthly average Sediment load distribution monsoon - 2005 to 2012

Sabarmati at Derol Bridge No sediment was observed in any month

4.7 Purna Basin

The river Purna is one of the important west flowing rivers in Gujarat state. It originates from Saputara hill ranges and after flowing in Dang, Valsad and Surat districts of Gujarat state for a length of 142-km falls into the Arabian sea. The catchment area of the Purna basin is 2431 sq.km. It lies between 72^0 45' and 74^0 east longitudes and 20^0 40' and 21^0 15' north latitudes. It has only one main tributary namely Jankhari.

There is only one monitoring station near the mouth of the river at Mahuwa in Surat district of Gujarat state. A brief about the station is given in section- 4.7.1

4.7.1 Purna at Mahuwa

The station has a Catchment area of 1,995 sq km. The sediment rating curve at the site is given in **Fig-29**. The maximum sediment concentration of 0.561 g/l was observed on 01.08.2012. The total sediment load during the year is 78,385 metric tonnes. The monsoon load constitutes 100 % of the total load. The annual sediment yield over the catchment during water year 2012-13 is 0.0281 mm. Annual sediment yield over the period of observations is given in **Fig-30**. It is seen from the analysis that sediment yield does not follow any trend over the years. It is seen from **Fig-31** that strong positive correlation exists between annual yield and annual runoff.

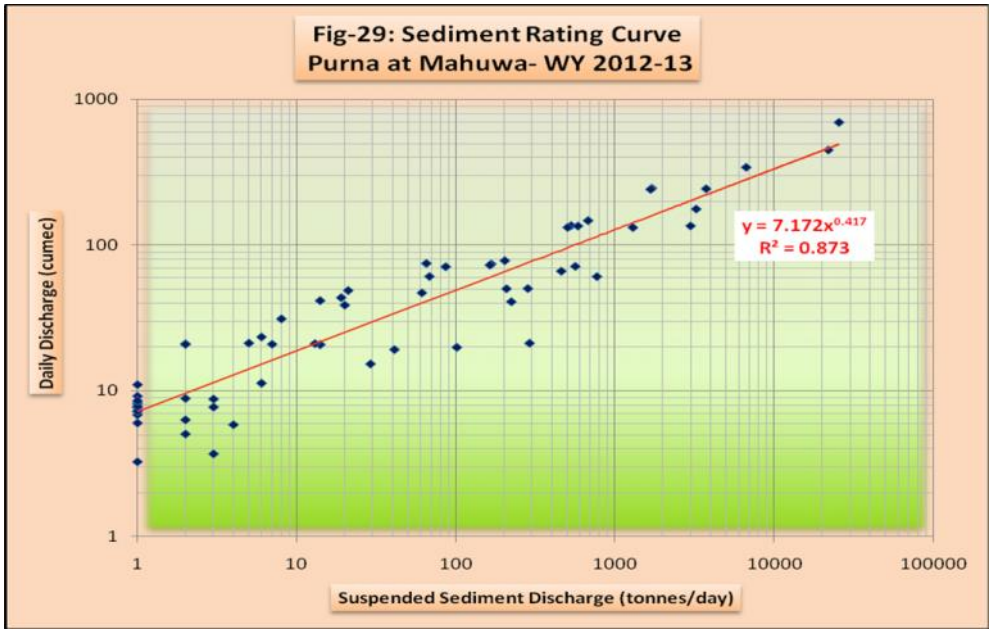


Fig-29: Sediment Rating Curve
Purna at Mahuwa- WY 2012-13
Daily Discharge (cumec)
Suspended Sediment Discharge (tonnes/day)
y = 7.172x^0.417
R² = 0.873
1000
100
10
1
1
10
100
1000
10000
100000

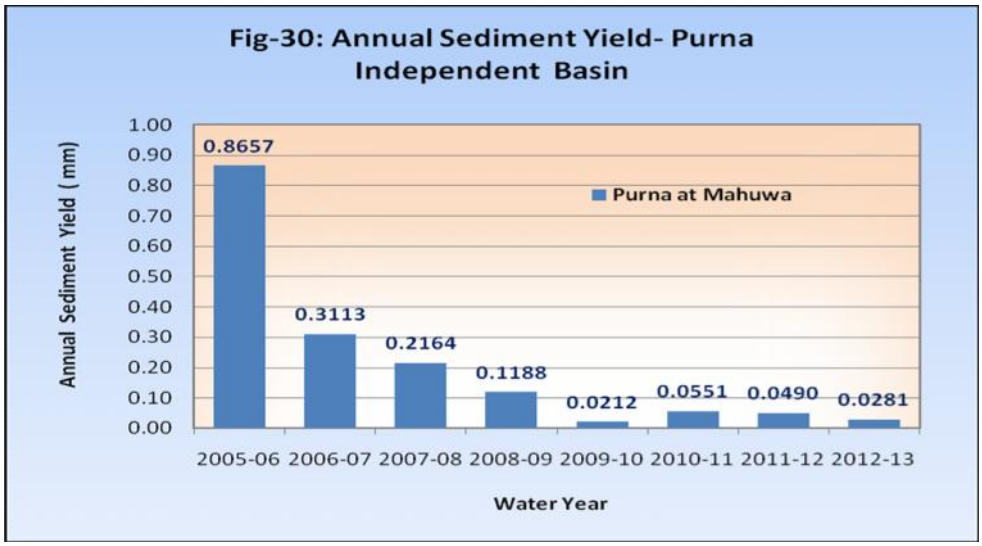


Fig-30: Annual Sediment Yield- Purna
Independent Basin
Annual Sediment Yield (mm)
Purna at Mahuwa
0.8657
0.3113
0.2164
0.1188
0.0212
0.0551
0.0490
0.0281
2005-06 2006-07 2007-08 2008-09 2009-10 2010-11 2011-12 2012-13
Water Year

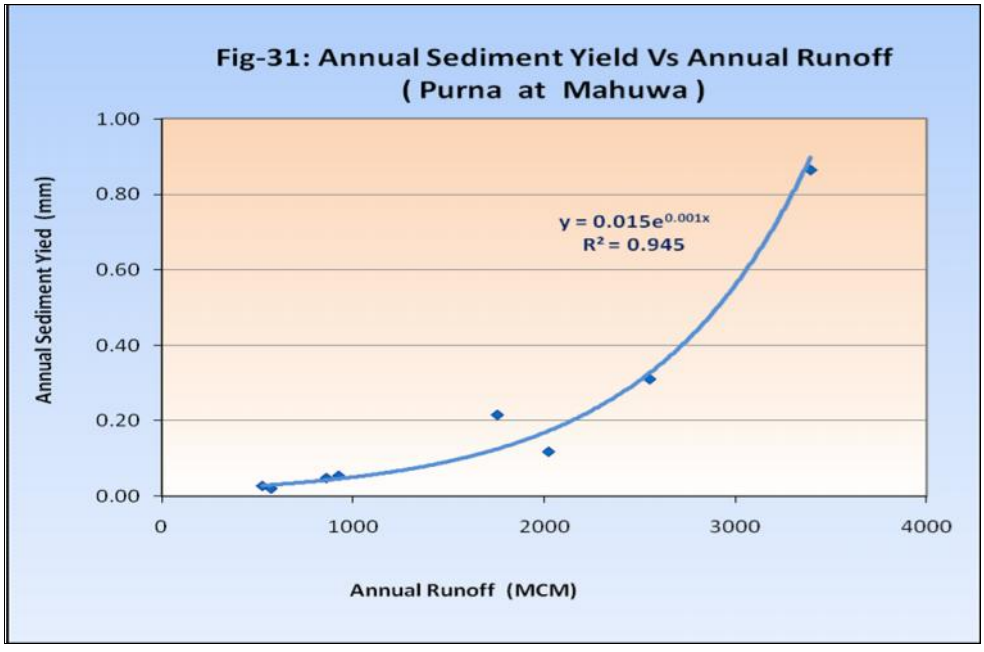
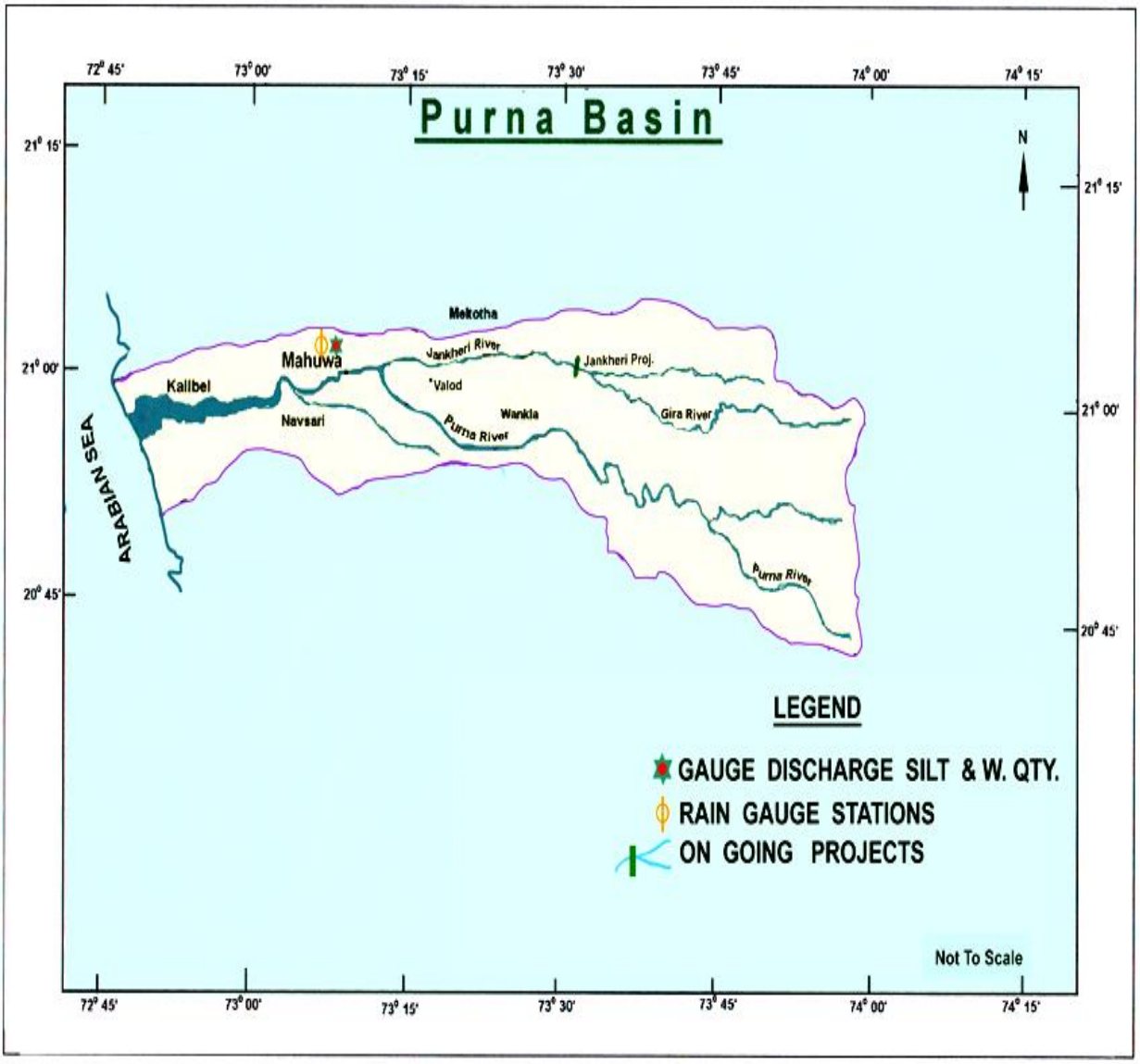


Fig-31: Annual Sediment Yield Vs Annual Runoff
(Purna at Mahuwa)
Annual Sediment Yied (mm)
y = 0.015e^0.001x
R² = 0.945
Annual Runoff (MCM)

Plate -4.7 Purna Basin



HISTORY SHEET

		Water Year	**: 2012-2013**
Site	**: Purna at Mahuwa**	**Code**	**: 01 02 19 001**
State	: Gujarat	District	Surat
Basin	: WFR South of Tapi	Independent River	: Purna
Tributary	:	Sub Tributary	:
Sub-Sub Tributary	:	Local River	:
Division	: Tapi Division, Surat	Sub-Division	: LTSD,CWC,Surat
Drainage Area	: 1995 Sq. Km.	Bank	: Right
Latitude	: 21°00'52" N	Longitude	: 73°08'25" E
Zero of Gauge (m)	: 9 (m.s.l)	04/10/1970	-

	Opening Date	Closing Date
Gauge	: 04/10/1970	
Discharge	: 12/11/1970	
Sediment	: 18/06/1973	
Water Quality	: 15/06/1977	

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Purna at Mahuwa (01 02 19 001) **Division : Tapi Division, Surat**

Local River : **Sub-Division : LTSD,CWC,Surat**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000						0.690	0.000	0.000	0.000	0.000	0	447.6	0.000	0.001	0.560	0.561	21698
2	0.000						0.711	0.000	0.000	0.000	0.000	0	176.3	0.000	0.001	0.210	0.211	3213
3	0.000						0.716	0.000	0.000	0.000	0.000	0	60.64	0.000	0.001	0.145	0.146	765
4	0.000						0.719	0.000	0.000	0.000	0.000	0	40.77	0.000	0.001	0.062	0.063	222
5	0.000						0.708	0.000	0.000	0.000	0.000	0	23.37	0.000	0.000	0.003	0.003	6
6	0.000						1.006	0.000	0.000	0.001	0.001	0	21.18	0.000	0.002	0.156	0.158	289
7	0.000						0.417	0.000	0.000	0.000	0.000	0	19.85	0.000	0.003	0.056	0.059	101
8	0.000						0.890	0.000	0.000	0.000	0.000	0	19.14	0.000	0.000	0.025	0.025	41
9	0.000						1.206	0.000	0.000	0.001	0.001	0	15.26	0.000	0.000	0.022	0.022	29
10	0.000						1.257	0.000	0.000	0.001	0.001	0	244.5	0.000	0.005	0.075	0.080	1690
11	0.000						8.851	0.000	0.000	0.002	0.002	2	135.0	0.000	0.001	0.253	0.254	2962
12	0.000						8.764	0.000	0.000	0.004	0.004	3	240.3	0.000	0.000	0.080	0.080	1661
13	3.920	0.000	0.000	0.005	0.005	2	6.316	0.000	0.000	0.004	0.004	2	692.4	0.002	0.003	0.418	0.423	25306
14	10.86	0.000	0.000	0.006	0.006	6	5.848	0.000	0.000	0.008	0.008	4	242.7	0.000	0.003	0.174	0.177	3711
15	8.250	0.000	0.000	0.004	0.004	3	3.690	0.000	0.000	0.008	0.008	3	135.6	0.000	0.000	0.045	0.045	527
16	5.170	0.000	0.000	0.002	0.002	1	6.007	0.000	0.000	0.002	0.002	1	146.9	0.000	0.003	0.050	0.053	673
17	4.910	0.000	0.000	0.002	0.002	1	3.255	0.000	0.000	0.002	0.002	1	78.02	0.000	0.000	0.030	0.030	202
18	4.650	0.000	0.000	0.002	0.002	1	5.046	0.000	0.000	0.004	0.004	2	70.84	0.000	0.000	0.014	0.014	86
19	3.470	0.000	0.000	0.002	0.002	1	7.648	0.000	0.000	0.001	0.001	1	43.49	0.000	0.000	0.005	0.005	19
20	5.618	0.000	0.000	0.002	0.002	1	9.174	0.000	0.000	0.001	0.001	1	48.67	0.000	0.000	0.005	0.005	21
21	4.157	0.000	0.000	0.002	0.002	1	7.717	0.000	0.000	0.004	0.004	3	38.64	0.000	0.000	0.006	0.006	20
22	3.692	0.000	0.000	0.001	0.001	0	11.27	0.000	0.000	0.006	0.006	6	31.10	0.000	0.000	0.003	0.003	8
23	1.910	0.000	0.000	0.001	0.001	0	7.181	0.000	0.000	0.001	0.001	1	21.20	0.000	0.000	0.003	0.003	5
24	0.890	0.000	0.000	0.000	0.000	0	6.837	0.000	0.000	0.001	0.001	1	20.84	0.000	0.000	0.004	0.004	7
25	1.008	0.000	0.000	0.001	0.001	0	8.208	0.000	0.000	0.001	0.001	1	20.75	0.000	0.000	0.008	0.008	14
26	0.981	0.000	0.000	0.001	0.001	0	20.65	0.000	0.000	0.008	0.008	14	21.03	0.000	0.000	0.007	0.007	13
27	0.893	0.000	0.000	0.001	0.001	0	11.00	0.000	0.000	0.001	0.001	1	20.98	0.000	0.000	0.001	0.001	2
28	0.820	0.000	0.000	0.001	0.001	0	7.832	0.000	0.000	0.001	0.001	1	20.81	0.000	0.000	0.001	0.001	2
29	0.752	0.000	0.000	0.001	0.001	0	7.250	0.000	0.000	0.001	0.001	1	60.76	0.000	0.005	0.008	0.013	68
30	0.740	0.000	0.000	0.001	0.001	0	7.821	0.000	0.000	0.002	0.002	1	41.48	0.000	0.000	0.004	0.004	14
31							8.532	0.000	0.000	0.001	0.001	1	131.7	0.000	0.003	0.110	0.113	1286
Ten Daily Mean																		
Ten Daily I	0.000						0.832	0.000	0.000	0.000	0.000	0	106.9	0.000	0.001	0.131	0.133	2805
Ten Daily II	4.685	0.000	0.000	0.003	0.003	2	6.460	0.000	0.000	0.004	0.004	2	183.4	0.000	0.001	0.107	0.109	3517
Ten Daily III	1.584	0.000	0.000	0.001	0.001	0	9.481	0.000	0.000	0.002	0.002	3	39.03	0.000	0.001	0.014	0.015	131
Monthly																		
Total						16						47						64662

Annual Sediment Load (Metric Tonnes) : 78385

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Purna at Mahuwa (01 02 19 001) **Division : Tapi Division, Surat**

Local River : **Sub-Division : LTSD,CWC,Surat**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	340.4	0.000	0.003	0.222	0.225	6617	10.02	0.000	0.000	0.002	0.002	2	7.841	0.000	0.000	0.001	0.001	1
2	66.08	0.000	0.000	0.080	0.080	457	9.872	0.000	0.000	0.001	0.001	1	6.392	0.000	0.000	0.001	0.001	1
3	71.27	0.000	0.003	0.088	0.091	560	16.74	0.000	0.000	0.002	0.002	3	6.441	0.000	0.000	0.001	0.001	1
4	50.21	0.000	0.005	0.060	0.065	282	11.71	0.000	0.000	0.004	0.004	4	5.180	0.000	0.000	0.001	0.001	0
5	50.03	0.000	0.002	0.046	0.048	207	9.850	0.000	0.000	0.001	0.001	1	3.578	0.000	0.000	0.001	0.001	0
6	131.8	0.000	0.004	0.040	0.044	501	9.338	0.000	0.000	0.004	0.004	3	3.051	0.000	0.000	0.001	0.001	0
7	134.7	0.000	0.000	0.050	0.050	582	12.53	0.000	0.000	0.004	0.004	4	2.929	0.000	0.000	0.001	0.001	0
8	73.97	0.000	0.000	0.026	0.026	166	8.848	0.000	0.000	0.001	0.001	1	2.911	0.000	0.000	0.001	0.001	0
9	46.91	0.000	0.000	0.015	0.015	61	8.665	0.000	0.000	0.002	0.002	1	3.061	0.000	0.000	0.001	0.001	0
10	72.68	0.000	0.000	0.026	0.026	163	8.345	0.000	0.000	0.004	0.004	3	3.062	0.000	0.000	0.001	0.001	0
11	74.66	0.000	0.000	0.010	0.010	65	8.283	0.000	0.000	0.001	0.001	1	4.400	0.000	0.000	0.001	0.001	0
12	163.5	0.000	0.001	0.180	0.181	2557	8.235	0.000	0.000	0.001	0.001	1	2.540	0.000	0.000	0.000	0.000	0
13	90.25	0.000	0.003	0.080	0.083	647	8.134	0.000	0.000	0.001	0.001	1	4.160	0.000	0.000	0.000	0.000	0
14	80.51	0.000	0.000	0.036	0.036	250	10.08	0.000	0.000	0.001	0.001	1	2.543	0.000	0.000	0.000	0.000	0
15	74.49	0.000	0.000	0.035	0.035	225	7.675	0.000	0.000	0.001	0.001	1	1.888	0.000	0.000	0.000	0.000	0
16	56.06	0.000	0.000	0.025	0.025	121	7.370	0.000	0.000	0.001	0.001	1	1.885	0.000	0.000	0.000	0.000	0
17	47.30	0.000	0.000	0.016	0.016	65	7.282	0.000	0.000	0.001	0.001	1	1.752	0.000	0.000	0.000	0.000	0
18	38.23	0.000	0.000	0.010	0.010	33	7.262	0.000	0.000	0.001	0.001	1	3.260	0.000	0.000	0.000	0.000	0
19	31.13	0.000	0.000	0.006	0.006	16	7.254	0.000	0.000	0.001	0.001	1	1.830	0.000	0.000	0.000	0.000	0
20	21.04	0.000	0.000	0.001	0.001	2	7.198	0.000	0.000	0.001	0.001	1	1.870	0.000	0.000	0.000	0.000	0
21	31.07	0.000	0.000	0.002	0.002	5	6.930	0.000	0.000	0.001	0.001	1	1.790	0.000	0.000	0.000	0.000	0
22	20.88	0.000	0.000	0.002	0.002	4	7.183	0.000	0.000	0.001	0.001	1	1.744	0.000	0.000	0.000	0.000	0
23	21.03	0.000	0.000	0.002	0.002	4	7.167	0.000	0.000	0.001	0.001	1	1.566	0.000	0.000	0.000	0.000	0
24	18.82	0.000	0.000	0.006	0.006	10	6.320	0.000	0.000	0.001	0.001	1	1.464	0.000	0.000	0.000	0.000	0
25	10.72	0.000	0.000	0.002	0.002	2	6.981	0.000	0.000	0.001	0.001	1	2.470	0.000	0.000	0.000	0.000	0
26	18.82	0.000	0.000	0.002	0.002	3	6.982	0.000	0.000	0.001	0.001	1	1.385	0.000	0.000	0.000	0.000	0
27	17.76	0.000	0.000	0.001	0.001	2	5.450	0.000	0.000	0.000	0.000	0	1.361	0.000	0.000	0.000	0.000	0
28	17.76	0.000	0.000	0.002	0.002	3	5.450	0.000	0.000	0.000	0.000	0	2.470	0.000	0.000	0.000	0.000	0
29	17.76	0.000	0.000	0.004	0.004	6	5.883	0.000	0.000	0.000	0.000	0	1.490	0.000	0.000	0.000	0.000	0
30	17.76	0.000	0.000	0.003	0.003	5	3.532	0.000	0.000	0.000	0.000	0	1.579	0.000	0.000	0.000	0.000	0
31							2.671	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	103.8	0.000	0.002	0.065	0.067	960	10.59	0.000	0.000	0.003	0.003	2	4.444	0.000	0.000	0.001	0.001	0
Ten Daily II	67.72	0.000	0.000	0.040	0.040	398	7.877	0.000	0.000	0.001	0.001	1	2.613	0.000	0.000	0.000	0.000	0
Ten Daily III	19.24	0.000	0.000	0.003	0.003	4	5.868	0.000	0.000	0.001	0.001	0	1.732	0.000	0.000	0.000	0.000	0
Monthly																		
Total						13621						33						4

Annual Sediment Load (Metric Tonnes) : 78385

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Purna at Mahuwa (01 02 19 001) **Division : Tapi Division, Surat**

Local River : **Sub-Division : LTSD,CWC,Surat**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	1.562	0.000	0.000	0.000	0.000	0	1.174	0.000	0.000	0.000	0.000	0	1.790	0.000	0.000	0.000	0.000	0
2	2.850	0.000	0.000	0.000	0.000	0	1.164	0.000	0.000	0.000	0.000	0	1.790	0.000	0.000	0.000	0.000	0
3	2.850	0.000	0.000	0.000	0.000	0	1.254	0.000	0.000	0.000	0.000	0	1.960	0.000	0.000	0.000	0.000	0
4	3.260	0.000	0.000	0.000	0.000	0	1.216	0.000	0.000	0.000	0.000	0	1.960	0.000	0.000	0.000	0.000	0
5	1.609	0.000	0.000	0.000	0.000	0	1.407	0.000	0.000	0.000	0.000	0	1.960	0.000	0.000	0.000	0.000	0
6	1.601	0.000	0.000	0.000	0.000	0	2.660	0.000	0.000	0.000	0.000	0	1.790	0.000	0.000	0.000	0.000	0
7	1.740	0.000	0.000	0.000	0.000	0	1.395	0.000	0.000	0.000	0.000	0	1.790	0.000	0.000	0.000	0.000	0
8	1.731	0.000	0.000	0.000	0.000	0	1.212	0.000	0.000	0.000	0.000	0	1.790	0.000	0.000	0.000	0.000	0
9	3.470	0.000	0.000	0.000	0.000	0	1.188	0.000	0.000	0.000	0.000	0	1.600	0.000	0.000	0.000	0.000	0
10	1.723	0.000	0.000	0.000	0.000	0	0.938	0.000	0.000	0.000	0.000	0	1.600	0.000	0.000	0.000	0.000	0
11	1.716	0.000	0.000	0.000	0.000	0	0.935	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0
12	1.707	0.000	0.000	0.000	0.000	0	0.930	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0
13	3.260	0.000	0.000	0.000	0.000	0	1.960	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0
14	1.652	0.000	0.000	0.000	0.000	0	0.854	0.000	0.000	0.000	0.000	0	1.360	0.000	0.000	0.000	0.000	0
15	1.661	0.000	0.000	0.000	0.000	0	0.848	0.000	0.000	0.000	0.000	0	1.360	0.000	0.000	0.000	0.000	0
16	3.260	0.000	0.000	0.000	0.000	0	0.844	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0
17	1.652	0.000	0.000	0.000	0.000	0	1.790	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0
18	1.646	0.000	0.000	0.000	0.000	0	1.790	0.000	0.000	0.000	0.000	0	1.600	0.000	0.000	0.000	0.000	0
19	1.636	0.000	0.000	0.000	0.000	0	1.600	0.000	0.000	0.000	0.000	0	1.600	0.000	0.000	0.000	0.000	0
20	1.631	0.000	0.000	0.000	0.000	0	1.600	0.000	0.000	0.000	0.000	0	1.600	0.000	0.000	0.000	0.000	0
21	1.624	0.000	0.000	0.000	0.000	0	1.600	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0
22	1.563	0.000	0.000	0.000	0.000	0	1.600	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0
23	2.850	0.000	0.000	0.000	0.000	0	1.600	0.000	0.000	0.000	0.000	0	1.200	0.000	0.000	0.000	0.000	0
24	1.553	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0	1.200	0.000	0.000	0.000	0.000	0
25	2.850	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0	1.200	0.000	0.000	0.000	0.000	0
26	1.533	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0	1.100	0.000	0.000	0.000	0.000	0
27	1.225	0.000	0.000	0.000	0.000	0	1.600	0.000	0.000	0.000	0.000	0	1.100	0.000	0.000	0.000	0.000	0
28	1.219	0.000	0.000	0.000	0.000	0	1.600	0.000	0.000	0.000	0.000	0	1.100	0.000	0.000	0.000	0.000	0
29	1.224	0.000	0.000	0.000	0.000	0	1.600	0.000	0.000	0.000	0.000	0						
30	1.200	0.000	0.000	0.000	0.000	0	1.600	0.000	0.000	0.000	0.000	0						
31	1.178	0.000	0.000	0.000	0.000	0	1.790	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	2.240	0.000	0.000	0.000	0.000	0	1.361	0.000	0.000	0.000	0.000	0	1.803	0.000	0.000	0.000	0.000	0
Ten Daily II	1.982	0.000	0.000	0.000	0.000	0	1.315	0.000	0.000	0.000	0.000	0	1.502	0.000	0.000	0.000	0.000	0
Ten Daily III	1.638	0.000	0.000	0.000	0.000	0	1.590	0.000	0.000	0.000	0.000	0	1.238	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 78385

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Purna at Mahuwa (01 02 19 001) **Division : Tapi Division, Surat**

Local River : **Sub-Division : LTSD,CWC,Surat**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	1.100	0.000	0.000	0.000	0.000	0	1.200	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0
2	1.000	0.000	0.000	0.000	0.000	0	1.100	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0
3	1.000	0.000	0.000	0.000	0.000	0	1.100	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0
4	1.000	0.000	0.000	0.000	0.000	0	1.100	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0
5	1.000	0.000	0.000	0.000	0.000	0	1.200	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0
6	1.100	0.000	0.000	0.000	0.000	0	1.200	0.000	0.000	0.000	0.000	0	1.360	0.000	0.000	0.000	0.000	0
7	1.100	0.000	0.000	0.000	0.000	0	1.200	0.000	0.000	0.000	0.000	0	1.360	0.000	0.000	0.000	0.000	0
8	1.100	0.000	0.000	0.000	0.000	0	1.200	0.000	0.000	0.000	0.000	0	1.360	0.000	0.000	0.000	0.000	0
9	1.200	0.000	0.000	0.000	0.000	0	1.100	0.000	0.000	0.000	0.000	0	1.200	0.000	0.000	0.000	0.000	0
10	1.200	0.000	0.000	0.000	0.000	0	1.100	0.000	0.000	0.000	0.000	0	1.200	0.000	0.000	0.000	0.000	0
11	1.200	0.000	0.000	0.000	0.000	0	1.100	0.000	0.000	0.000	0.000	0	1.200	0.000	0.000	0.000	0.000	0
12	1.360	0.000	0.000	0.000	0.000	0	1.100	0.000	0.000	0.000	0.000	0	1.360	0.000	0.000	0.000	0.000	0
13	1.360	0.000	0.000	0.000	0.000	0	1.000	0.000	0.000	0.000	0.000	0	1.360	0.000	0.000	0.000	0.000	0
14	1.500	0.000	0.000	0.000	0.000	0	1.000	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0
15	1.500	0.000	0.000	0.000	0.000	0	1.000	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0
16	1.600	0.000	0.000	0.000	0.000	0	1.000	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0
17	1.600	0.000	0.000	0.000	0.000	0	1.200	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0
18	1.790	0.000	0.000	0.000	0.000	0	1.200	0.000	0.000	0.000	0.000	0	1.360	0.000	0.000	0.000	0.000	0
19	1.790	0.000	0.000	0.000	0.000	0	1.200	0.000	0.000	0.000	0.000	0	1.000	0.000	0.000	0.000	0.000	0
20	1.600	0.000	0.000	0.000	0.000	0	1.100	0.000	0.000	0.000	0.000	0	1.000	0.000	0.000	0.000	0.000	0
21	1.600	0.000	0.000	0.000	0.000	0	1.100	0.000	0.000	0.000	0.000	0	1.000	0.000	0.000	0.000	0.000	0
22	1.500	0.000	0.000	0.000	0.000	0	1.100	0.000	0.000	0.000	0.000	0	0.900	0.000	0.000	0.000	0.000	0
23	1.500	0.000	0.000	0.000	0.000	0	1.100	0.000	0.000	0.000	0.000	0	0.900	0.000	0.000	0.000	0.000	0
24	1.500	0.000	0.000	0.000	0.000	0	1.360	0.000	0.000	0.000	0.000	0	0.700	0.000	0.000	0.000	0.000	0
25	1.500	0.000	0.000	0.000	0.000	0	1.360	0.000	0.000	0.000	0.000	0	0.700	0.000	0.000	0.000	0.000	0
26	1.360	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0	0.600	0.000	0.000	0.000	0.000	0
27	1.360	0.000	0.000	0.000	0.000	0	1.500	0.000	0.000	0.000	0.000	0	0.600	0.000	0.000	0.000	0.000	0
28	1.360	0.000	0.000	0.000	0.000	0	1.600	0.000	0.000	0.000	0.000	0	0.600	0.000	0.000	0.000	0.000	0
29	1.200	0.000	0.000	0.000	0.000	0	1.600	0.000	0.000	0.000	0.000	0	0.600	0.000	0.000	0.000	0.000	0
30	1.200	0.000	0.000	0.000	0.000	0	1.600	0.000	0.000	0.000	0.000	0	0.500	0.000	0.000	0.000	0.000	0
31	1.200	0.000	0.000	0.000	0.000	0							0.500	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	1.080	0.000	0.000	0.000	0.000	0	1.150	0.000	0.000	0.000	0.000	0	1.398	0.000	0.000	0.000	0.000	0
Ten Daily II	1.530	0.000	0.000	0.000	0.000	0	1.090	0.000	0.000	0.000	0.000	0	1.328	0.000	0.000	0.000	0.000	0
Ten Daily III	1.389	0.000	0.000	0.000	0.000	0	1.382	0.000	0.000	0.000	0.000	0	0.691	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 78385

Annual Sediment Load for period : 2005-2013

Station Name : Purna at Mahuwa (01 02 19 001) **Division : Tapi Division, Surat**

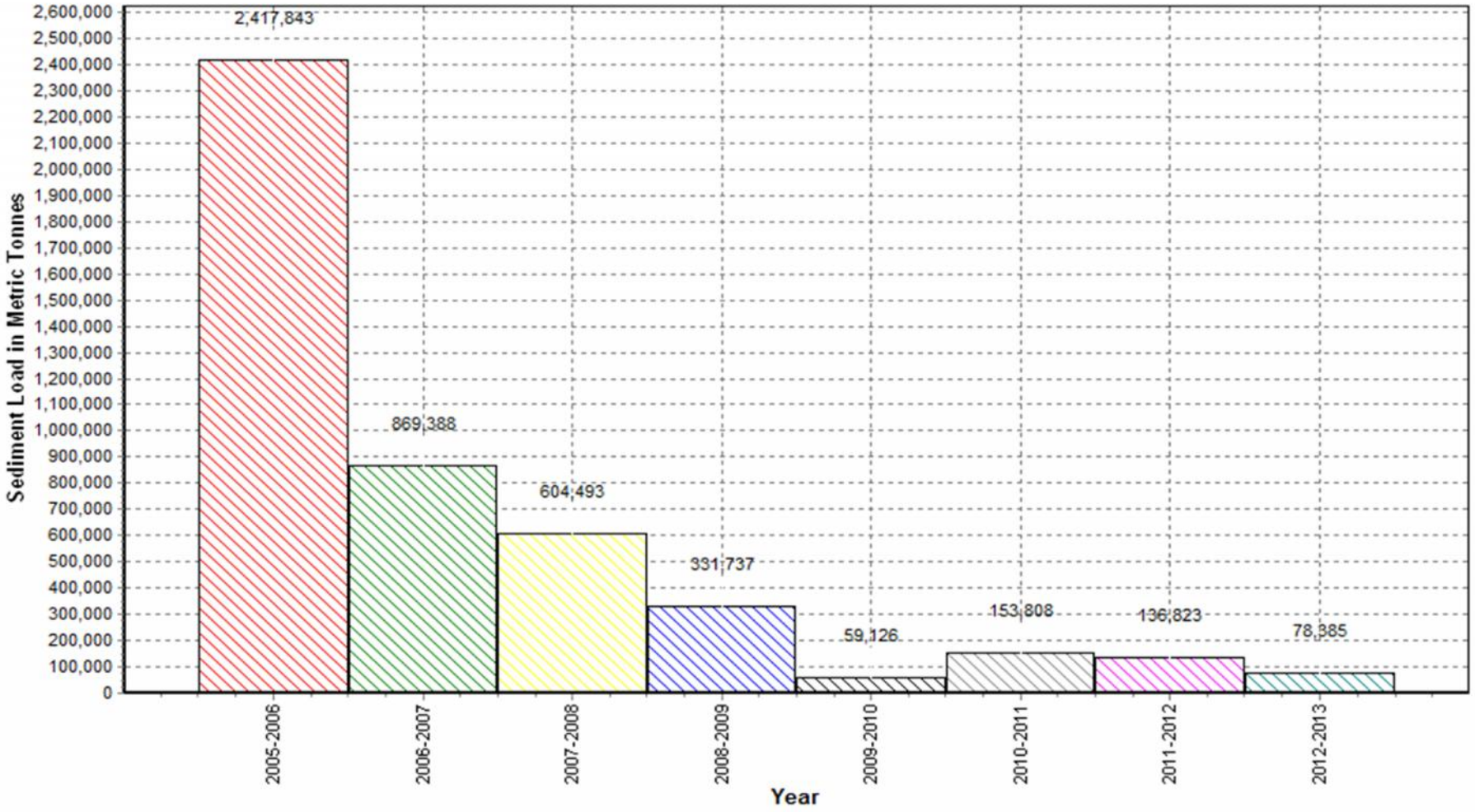
Local River : **Sub-Division : LTSD,CWC,Surat**

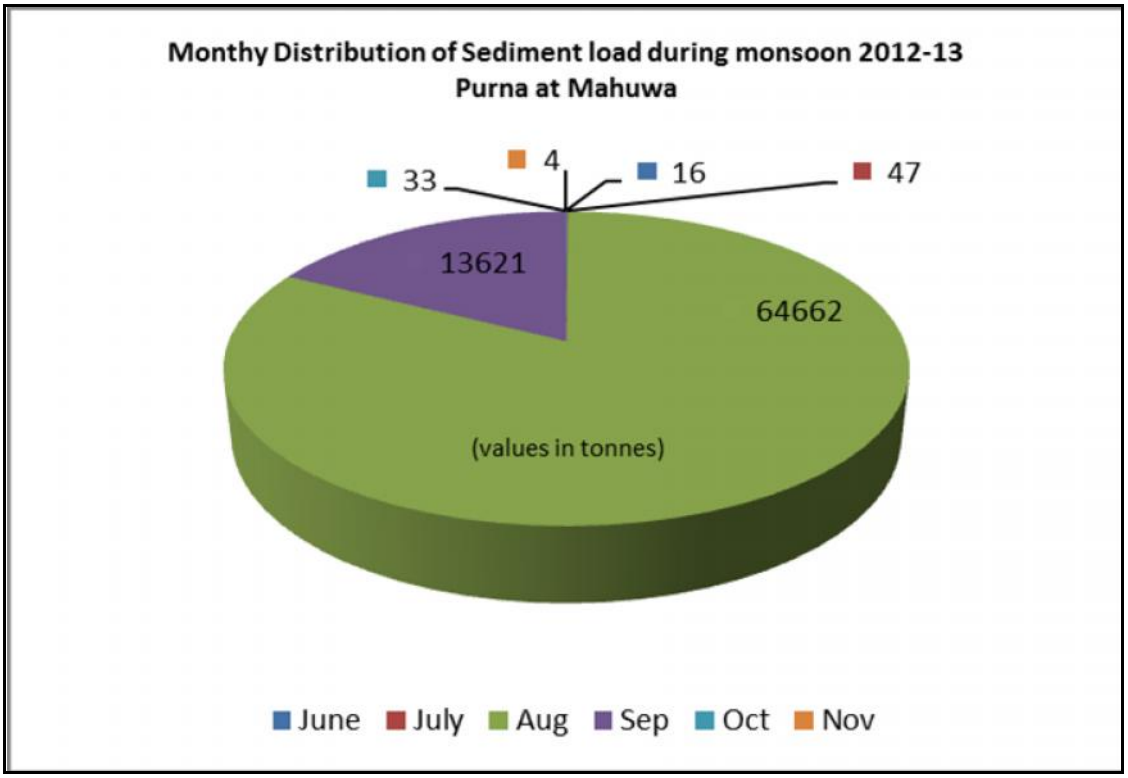
Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)	Annual Sediment yield in mm
2005-2006	2417792	51	2417843	3395	0.8657
2006-2007	869388	0	869388	2552	0.3113
2007-2008	604493	0	604493	1755	0.2164
2008-2009	331705	32	331737	2023	0.1188
2009-2010	59126	0	59126	571	0.0212
2010-2011	153808	0	153808	926	0.0551
2011-2012	136823	0	136823	860	0.0490
2012-2013	78385	0	78385	525	0.0281

Annual Sediment Load for the period: 2005-2013

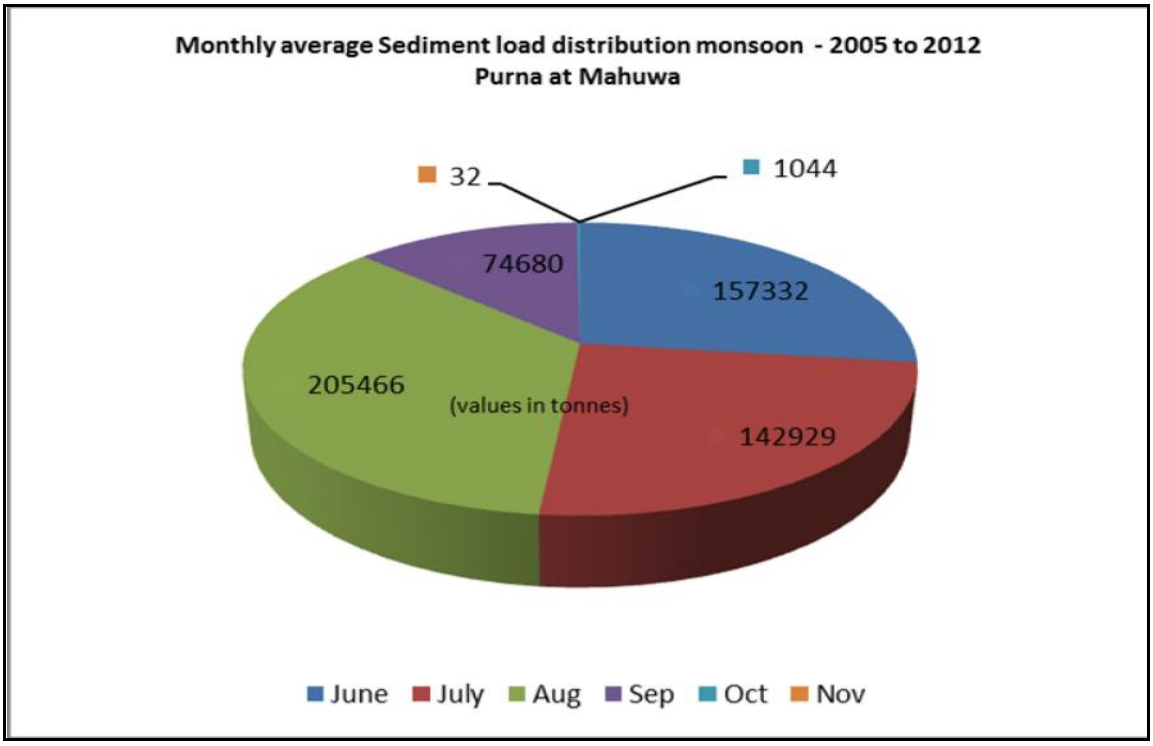
Station Name : Purna at Mahuwa (01 02 19 001) **Division : Tapi Division, Surat**

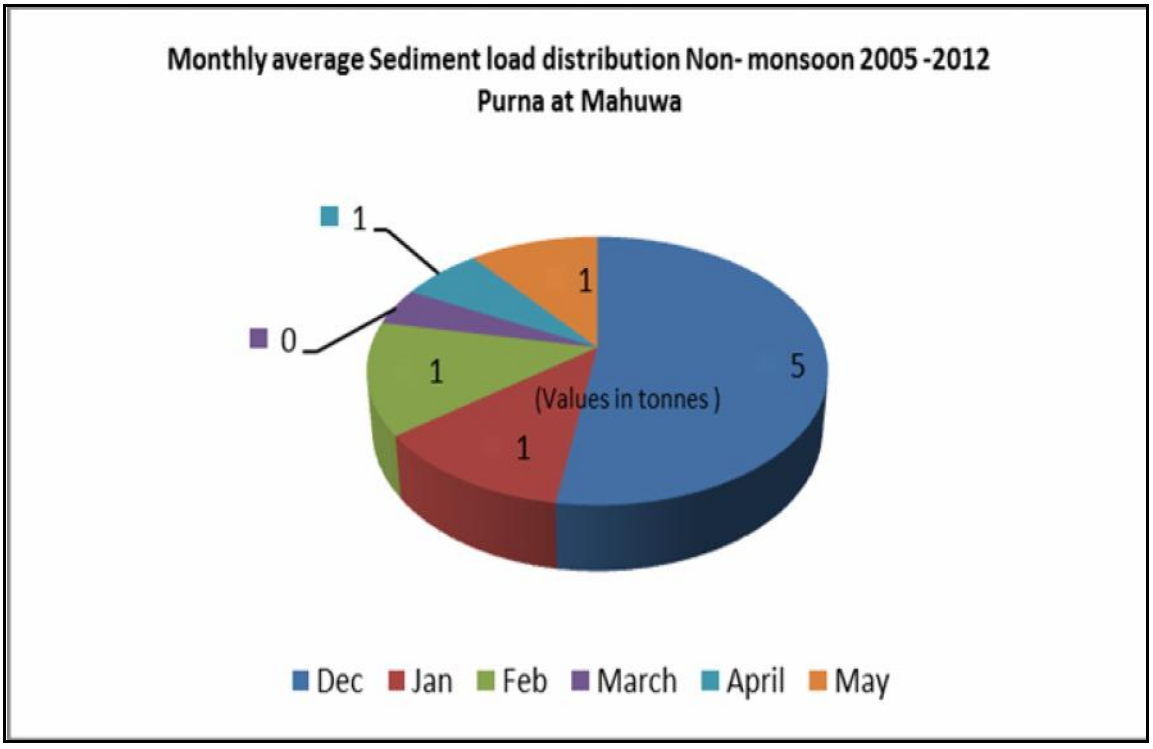
Local River : **Sub-Division : LTSD,CWC,Surat**





Monthy Distribution of Sediment load during Non- monsoon 2012-13
Purna at Mahuwa No sediment was observed in any month


Monthly average Sediment load distribution monsoon - 2005 to 2012
Purna at Mahuwa
32
1044
74680
157332
205466
(values in tonnes)
142929
June
July
Aug
Sep
Oct
Nov


Monthly average Sediment load distribution Non- monsoon 2005 -2012
Purna at Mahuwa
1
1
0
1
5
(Values in tonnes)
1
Dec
Jan
Feb
March
April
May

4.8 Ambika Basin

The river Ambika is one of the west flowing rivers in Gujarat State. It originates from Satapura hill ranges and flows through Dangs and Valsad districts of Gujarat. After flowing for a length of 136 km, it falls into the Arabian Sea. The catchment area of Ambika basin is 2715 sq.km. The basin lies between $72^0$50' and 73^0 50' east longitudes and 20^0 03' and 21^0 08' north latitudes. The important tributaries of Ambika are Khapri and Walam.

There is only one monitoring station at Gadat for analysis of sediment load in Ambika basin. A brief about the station is given in section- 4.8.1

4.8.1. Ambika at Gadat

The station has a Catchment area of 1,510 sq km. The sediment rating curve at the site is given in **Fig-32**. The maximum sediment concentration of 0.275 g/l was observed on 01.08.2012. The total sediment load during the year is 1,06,451 metric tonnes. The monsoon load constitutes 100 % of the total load. The annual sediment yield over the catchment during water year 2012-13 is 0.0504 mm. Annual sediment yield over the period of observations is given in **Fig-33**. It is seen from the analysis that sediment yield does not follow any trend over the years. It is seen from **Fig-34** that a very strong positive correlation exists between annual yield and annual runoff.

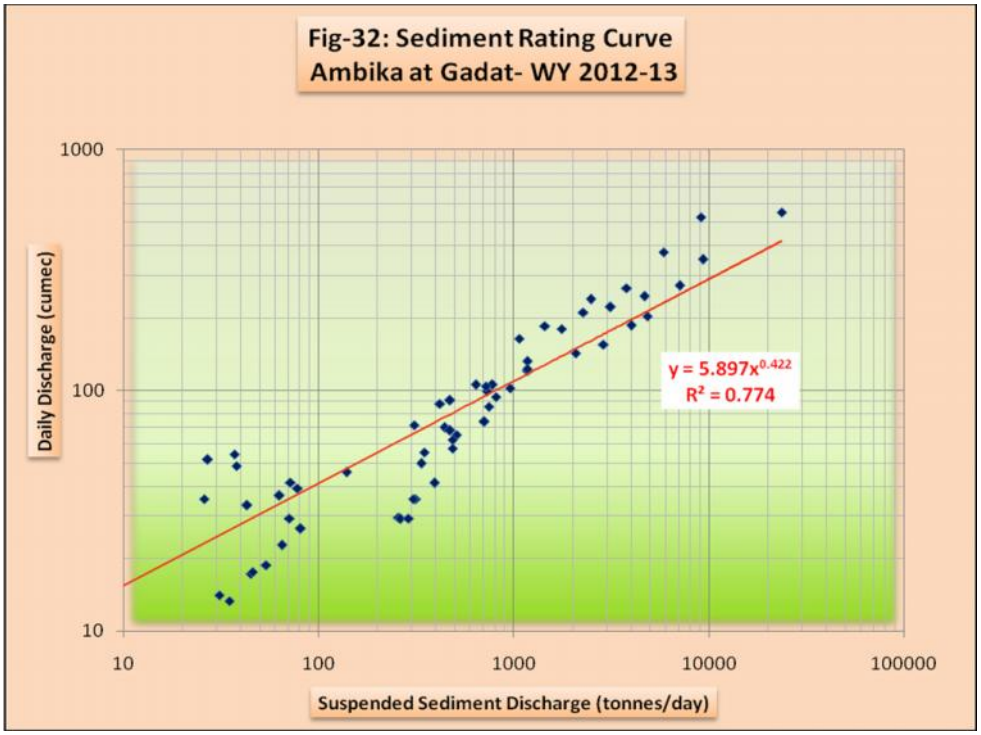


Fig-32: Sediment Rating Curve
Ambika at Gadat- WY 2012-13
Daily Discharge (cumec)
1000
100
10
y = 5.897x^0.422
R² = 0.774
10
100
1000
10000
100000
Suspended Sediment Discharge (tonnes/day)

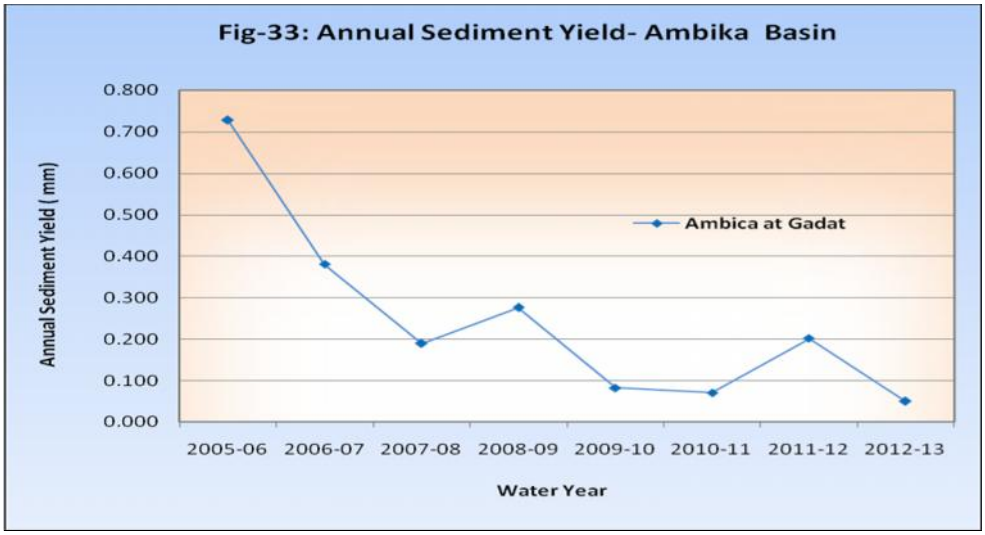


Fig-33: Annual Sediment Yield- Ambika Basin
Annual Sediment Yield (mm)
0.800
0.700
0.600
0.500
0.400
0.300
0.200
0.100
0.000
Ambica at Gadat
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
Water Year

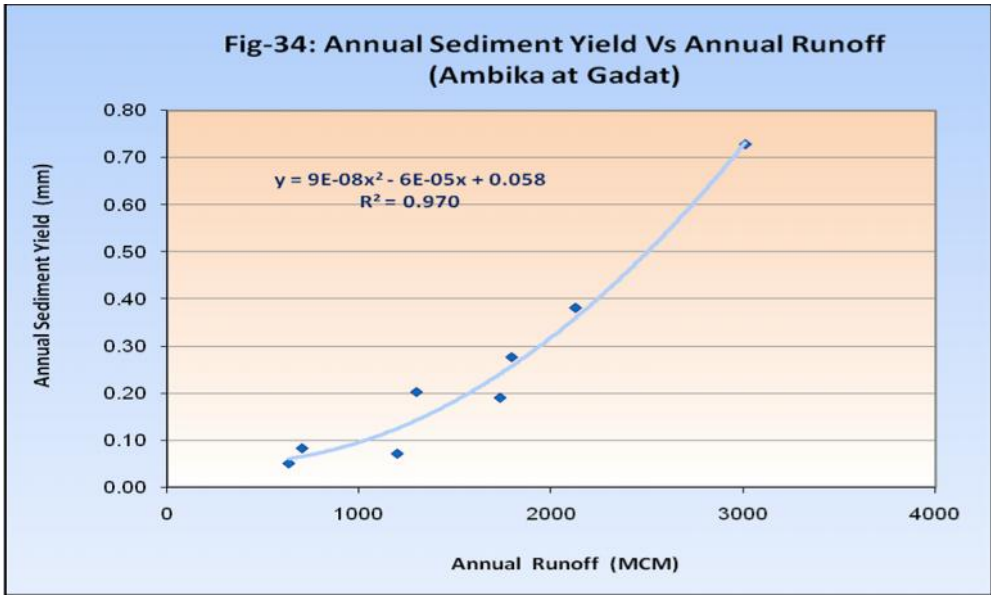
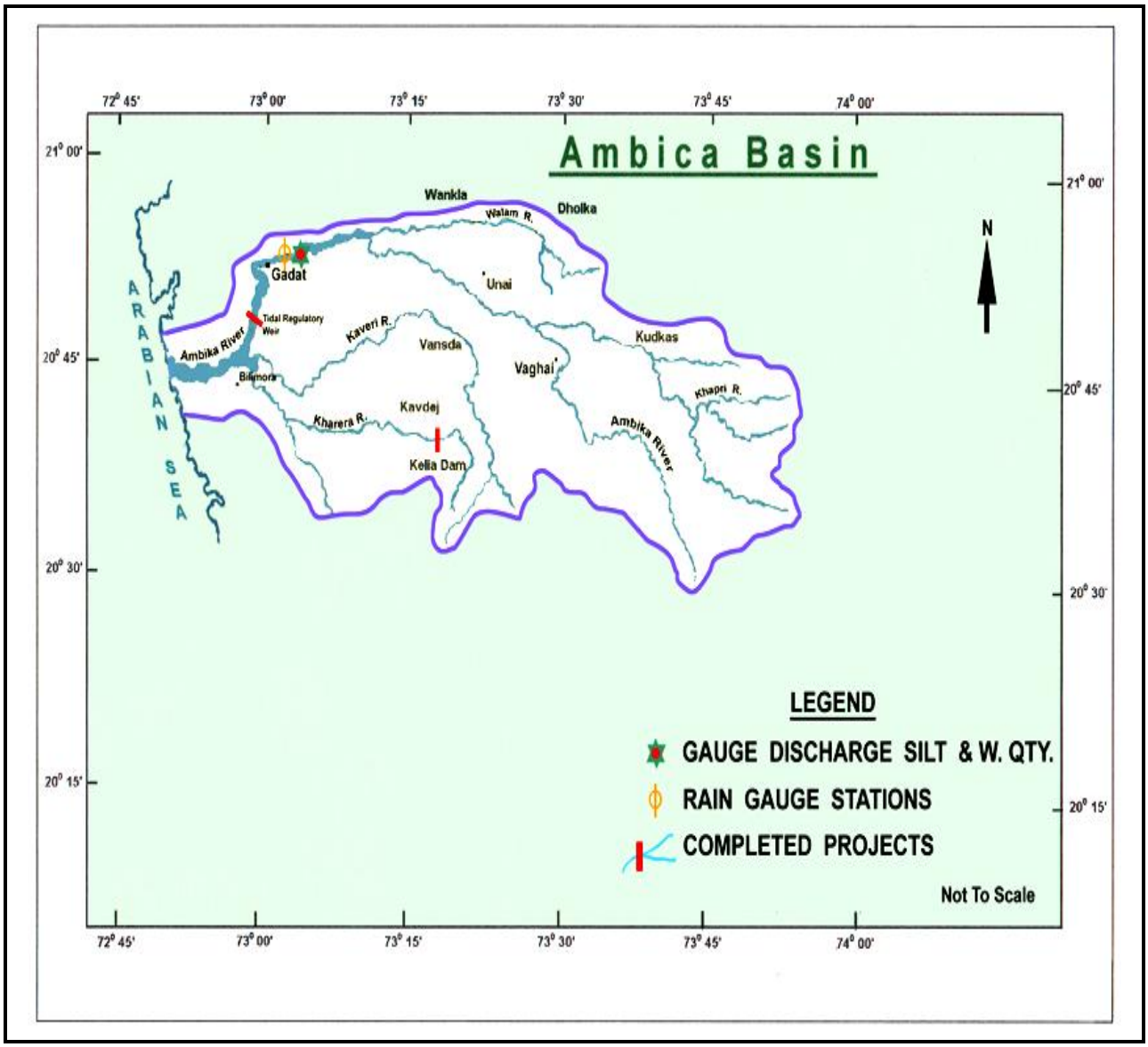


Fig-34: Annual Sediment Yield Vs Annual Runoff
(Ambika at Gadat)
Annual Sediment Yield (mm)
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
y = 9E-08x² - 6E-05x + 0.058
R² = 0.970
0
1000
2000
3000
4000
Annual Runoff (MCM)

Plate -4.8 Ambika Basin



HISTORY SHEET

		Water Year	**: 2012-2013**
Site	**: Ambica at Gadat**	**Code**	**: 01 02 20 001**
State	: Gujarat	District	Valsad
Basin	: WFR South of Tapi	Independent River	: Ambika
Tributary	:	Sub Tributary	:
Sub-Sub Tributary	:	Local River	:
Division	: Surat	Sub-Division	: Surat
Drainage Area	: 1510 Sq. Km.	Bank	:
Latitude	: 20°51'22" N	Longitude	: 72°59'05" E
Zero of Gauge (m)	: 1.5 (m.s.l)	14/01/1979	-

	Opening Date	Closing Date
Gauge	: 14/01/1979	
Discharge	: 12/03/1979	
Sediment	: 01/02/1985	
Water Quality	: 01/04/1980	

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Ambica at Gadat (01 02 20 001) **Division : Surat**

Local River : **Sub-Division : Surat**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	203.5	0.000	0.000	0.275	0.275	4836
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	120.8	0.000	0.000	0.113	0.113	1179
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	71.74	0.000	0.000	0.050	0.050	310
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	54.24	0.000	0.000	0.008	0.008	37
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	35.45	0.000	0.000	0.009	0.009	26
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	48.68	0.000	0.000	0.009	0.009	38
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	51.70	0.000	0.000	0.006	0.006	27
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	44.57	0.000	0.000	0.002	0.002	8
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	28.71	0.000	0.000	0.001	0.001	2
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	525.7	0.000	0.000	0.200	0.200	9083
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	93.90	0.000	0.000	0.100	0.100	811
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	375.5	0.000	0.000	0.180	0.180	5839
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	548.7	0.000	0.268	0.228	0.496	23514
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	350.0	0.000	0.161	0.148	0.309	9344
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	179.8	0.000	0.000	0.113	0.113	1755
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	132.0	0.000	0.000	0.103	0.103	1175
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	85.74	0.000	0.000	0.101	0.101	748
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	74.29	0.000	0.000	0.110	0.110	706
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	65.34	0.000	0.000	0.090	0.090	508
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	62.50	0.000	0.000	0.090	0.090	486
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	41.24	0.000	0.000	0.110	0.110	392
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	35.39	0.000	0.000	0.103	0.103	315
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	29.76	0.000	0.000	0.100	0.100	257
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	29.29	0.000	0.000	0.103	0.103	261
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	29.33	0.000	0.000	0.114	0.114	289
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	35.45	0.000	0.000	0.100	0.100	306
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	57.42	0.000	0.000	0.098	0.098	486
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	186.5	0.000	0.000	0.249	0.249	4011
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	272.8	0.000	0.000	0.300	0.300	7071
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	155.0	0.000	0.000	0.215	0.215	2879
31							0.000	0.000	0.000	0.000	0.000	0	246.0	0.000	0.000	0.220	0.220	4676
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	118.5	0.000	0.000	0.067	0.067	1555
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	196.8	0.000	0.043	0.126	0.169	4489
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	101.6	0.000	0.000	0.156	0.156	1904
Monthly																		
Total						0						0						81376

Annual Sediment Load (Metric Tonnes) : 106451

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Ambica at Gadat (01 02 20 001) **Division : Surat**

Local River : **Sub-Division : Surat**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	222.6	0.000	0.000	0.163	0.163	3135	13.34	0.000	0.000	0.030	0.030	35	0.000	0.000	0.000	0.000	0.000	0
2	99.18	0.000	0.000	0.085	0.085	728	14.13	0.000	0.000	0.025	0.025	31	0.000	0.000	0.000	0.000	0.000	0
3	70.27	0.000	0.000	0.073	0.073	443	16.18	0.000	0.000	0.026	0.026	36	0.000	0.000	0.000	0.000	0.000	0
4	105.8	0.000	0.000	0.085	0.085	777	16.18	0.000	0.000	0.026	0.026	36	0.000	0.000	0.000	0.000	0.000	0
5	185.8	0.000	0.000	0.090	0.090	1445	18.61	0.000	0.000	0.027	0.027	43	0.000	0.000	0.000	0.000	0.000	0
6	265.9	0.000	0.000	0.165	0.165	3791	18.61	0.000	0.000	0.027	0.027	43	0.000	0.000	0.000	0.000	0.000	0
7	238.9	0.000	0.000	0.120	0.120	2477	18.61	0.000	0.000	0.027	0.027	43	0.000	0.000	0.000	0.000	0.000	0
8	123.1	0.000	0.000	0.110	0.110	1170	18.61	0.000	0.000	0.026	0.026	42	0.000	0.000	0.000	0.000	0.000	0
9	87.90	0.000	0.000	0.055	0.055	418	19.72	0.000	0.000	0.033	0.033	56	0.000	0.000	0.000	0.000	0.000	0
10	102.5	0.000	0.000	0.108	0.108	956	18.84	0.000	0.000	0.032	0.032	52	0.000	0.000	0.000	0.000	0.000	0
11	164.0	0.000	0.000	0.075	0.075	1063	18.87	0.000	0.000	0.033	0.033	54	0.000	0.000	0.000	0.000	0.000	0
12	210.6	0.000	0.000	0.125	0.125	2275	17.57	0.000	0.000	0.035	0.035	53	0.000	0.000	0.000	0.000	0.000	0
13	104.2	0.000	0.000	0.080	0.080	720	15.33	0.000	0.000	0.018	0.018	24	0.000	0.000	0.000	0.000	0.000	0
14	105.8	0.000	0.000	0.070	0.070	640	12.46	0.000	0.000	0.016	0.016	17	0.000	0.000	0.000	0.000	0.000	0
15	142.7	0.000	0.000	0.168	0.168	2072	12.71	0.000	0.000	0.015	0.015	16	0.000	0.000	0.000	0.000	0.000	0
16	91.08	0.000	0.000	0.060	0.060	472	10.87	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	68.22	0.000	0.000	0.080	0.080	472	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	55.39	0.000	0.000	0.073	0.073	349	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	49.73	0.000	0.000	0.078	0.078	335	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	41.42	0.000	0.000	0.020	0.020	72	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	45.80	0.000	0.000	0.035	0.035	139	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	39.33	0.000	0.000	0.023	0.023	78	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	36.62	0.000	0.000	0.020	0.020	63	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	33.34	0.000	0.000	0.015	0.015	43	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	29.47	0.000	0.000	0.028	0.028	71	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	26.71	0.000	0.000	0.035	0.035	81	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	22.74	0.000	0.000	0.033	0.033	65	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	18.85	0.000	0.000	0.033	0.033	54	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	17.33	0.000	0.000	0.030	0.030	45	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	17.68	0.000	0.000	0.030	0.030	46	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31							0.000	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	150.2	0.000	0.000	0.105	0.105	1534	17.28	0.000	0.000	0.028	0.028	42	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	103.3	0.000	0.000	0.083	0.083	847	8.781	0.000	0.000	0.012	0.012	16	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	28.79	0.000	0.000	0.028	0.028	68	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						24493						583						0

Annual Sediment Load (Metric Tonnes) : 106451

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Ambica at Gadat (01 02 20 001) **Division : Surat**

Local River : **Sub-Division : Surat**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
31	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0						
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 106451

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Ambica at Gadat (01 02 20 001) **Division : Surat**

Local River : **Sub-Division : Surat**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
2	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
3	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
4	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
5	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
6	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
7	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
8	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
9	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
10	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
11	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
12	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
13	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
14	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
15	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
16	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
17	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
18	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
19	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
20	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
21	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
22	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
23	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
24	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
25	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
26	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
27	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
28	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
29	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
30	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
31	0.000	0.000	0.000	0.000	0.000	0							0.000	0.000	0.000	0.000	0.000	0
Ten Daily Mean																		
Ten Daily I	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily II	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Ten Daily III	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0	0.000	0.000	0.000	0.000	0.000	0
Monthly																		
Total						0						0						0

Annual Sediment Load (Metric Tonnes) : 106451

Annual Sediment Load for period : 2005-2013

Station Name : Ambica at Gadat (01 02 20 001) **Division : Surat**

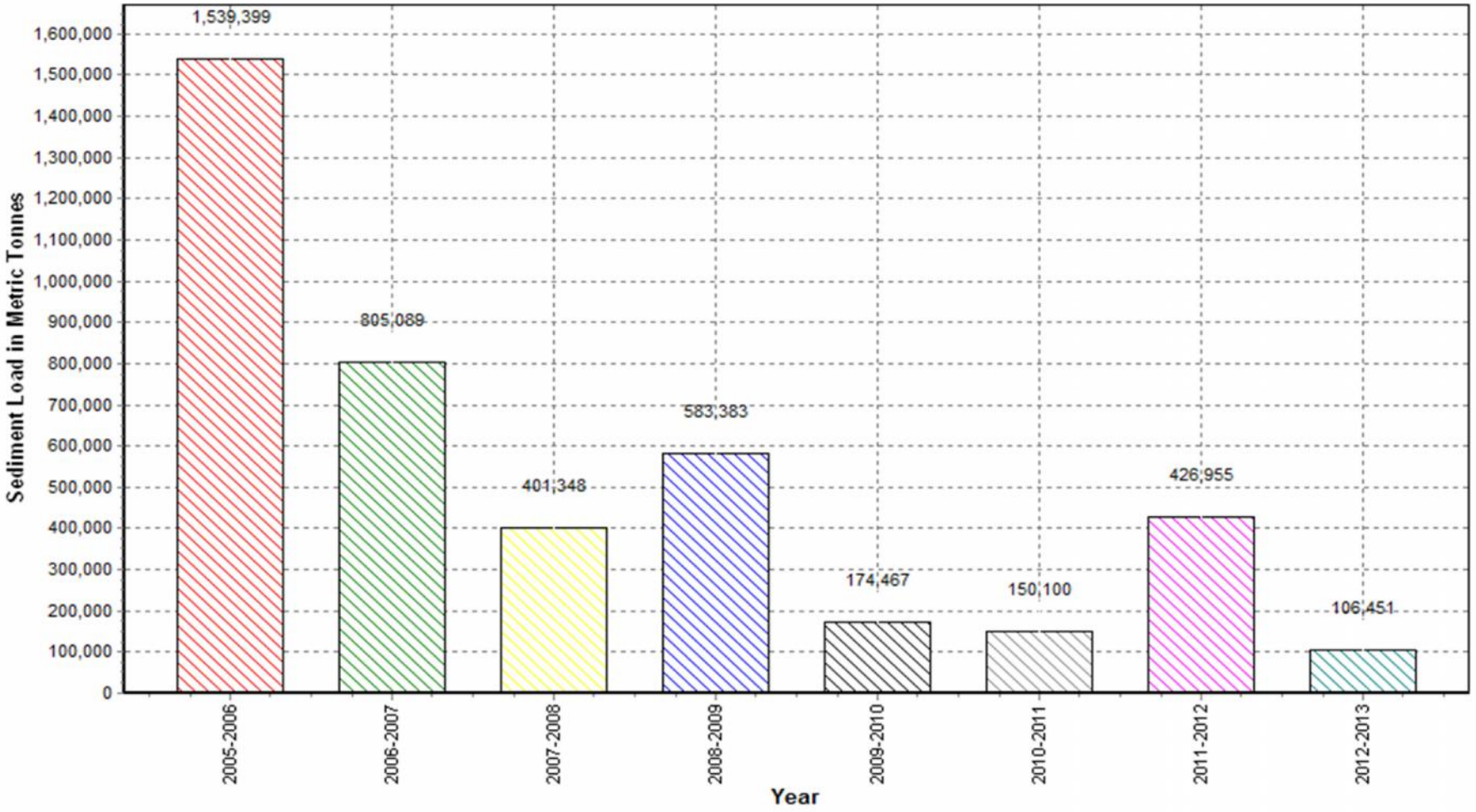
Local River : **Sub-Division : Surat**

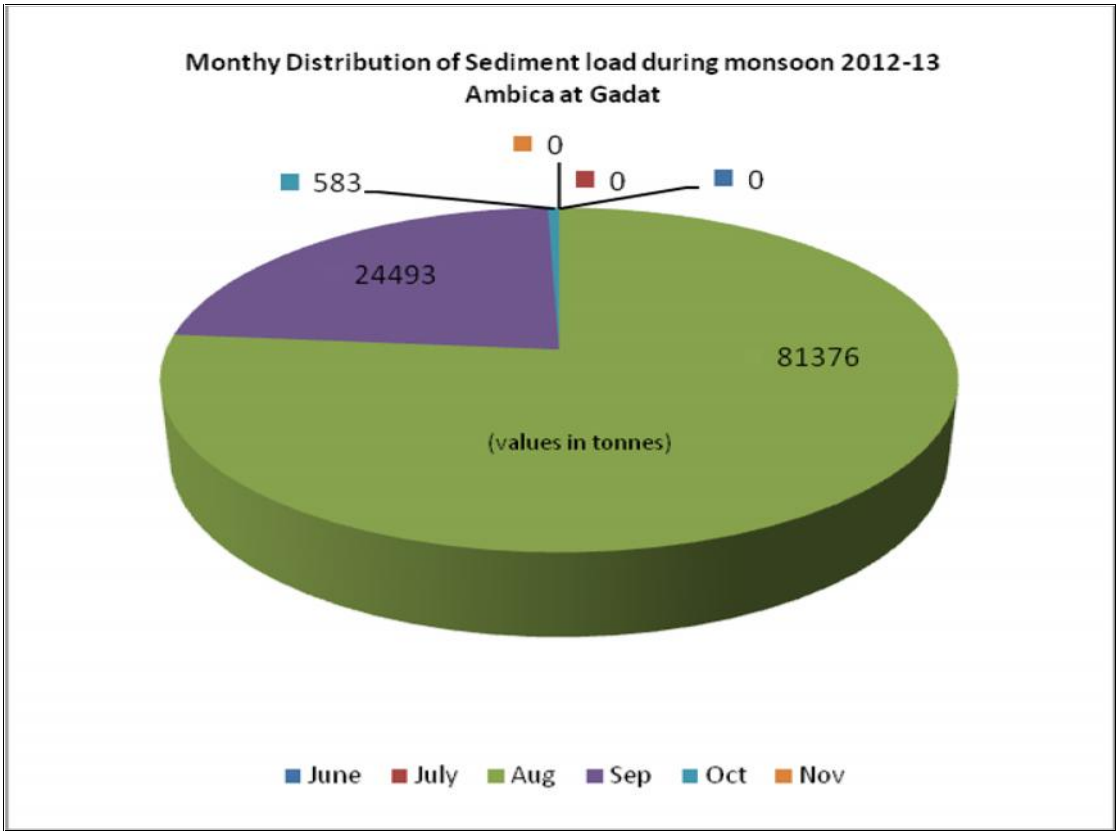
Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)	Annual Sediment yield in mm
2005-2006	1539399	0	1539399	3010	0.7282
2006-2007	805089	0	805089	2126	0.3808
2007-2008	401348	0	401348	1734	0.1899
2008-2009	583383	0	583383	1794	0.2760
2009-2010	174467	0	174467	704	0.0825
2010-2011	150100	0	150100	1199	0.0710
2011-2012	426955	0	426955	1299	0.2020
2012-2013	106451	0	106451	635	0.0504

Annual Sediment Load for the period: 2005-2013

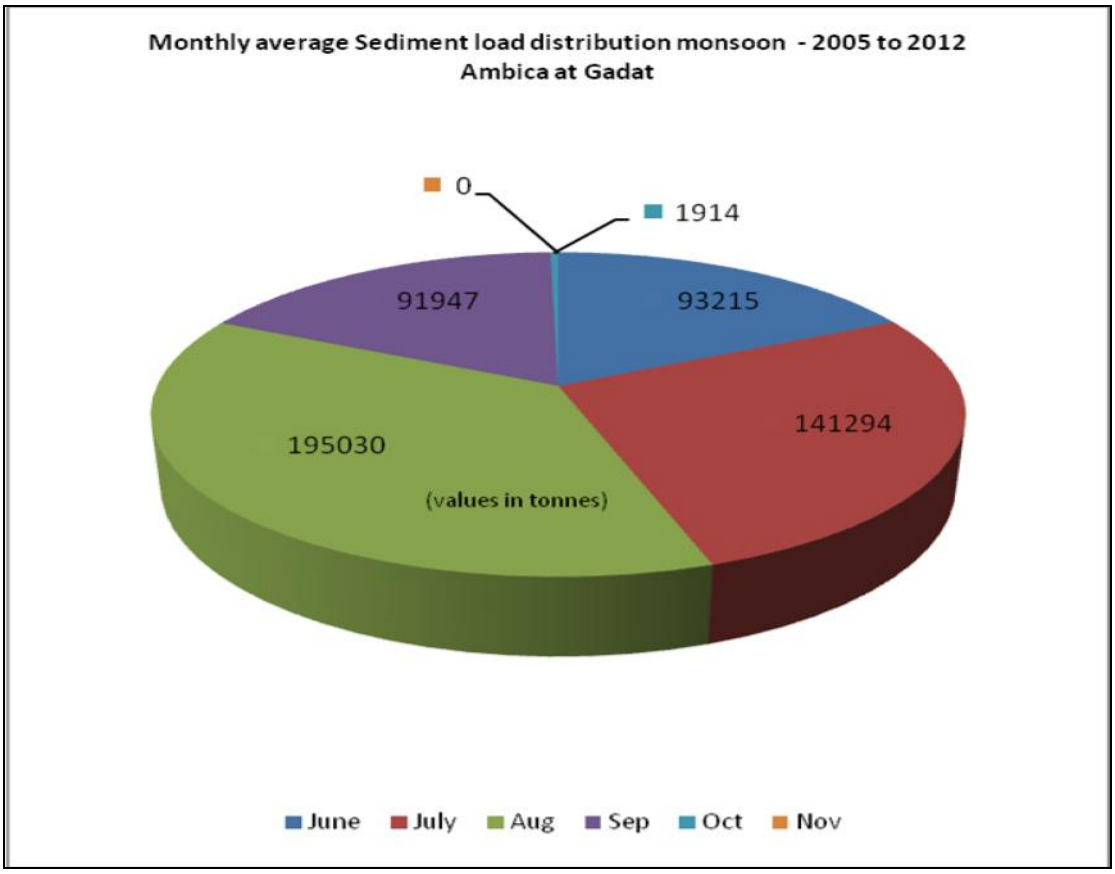
Station Name : Ambica at Gadat (01 02 20 001) **Division : Surat**

Local River : **Sub-Division : Surat**





Monthly average Sediment load distribution Non- monsoon 2012-13
Ambica at Gadat No sediment was observed in any month



Monthly average Sediment load distribution Non- monsoon 2005- 2012
Ambica at Gadat No sediment was observed in any month

4.9 Vaitarna Basin

The river Vaitarna originates from hilly terrain of Maharashtra at Trimbak in Nasik district. After running for 120 km in Maharashtra towards west, it falls into the Arabian Sea. The catchment area of the basin is 3,637 sq.km. This drainage area is located between east longitudes of 72° 45' and 73° 35' and north latitudes of 19° 30' and 20° 20'. The main tributaries of this river are Pinjal, Garjal, Surya, Daharji and Tansa. There are some irrigation projects under construction namely Surya and Wandri on the tributaries of the Vaitarna river

There is only one hydrological observation site on Vaitarna river at Durvesh which is situated at the upstream of confluence of Surya and Tansa tributaries. A brief about the station is given in section- 4.9.1

4.9.1. Vaitarna at Durvesh

The station has a Catchment area of 2,019 sq km. The sediment rating curve at the site is given in **Fig-35**. The maximum sediment concentration of 0.764 g/l was observed on 04.09.2012. The total sediment load during the year is 8,00,614 metric tonnes. The monsoon load constitutes 100 % of the total load. The annual sediment yield over the catchment during water year 2012-13 is 0.2832 mm. Annual sediment yield over the period of observations is given in **Fig-36** It is seen from **Fig-37** that fairly strong positive correlation exists between annual yield and annual runoff.

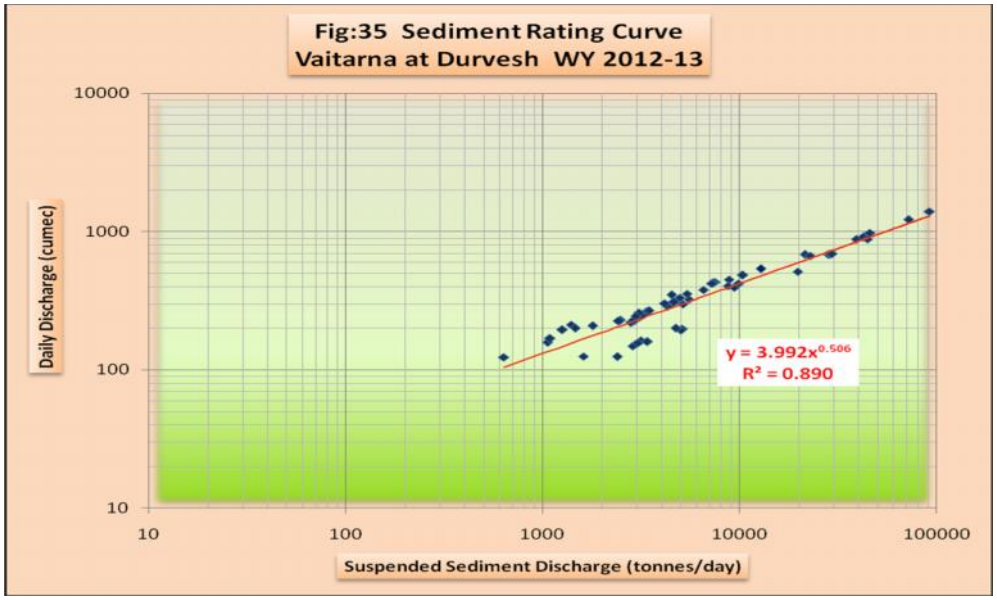


Fig:35 Sediment Rating Curve
Vaitarna at Durvesh WY 2012-13
Daily Discharge (cumec)
10000
1000
100
10
10
100
1000
10000
100000
Suspended Sediment Discharge (tonnes/day)
y = 3.992x^0.506
R² = 0.890

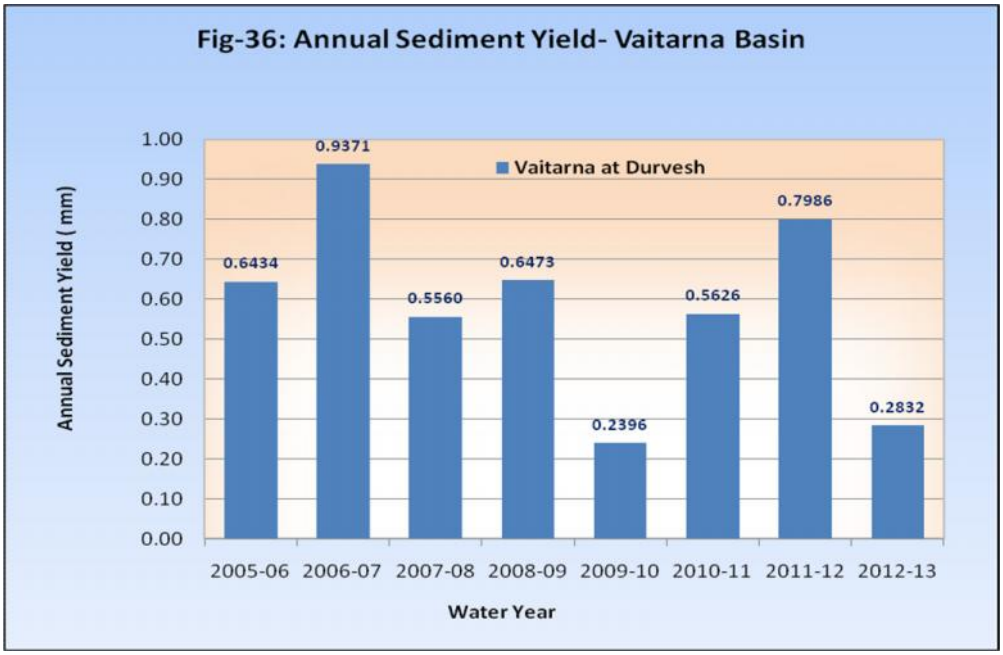


Fig-36: Annual Sediment Yield- Vaitarna Basin
Annual Sediment Yield (mm)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Vaitarna at Durvesh
0.6434
0.9371
0.5560
0.6473
0.2396
0.5626
0.7986
0.2832
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
Water Year

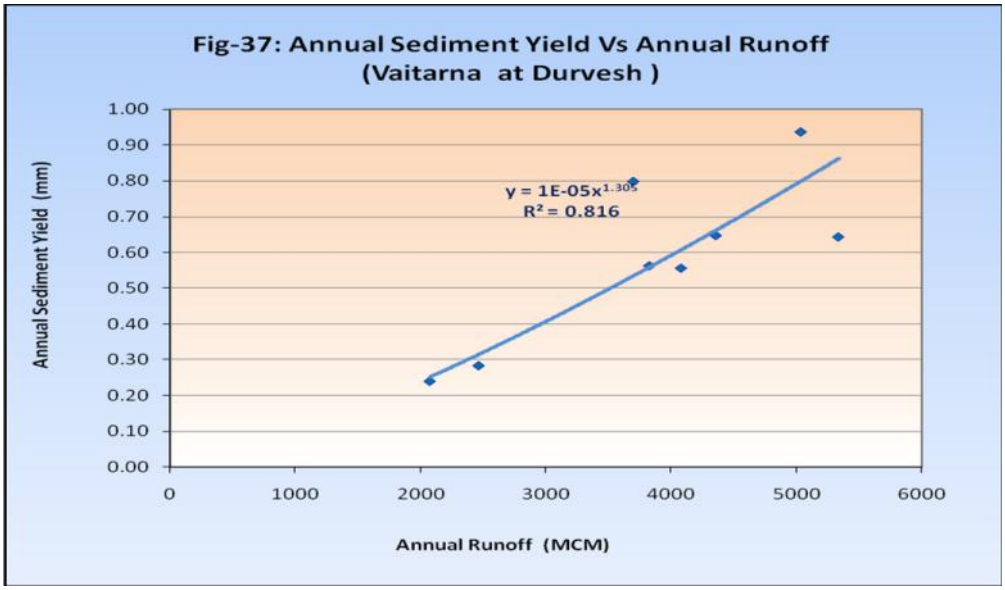
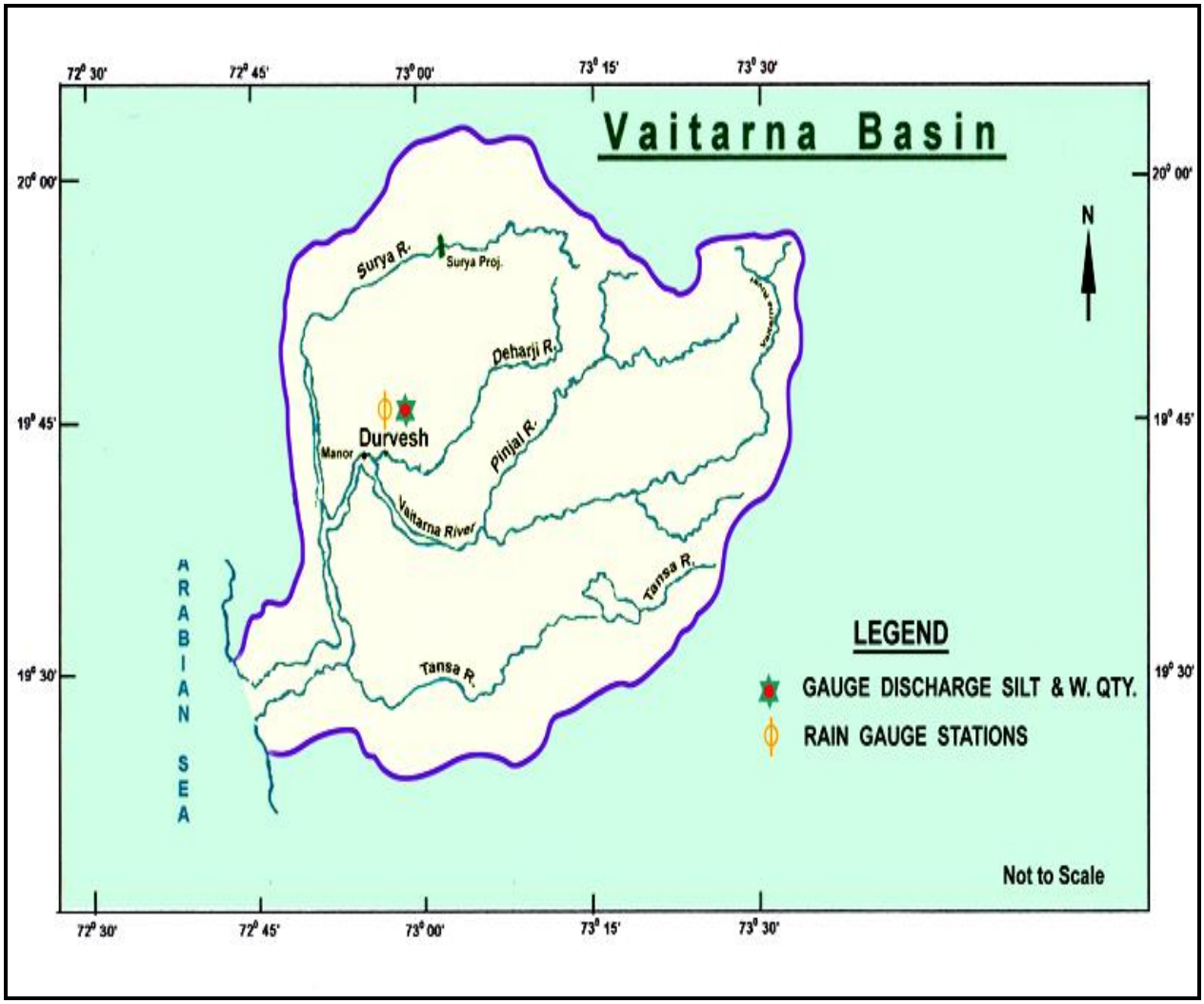


Fig-37: Annual Sediment Yield Vs Annual Runoff
(Vaitarna at Durvesh)
Annual Sediment Yield (mm)
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
0
1000
2000
3000
4000
5000
6000
Annual Runoff (MCM)
y = 1E-05x^1.305
R² = 0.816

Plate – 4.9 Vaitarna Basin



HISTORY SHEET

		Water Year	**: 2012-2013**
Site	**: Vaitarna at Durvesh**	**Code**	**: 01 02 25 001**
State	: Maharashtra	District	Thane
Basin	: WFR South of Tapi	Independent River	: Vaitarna
Tributary	:	Sub Tributary	:
Sub-Sub Tributary	:	Local River	:
Division	: Tapi Division, Surat	Sub-Division	: DGSD,Silvassa
Drainage Area	: 2019 Sq. Km.	Bank	:
Latitude	: 19°42'45" N	Longitude	: 72°55'50" E
Zero of Gauge (m)	: 0 (m.s.l)	26/10/1970	-
	Opening Date	Closing Date	
Gauge	: 26/10/1970		
Discharge	: 26/01/1971		
Sediment	: 26/01/1971		
Water Quality	: 01/06/1977		

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Vaitarna at Durvesh (01 02 25 001) **Division : Tapi Division, Surat**

Local River : **Sub-Division : DGSD,CWC,Silvassa**

Day	Jun						Jul						Aug					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	907.0	0.05	0.07	0.43	0.54	42630.45
2.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	394.7	0.00	0.00	0.27	0.27	9344.88
3.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	263.0	0.00	0.00	0.15	0.15	3408.36
4.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	245.3	0.00	0.00	0.15	0.15	3157.31
5.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	224.8	0.00	0.00	0.15	0.15	2913.02
6.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	225.0	0.00	0.00	0.13	0.13	2429.94
7.00	0.000	0.00	0.00	0.00	0.00	0.00	0.618	0.00	0.00	0.01	0.01	0.27	241.0	0.00	0.00	0.15	0.15	3122.91
8.00	0.000	0.00	0.00	0.00	0.00	0.00	0.264	0.00	0.00	0.00	0.00	0.07	218.7	0.00	0.00	0.15	0.15	2796.80
9.00	0.000	0.00	0.00	0.00	0.00	0.00	0.264	0.00	0.00	0.00	0.00	0.05	247.0	0.00	0.00	0.15	0.15	3179.79
10.00	0.000	0.00	0.00	0.00	0.00	0.00	0.800	0.00	0.00	0.00	0.00	0.07	297.5	0.00	0.00	0.20	0.20	5141.15
11.00	0.000	0.00	0.00	0.00	0.00	0.00	123.7	0.00	0.00	0.22	0.22	2393.77	433.1	0.00	0.00	0.20	0.20	7520.93
12.00	0.000	0.00	0.00	0.00	0.00	0.00	450.6	0.00	0.00	0.23	0.23	8798.43	424.1	0.00	0.00	0.20	0.20	7328.10
13.00	0.000	0.00	0.00	0.00	0.00	0.00	316.0	0.00	0.00	0.18	0.18	4778.39	419.7	0.00	0.00	0.20	0.20	7252.53
14.00	0.000	0.00	0.00	0.00	0.00	0.00	250.3	0.00	0.00	0.15	0.15	3244.35	307.7	0.00	0.00	0.18	0.18	4652.76
15.00	0.000	0.00	0.00	0.00	0.00	0.00	197.6	0.00	0.00	0.30	0.30	5121.01	255.6	0.00	0.00	0.14	0.14	3091.74
16.00	0.000	0.00	0.00	0.00	0.00	0.00	154.3	0.00	0.00	0.22	0.22	2985.40	212.3	0.00	0.00	0.08	0.08	1393.81
17.00	0.000	0.00	0.00	0.00	0.00	0.00	148.5	0.00	0.00	0.22	0.22	2862.01	194.5	0.00	0.00	0.08	0.08	1260.31
18.00	0.000	0.00	0.00	0.00	0.00	0.00	258.9	0.00	0.00	0.15	0.15	3355.77	157.5	0.00	0.00	0.08	0.08	1061.11
19.00	0.000	0.00	0.00	0.00	0.00	0.00	975.3	0.00	0.10	0.45	0.55	45924.93	199.6	0.00	0.00	0.09	0.09	1465.94
20.00	0.000	0.00	0.00	0.00	0.00	0.00	873.6	0.06	0.08	0.38	0.52	38871.71	347.0	0.00	0.00	0.15	0.15	4497.51
21.00	0.000	0.00	0.00	0.00	0.00	0.00	419.6	0.00	0.00	0.27	0.27	9896.04	286.4	0.00	0.00	0.17	0.17	4305.75
22.00	0.000	0.00	0.00	0.00	0.00	0.00	193.5	0.00	0.00	0.30	0.30	5015.78	227.8	0.00	0.00	0.15	0.15	2912.78
23.00	0.000	0.00	0.00	0.00	0.00	0.00	161.0	0.00	0.00	0.23	0.23	3143.93	266.1	0.00	0.00	0.15	0.15	3471.75
24.00	0.000	0.00	0.00	0.00	0.00	0.00	159.0	0.00	0.00	0.25	0.25	3406.92	207.7	0.00	0.00	0.10	0.10	1794.70
25.00	0.000	0.00	0.00	0.00	0.00	0.00	303.0	0.00	0.00	0.17	0.17	4529.54	168.4	0.00	0.00	0.08	0.08	1091.02
26.00	0.000	0.00	0.00	0.00	0.00	0.00	227.7	0.00	0.00	0.13	0.13	2478.54	122.9	0.00	0.00	0.06	0.06	637.32
27.00	0.000	0.00	0.00	0.00	0.00	0.00	199.9	0.00	0.00	0.27	0.27	4732.09	322.3	0.00	0.00	0.20	0.20	5512.88
28.00	0.000	0.00	0.00	0.00	0.00	0.00	156.7	0.00	0.00	0.22	0.22	3033.67	683.9	0.04	0.08	0.37	0.49	29012.68
29.00	0.000	0.00	0.00	0.00	0.00	0.00	124.6	0.00	0.00	0.15	0.15	1615.20	690.6	0.04	0.08	0.38	0.49	29416.25
30.00	0.000	0.00	0.00	0.00	0.00	0.00	513.1	0.04	0.06	0.35	0.45	19727.67	354.9	0.00	0.00	0.18	0.18	5396.85
31.00							680.5	0.04	0.07	0.37	0.48	28398.08	680.5	0.05	0.10	0.22	0.36	21342.66
Ten Daily Mean																		
Ten Daily I	0.000	0.00	0.00	0.00	0.00	0.00	0.195	0.00	0.00	0.00	0.00	0.05	326.4	0.00	0.01	0.19	0.20	7812.46
Ten Daily II	0.000	0.00	0.00	0.00	0.00	0.00	374.9	0.01	0.02	0.25	0.27	11833.58	295.1	0.00	0.00	0.14	0.14	3952.47
Ten Daily III	0.000	0.00	0.00	0.00	0.00	0.00	285.3	0.01	0.01	0.25	0.27	7816.13	364.7	0.01	0.02	0.19	0.22	9535.88
Monthly																		
Total						0.00						204313.68						222543.96

Annual Sediment Load (Metric Tonnes) : 800614

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Vaitarna at Durvesh (01 02 25 001) **Division : Tapi Division, Surat**

Local River : **Sub-Division : DGSD,CWC,Silvassa**

Day	Sep						Oct						Nov					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1.00	330.2	0.00	0.00	0.17	0.17	4964.53	43.00	0.00	0.00	0.15	0.15	560.95	6.788	0.00	0.00	0.12	0.12	70.37
2.00	244.4	0.00	0.00	0.14	0.14	2956.38	47.20	0.00	0.00	0.15	0.15	611.71	6.156	0.00	0.00	0.12	0.12	62.76
3.00	402.6	0.00	0.00	0.25	0.25	8730.22	78.78	0.00	0.00	0.23	0.23	1531.48	6.082	0.00	0.00	0.12	0.12	60.43
4.00	1394	0.06	0.08	0.62	0.76	92017.38	131.0	0.00	0.00	0.25	0.25	2818.24	8.960	0.00	0.00	0.10	0.10	80.51
5.00	1213	0.04	0.05	0.60	0.69	71895.00	122.9	0.00	0.00	0.25	0.25	2632.58	5.814	0.00	0.00	0.10	0.10	52.24
6.00	535.7	0.00	0.00	0.28	0.28	12774.32	104.7	0.00	0.00	0.20	0.20	1808.70	5.449	0.00	0.00	0.10	0.10	48.02
7.00	665.0	0.02	0.03	0.35	0.40	22866.90	97.14	0.00	0.00	0.25	0.25	2098.22	4.973	0.00	0.00	0.10	0.10	41.25
8.00	378.5	0.00	0.00	0.20	0.20	6540.57	157.1	0.00	0.00	0.25	0.25	3406.24	4.314	0.00	0.00	0.09	0.09	34.29
9.00	302.3	0.00	0.00	0.16	0.16	4179.55	109.7	0.00	0.00	0.20	0.20	1895.75	3.854	0.00	0.00	0.09	0.09	29.30
10.00	483.3	0.00	0.00	0.25	0.25	10355.64	73.32	0.00	0.00	0.23	0.23	1425.37	3.355	0.00	0.00	0.09	0.09	24.93
11.00	881.0	0.02	0.04	0.52	0.58	44377.03	68.56	0.00	0.00	0.17	0.17	1030.77	3.830	0.00	0.00	0.09	0.09	28.46
12.00	637.7	0.02	0.08	0.33	0.43	23746.93	63.61	0.00	0.00	0.17	0.17	956.35	2.871	0.00	0.00	0.09	0.09	21.34
13.00	316.9	0.00	0.00	0.35	0.35	9528.19	48.29	0.00	0.00	0.17	0.17	725.97	3.420	0.00	0.00	0.08	0.08	24.82
14.00	267.5	0.00	0.00	0.20	0.20	4576.47	43.80	0.00	0.00	0.12	0.12	454.12	2.584	0.00	0.00	0.09	0.09	18.98
15.00	251.1	0.00	0.00	0.15	0.15	3253.67	39.96	0.00	0.00	0.15	0.15	521.40	2.255	0.00	0.00	0.09	0.09	16.56
16.00	171.8	0.00	0.00	0.24	0.24	3562.24	37.64	0.00	0.00	0.13	0.13	406.56	2.030	0.00	0.00	0.08	0.08	14.73
17.00	170.3	0.00	0.00	0.22	0.22	3295.22	35.04	0.00	0.00	0.13	0.13	378.41	1.653	0.00	0.00	0.08	0.08	11.99
18.00	139.8	0.00	0.00	0.17	0.17	2102.13	31.31	0.00	0.00	0.15	0.15	403.06	1.960	0.00	0.00	0.08	0.08	14.22
19.00	131.3	0.00	0.00	0.15	0.15	1702.12	31.20	0.00	0.00	0.15	0.15	398.90	1.547	0.00	0.00	0.08	0.08	11.22
20.00	118.6	0.00	0.00	0.18	0.18	1793.69	28.48	0.00	0.00	0.15	0.15	364.23	1.395	0.00	0.00	0.08	0.08	10.00
21.00	127.2	0.00	0.00	0.18	0.18	1923.20	28.33	0.00	0.00	0.15	0.15	367.16	1.274	0.00	0.00	0.09	0.09	10.23
22.00	108.2	0.00	0.00	0.18	0.18	1644.58	25.88	0.00	0.00	0.15	0.15	330.99	1.074	0.00	0.00	0.09	0.09	8.72
23.00	80.83	0.00	0.00	0.17	0.17	1187.23	14.28	0.00	0.00	0.15	0.15	181.35	1.002	0.00	0.00	0.09	0.09	7.79
24.00	76.14	0.00	0.00	0.23	0.23	1493.37	13.00	0.00	0.00	0.15	0.15	162.86	0.764	0.00	0.00	0.09	0.09	5.94
25.00	70.58	0.00	0.00	0.15	0.15	914.78	11.26	0.00	0.00	0.15	0.15	142.96	0.000	0.00	0.00	0.09	0.09	0.00
26.00	65.25	0.00	0.00	0.15	0.15	834.39	10.11	0.00	0.00	0.15	0.15	128.46	0.483	0.00	0.00	0.09	0.09	3.71
27.00	62.52	0.00	0.00	0.17	0.17	939.92	15.66	0.00	0.00	0.15	0.15	196.19	0.404	0.00	0.00	0.09	0.09	3.07
28.00	60.09	0.00	0.00	0.17	0.17	898.15	14.93	0.00	0.00	0.14	0.14	180.59	0.340	0.00	0.00	0.09	0.09	2.56
29.00	53.67	0.00	0.00	0.17	0.17	802.21	9.104	0.00	0.00	0.15	0.15	114.84	0.284	0.00	0.00	0.09	0.09	2.13
30.00	49.53	0.00	0.00	0.17	0.17	740.33	8.403	0.00	0.00	0.15	0.15	105.99	0.278	0.00	0.00	0.09	0.09	2.09
31.00							7.690	0.00	0.00	0.15	0.15	97.01						
Ten Daily Mean																		
Ten Daily I	594.9	0.01	0.02	0.30	0.33	23728.05	96.47	0.00	0.00	0.21	0.21	1878.93	5.574	0.00	0.00	0.10	0.10	50.41
Ten Daily II	308.6	0.00	0.01	0.25	0.27	9793.77	42.79	0.00	0.00	0.15	0.15	563.98	2.354	0.00	0.00	0.08	0.08	17.23
Ten Daily III	75.40	0.00	0.00	0.17	0.17	1137.82	14.42	0.00	0.00	0.15	0.15	182.58	0.590	0.00	0.00	0.09	0.09	4.62
Monthly																		
Total						346596.35						26437.42						722.68

Annual Sediment Load (Metric Tonnes) : 800614

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Vaitarna at Durvesh (01 02 25 001) **Division : Tapi Division, Surat**

Local River : **Sub-Division : DGSD,CWC,Silvassa**

Day	Dec						Jan						Feb					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1.00	0.216	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
2.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
3.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
4.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
5.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
6.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
7.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
8.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
9.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
10.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
11.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
12.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
13.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
14.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
15.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
16.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
17.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
18.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
19.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
20.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
21.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
22.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
23.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
24.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
25.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
26.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
27.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
28.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
29.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00						
30.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00						
31.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00						
Ten Daily Mean																		
Ten Daily I	0.022	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
Ten Daily II	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
Ten Daily III	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
Monthly																		
Total						0.00						0.00						0.00

Annual Sediment Load (Metric Tonnes) : 800614

Daily Observed Sediment Datasheet for period : 2012-2013

Station Name : Vaitarna at Durvesh (01 02 25 001) **Division : Tapi Division, Surat**

Local River : **Sub-Division : DGSD,CWC,Silvassa**

Day	Mar						Apr						May					
	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day	Q cumecs.	Coarse g/l	Medium g/l	Fine g/l	Total g/l	Total M.T./day
1.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
2.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
3.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
4.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
5.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
6.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
7.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
8.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
9.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
10.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
11.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
12.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
13.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
14.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
15.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
16.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
17.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
18.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
19.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
20.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
21.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
22.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
23.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
24.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
25.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
26.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
27.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
28.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
29.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
30.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
31.00	0.000	0.00	0.00	0.00	0.00	0.00							0.000	0.00	0.00	0.00	0.00	0.00
Ten Daily Mean																		
Ten Daily I	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
Ten Daily II	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
Ten Daily III	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00
Monthly																		
Total						0.00						0.00						0.00

Annual Sediment Load (Metric Tonnes) : 800614

Annual Sediment Load for period : 2005-2013

Station Name : Vaitarna at Durvesh (01 02 25 001) **Division : Tapi Division, Surat**

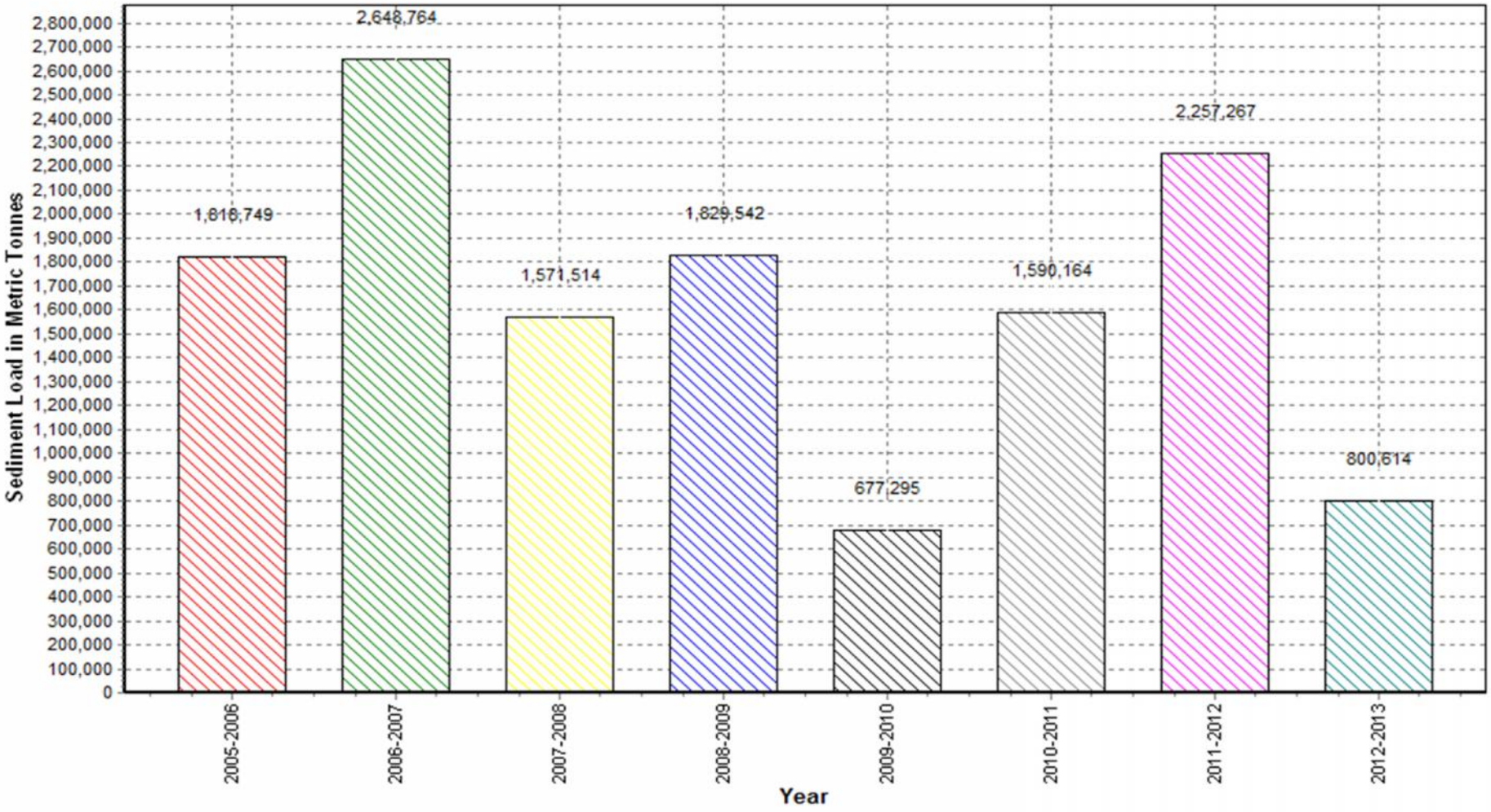
Local River : **Sub-Division : DGSD,CWC,Silvassa**

Year	Monsoon (M.T.)	Non-Monsoon (M.T.)	Annual Load (M.T.)	Annual Run Off (MCM)	Annual Sediment yield in mm
2005-2006	1818690	59	1818749	5338	0.6434
2006-2007	2648735	28	2648764	5038	0.9371
2007-2008	1571174	339	1571514	4082	0.5560
2008-2009	1829311	231	1829542	4360	0.6473
2009-2010	676991	305	677295	2076	0.2396
2010-2011	1589061	1104	1590164	3829	0.5626
2011-2012	2257267	0	2257267	3701	0.7986
2012-2013	800614	0	800614	2466	0.2832

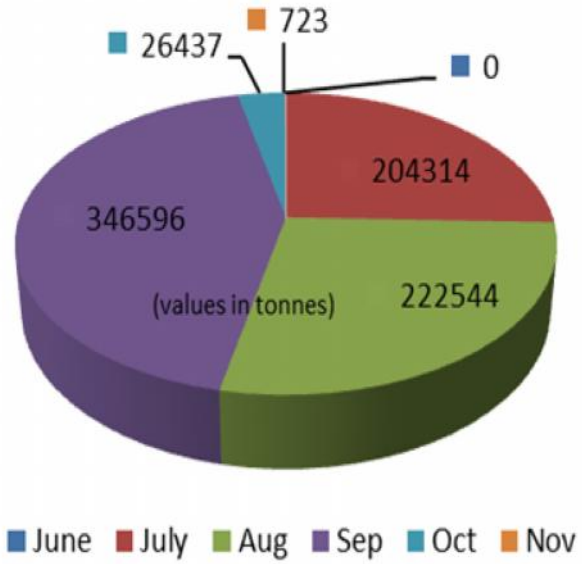
Annual Sediment Load for the period: 2005-2013

Station Name : Vaitarna at Durvesh (01 02 25 001) **Division : Tapi Division, Surat**

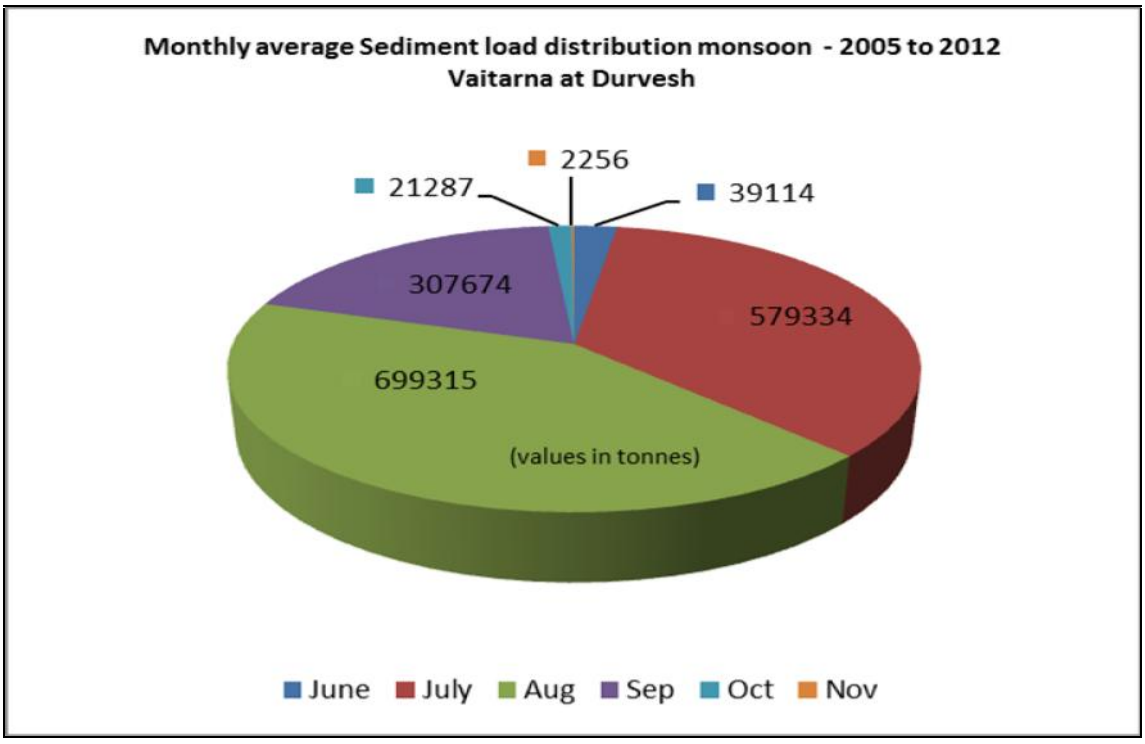
Local River : **Sub-Division : DGSD,CWC,Silvassa**

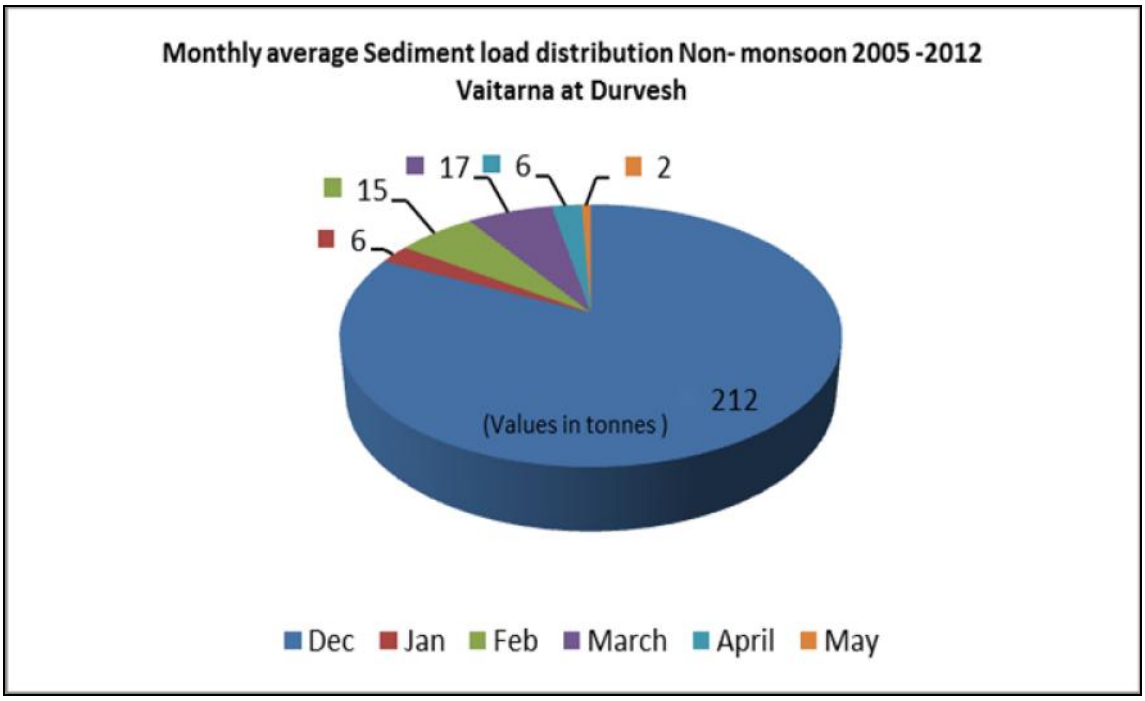


Monthy Distribution of Sediment load during monsoon 2012-13
Vaitarna at Durvesh



Monthly average Sediment load distribution Non- monsoon 2012-13
Ambica at Gadat No sediment was observed in any month


Monthly average Sediment load distribution monsoon - 2005 to 2012
Vaitarna at Durvesh
2256
21287
39114
307674
579334
699315
(values in tonnes)
June
July
Aug
Sep
Oct
Nov


Monthly average Sediment load distribution Non- monsoon 2005 -2012
Vaitarna at Durvesh
17
6
2
15
6
212
(Values in tonnes)
Dec
Jan
Feb
March
April
May

BED MATERIAL ANALYSIS DATA FOR THE YEAR 2012 -2013

SITE	**MATAJI**	**CODE**	**01 02 13 001**
RIVER	**MAHI**	**BASIN**	**MAHI**
MEASURING AUTHORITY	**MAHI DIVISION**	**CROSS SECTION**	**STATION GAUGE LINE**

PRE MONSOON SURVEY (DATE 28.05.2012)

Discharge 'Q'	0.000	Cumecs	Water edge	R.B.	172.00	m.	L.B.	72.00 m.
Area of Section 'A'		Sq.m.	Mean velocity	'V'		m/Sec		
Wetted Perimeter 'P'		m.	Hydraulic Mean Depth	'R'		m.		

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	10.00	298.180	2.15	**Av.mean dia."m" =**	**8.30 mm**	Pooling Water
2	50.00	290.450	4.11			
3	100.00	285.520	2.25	**Silt factor "f " =**	**5.07**	
4	150.00	285.640	2.25			
5	200.00	287.400	30.76			

Note 1.Discharge observation was at station gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

MONSOON SURVEY (DATE 29.10.2012)

Discharge 'Q'	4.521	Cumecs	Water edge	R.B.	173.90	m.	L.B.	65.70 m.
Area of Section 'A'	113.23	Sq.m.	Mean velocity	'V'	0.0400	m/Sec		
Wetted Perimeter 'P'	107.520	m.	Hydraulic Mean Depth	'R'	1.050	m.		

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	10.00	298.170	4.29	**Av.mean dia."m" =**	**7.26 mm**	
2	50.00	290.430	5.58			
3	100.00	285.650	1.24	**Silt factor "f " =**	**4.74**	
4	150.00	285.180	1.23			
5	200.00	287.420	23.95			

Note 1.Discharge observation was at station gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

POST MONSOON SURVEY (DATE 23.02.2013)

Discharge 'Q'	0.534	Cumecs	Water edge	R.B.	173.00	m.	L.B.	68.00 m.
Area of Section 'A'	77.24	Sq.m.	Mean velocity	'V'	0.007	m/Sec		
Wetted Perimeter 'P'	105.07	m.	Hydraulic Mean Depth	'R'	0.735	m.		

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	10.00	298.160	2.38	**Av.mean dia."m" =**	**8.34 mm**	
2	50.00	290.460	4.99			
3	100.00	285.680	1.27	**Silt factor "f " =**	**5.08**	
4	150.00	285.800	1.28			
5	200.00	287.420	31.78			

Note 1.Discharge observation was at station gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

BED MATERIAL ANALYSIS DATA FOR THE YEAR 2012 -2013

SITE	**PADARDIBADI**	**CODE**	**01 02 13 006**
RIVER	**MAHI**	**BASIN**	**MAHI**
MEASURING AUTHORITY	**MAHI DIVISION**	**CROSS SECTION**	**STATION GAUGE LINE/ TEMP.GAUGE**

PRE MONSOON SURVEY (DATE 22.05.2012)

Discharge 'Q' 0.000 Cumecs — Water edge R.B. 43.50 m. L.B. 264.00 m.
Area of Section 'A' Sq.m. — Mean velocity 'V' - m/Sec
Wetted Perimeter 'P' m. — Hydraulic Mean Depth 'R' - m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	20.00	141.350	0.62	**Av.mean dia."m" =**	**1.74 mm**	Pooling Water
2	130.00	131.580	2.44			
3	200.00	132.200	2.89	**Silt factor "f " =**	**2.32**	
4	270.00	133.300	1.74			
5	310.00	143.990	1.00			

Note 1.Discharge observation was at station gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

MONSOON SURVEY (DATE 14.10.2012)

Discharge 'Q' * 116.07 Cumecs — Water edge R.B. 38.00 m. L.B. 268.00 m.
Area of Section 'A' Sq.m. — Mean velocity 'V' m/Sec
Wetted Perimeter 'P' m. — Hydraulic Mean Depth 'R' m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	20.00	141.350	1.41	**Av.mean dia."m" =**	**3.31 mm**	Estimated discharge
2	170.00	132.000	3.03			
3	220.00	133.490	9.51	**Silt factor "f " =**	**3.20**	
4	270.00	133.920	1.35			
5	310.00	143.980	1.24			

Note 1.Discharge observation was at Temp. gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

POST MONSOON SURVEY (DATE 31.12.2012)

Discharge 'Q' 9.237 — Water edge R.B. 40.500 m. L.B. 266.00 m.
Area of Section 'A' 262.35 Sq.m. — Mean velocity 'V' 0.0350 m/Sec
Wetted Perimeter 'P' 231.13 m. — Hydraulic Mean Depth 'R' 1.135 m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	20.00	141.340	1.46	**Av.mean dia."m" =**	**2.36 mm**	
2	170.00	132.000	3.29			
3	220.00	132.480	4.00	**Silt factor "f " =**	**2.70**	
4	270.00	133.110	2.09			
5	310.00	143.990	0.96			

Note 1.Discharge observation was at Temp. gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

BED MATERIAL ANALYSIS DATA FOR THE YEAR 2012 -2013

SITE	**KHANPUR**	**CODE**	**01 02 13 012**
RIVER	**MAHI**	**BASIN**	**MAHI**
MEASURING AUTHORITY	**MAHI DIVISION**	**CROSS SECTION**	**STATION GAUGE LINE**

PRE MONSOON SURVEY (DATE 28.05.2012)

Discharge 'Q'	2.494	Cumecs	Water edge	R.B.	50.70	m.	L.B.	455.40 m.
Area of Section 'A'	57.01	Sq.m.	Mean velocity	'V'	0.0440	m/Sec		
Wetted Perimeter 'P'	290.28	m.	Hydraulic Mean Depth	'R'	0.196	m.		

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	60.00	8.040	0.44	**Av.mean dia."m" =**	**1.24**	**mm**
2	160.00	7.750	1.54			
3	260.00	8.380	1.29	**Silt factor "f " =**	**1.96**	
4	360.00	8.790	2.02			
5	460.00	10.010	0.93			

Note 1.Discharge observation was at station gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

MONSOON SURVEY (DATE 27.08.2012)

Discharge 'Q'	382.20	Cumecs	Water edge	R.B.	44.30	m.	L.B.	464.00 m.
Area of Section 'A'	755.35	Sq.m.	Mean velocity	'V'	0.506	m/Sec		
Wetted Perimeter 'P'	422.63	m.	Hydraulic Mean Depth	'R'	1.787	m.		

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	60.00	7.720	2.94	**Av.mean dia."m" =**	**1.78**	**mm**
2	160.00	7.900	2.35			
3	260.00	8.460	1.84	**Silt factor "f " =**	**2.35**	
4	360.00	8.770	1.56			
5	460.00	9.820	0.21			

Note 1.Discharge observation was at station gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

POST MONSOON SURVEY (DATE 20.12.2012)

Discharge 'Q'	15.992	Cumecs	Water edge	R.B.	2.80	m.	L.B.	68.00 m.
Area of Section 'A'	75.92	Sq.m.	Mean velocity	'V'	0.2110	m/Sec		
Wetted Perimeter 'P'	241.64	m.	Hydraulic Mean Depth	'R'	0.314	m.		

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	60.00	7.850	2.75	**Av.mean dia."m" =**	**2.01**	**mm**
2	160.00	8.450	3.03			
3	260.00	8.270	1.19	**Silt factor "f " =**	**2.50**	
4	360.00	8.410	2.73			
5	460.00	10.020	0.35			

Note 1.Discharge observation was at station gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

BED MATERIAL ANALYSIS DATA FOR THE YEAR 2012 -2013

SITE	**BURHANPUR**	**CODE**	**01 02 17 002**
RIVER	**TAPI**	**BASIN**	**TAPI**
MEASURING AUTHORITY	**TAPI DIVISION**	**CROSS SECTION**	**TEMP.SECTION**

PRE MONSOON SURVEY (DATE 13.06.2012)

Discharge 'Q'	No flow	Cumecs	Water edge	R.B.	m.	L.B.	m.
Area of Section 'A'		Sq.m.	Mean velocity	'V'	m/Sec		
Wetted Perimeter 'P'		m.	Hydraulic Mean Depth	'R'	m.		

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	0.00	237.725	4.12	**Av.mean dia."m" =**	**5.34 mm**	Nil
2	70.00	219.960	10.22			Flow
3	140.00	215.310	8.13	**Silt factor "f " =**	**4.07**	
4	210.00	213.130	1.68			
5	280.00	224.940	2.54			

Note 1.Discharge observation was at Temp.section. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

MONSOON SURVEY (DATE)

Discharge 'Q'		Cumecs	Water edge	R.B.	m.		m.
Area of Section 'A'		Sq.m.	Mean velocity	'V'	m/Sec		
Wetted Perimeter 'P'		m.	Hydraulic Mean Depth	'R'	m.		

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
	SURVEY NOT DONE			**Av.mean dia."m" =**	**mm**	
				Silt factor "f " =		

Note 1.Discharge observation wa at 3Km.D/s of SGL 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

POST MONSOON SURVEY (DATE 17.01.2013)

Discharge 'Q'	2.605	Cumecs	Water edge	R.B.	101.2 m.	L.B.	134.0 m.
Area of Section 'A'	182.92	Sq.m.	Mean velocity	'V'	0.014 m/Sec		
Wetted Perimeter 'P'	102.92	m.	Hydraulic Mean Depth	'R'	1.777 m.		

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	0.00	237.925	2.32	**Av.mean dia."m" =**	**5.88 mm**	
2	70.00	220.195	9.13			
3	140.00	215.230	10.20	**Silt factor "f " =**	**4.27**	
4	210.00	213.680	5.37			
5	280.00	225.220	2.39			

Note 1.Discharge observation was at Temp.section. 1050MD/s ofSGL. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

BED MATERIAL ANALYSIS DATA FOR THE YEAR 2012 -2013

SITE	**GOPALKHEDA**	**CODE**	**01 02 17 004**
RIVER	**PURNA**	**BASIN**	**TAPI**
MEASURING AUTHORITY	**TAPI DIVISION**	**CROSS SECTION**	**STATION GAUGE LINE**

PRE MONSOON SURVEY (DATE 06.06.2012)

Discharge 'Q' Nil flow Cumecs Water edge m. m.
Area of Section 'A' Sq.m. Mean velocity 'V' m/Sec
Wetted Perimeter 'P' m. Hydraulic Mean Depth 'R' m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	40.00	239.075	8.59	**Av.mean dia."m" =**	**7.46**	**mm**
2	80.00	235.910	7.59			
3	120.00	244.140	6.19	**Silt factor "f " =**	**4.81**	

Note 1.Discharge observation was at station gauge section. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

MONSOON SURVEY (DATE)

Discharge 'Q' Cumecs Water edge R.B. m. L.B. m.
Area of Section 'A' Sq.m. Mean velocity 'V' m/Sec
Wetted Perimeter 'P' m. Hydraulic Mean Depth 'R' m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
	SURVEY NOT DONE			**Av.mean dia."m" =**		**mm**
				Silt factor "f " =		

Note 1.Discharge observation was at station gauge section. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

POST MONSOON SURVEY (DATE 10.12.2012)

Discharge 'Q' Nil flow Cumecs Water edge R.B. m. L.B. m.
Area of Section 'A' Sq.m. Mean velocity 'V' m/Sec
Wetted Perimeter 'P' m. Hydraulic Mean Depth 'R' m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	40.00	239.180	4.99	**Av.mean dia."m" =**	**5.51**	**mm**
2	80.00	235.855	3.48			
3	120.00	244.415	8.07	**Silt factor "f " =**	**4.13**	

Note 1.Discharge observation was at station gauge section. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

BED MATERIAL ANALYSIS DATA FOR THE YEAR 2012 -2013

SITE	**YERLI**	**CODE**	**01 02 17 005**
RIVER	**PURNA**	**BASIN**	**TAPI**
MEASURING AUTHORITY	**TAPI DIVISION**	**CROSS SECTION**	**TEMP.SECTION**

PRE MONSOON SURVEY (DATE 26.05.2012)

Discharge 'Q' 0.000 Cumecs — Water edge R.B. — m. — L.B. — m.
Area of Section 'A' — Sq.m. — Mean velocity 'V' — m/Sec
Wetted Perimeter 'P' — m. — Hydraulic Mean Depth 'R' — m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	0.00	225.840	5.36	**Av.mean dia."m" =**	**6.76 mm**	River dry
2	50.00	220.430	9.03			
3	100.00	213.950	3.37	**Silt factor "f " =**	**4.58**	
4	150.00	215.430	7.62			
5	200.00	224.800	8.41			

Note 1.Discharge observation was at station gauge section. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

MONSOON SURVEY (DATE)

Discharge 'Q' — Cumecs — Water edge R.B. — m. — L.B. — m.
Area of Section 'A' — Sq.m. — Mean velocity 'V' — m/Sec
Wetted Perimeter 'P' — m. — Hydraulic Mean Depth 'R' — m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
	SURVEY NOT DONE			**Av.mean dia."m" =**	**mm**	
				Silt factor "f " =		

Note 1.Discharge observation was at station gauge section. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

POST MONSOON SURVEY (DATE 28.12.2012)

Discharge 'Q' 0.000 Cumecs — Water edge R.B. — m. — L.B. — m.
Area of Section 'A' — Sq.m. — Mean velocity 'V' — m/Sec
Wetted Perimeter 'P' — m. — Hydraulic Mean Depth 'R' — m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	0.00	225.845	4.13	**Av.mean dia."m" =**	**5.70 mm**	River
2	50.00	220.450	3.91			Dry
3	100.00	213.920	4.94	**Silt factor "f " =**	**4.20**	
4	150.00	215.450	10.38			
5	200.00	224.780	5.15			

Note 1.Discharge observation was at Temp. section. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

BED MATERIAL ANALYSIS DATA FOR THE YEAR 2012 -2013

SITE	**SARANGKHEDA**	**CODE**	**01 02 17 015**
RIVER	**TAPI**	**BASIN**	**TAPI**
MEASURING AUTHORITY	**TAPI DIVISION**	**CROSS SECTION**	**STATION GAUGE LINE**

PRE MONSOON SURVEY (DATE 26.05.2012)

Discharge 'Q' 0.000 Cumecs Water edge R.B. m. L.B. m.
Area of Section 'A' Sq.m. Mean velocity 'V' m/Sec
Wetted Perimeter 'P' m. Hydraulic Mean Depth 'R' m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)				Remarks
1	0.00	120.64	1.34	**Av.mean dia."m" =**	**5.72**	**mm**	River dry
2	80.00	112.80	15.50				
3	160.00	111.00	6.78	**Silt factor "f " =**	**4.21**		
4	240.00	108.75	3.12				
5	320.00	109.83	4.81				
6	400.00	109.00	2.93				
7	480.00	111.25	4.05				
8	560.00	117.10	7.22				

Note 1.Discharge observation was at station gauge section. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

MONSOON SURVEY (DATE)

Discharge 'Q' Cumecs Water edge R.B. m. L.B. m.
Area of Section 'A' Sq.m. Mean velocity 'V' m/Sec
Wetted Perimeter 'P' m. Hydraulic Mean Depth 'R' m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)				Remarks
	SURVEY NOT DONE			**Av.mean dia."m" =**		**mm**	
				Silt factor "f " =			

Note 1.Discharge observation was at station gauge section. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

POST MONSOON SURVEY (DATE)

Discharge 'Q' 0.000 Cumecs Water edge R.B. m. L.B. m.
Area of Section 'A' Sq.m. Mean velocity 'V' m/Sec
Wetted Perimeter 'P' m. Hydraulic Mean Depth 'R' m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)				Remarks
	SURVEY NOT DONE			**Av.mean dia."m" =**		**mm**	
				Silt factor "f " =			

Note 1.Discharge observation was at station gauge section. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

BED MATERIAL ANALYSIS DATA FOR THE YEAR 2012 -2013

SITE	**KAMALPUR**	**CODE**	**01 02 02 007**
RIVER	**BANAS**	**BASIN**	**BANAS**
MEASURING AUTHORITY	**MAHI DIVISION**	**CROSS SECTION**	**STATION GAUGE LINE**

PRE MONSOON SURVEY (DATE 02.06.2012)

Discharge 'Q' 0.000 Cumecs — Water edge R.B. m. L.B. m.
Area of Section 'A' Sq.m. — Mean velocity 'V' m/Sec
Wetted Perimeter 'P' m. — Hydraulic Mean Depth 'R' m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)				Remarks
1	0.00	38.080	0.19	**Av.mean dia."m" =**	**0.27**	**mm**	River dry
2	240.00	35.930	0.31				
3	480.00	36.700	0.24	**Silt factor "f " =**	**0.91**		
4	600.00	36.860	0.36				
5	840.00	37.620	0.23				

Note 1.Discharge observation was at station gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

MONSOON SURVEY (DATE 07.10.2012)

Discharge 'Q' 0.000 Cumecs — Water edge R.B. m. L.B. m.
Area of Section 'A' Sq.m. — Mean velocity 'V' m/Sec
Wetted Perimeter 'P' m. — Hydraulic Mean Depth 'R' m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)				Remarks
1	0.00	38.080	0.42	**Av.mean dia."m" =**	**0.29**	**mm**	River dry
2	240.00	35.830	0.25				
3	480.00	36.580	0.20	**Silt factor "f " =**	**0.95**		
4	600.00	37.205	0.29				
5	840.00	37.620	0.30				

Note 1.Discharge observation was at station gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

POST MONSOON SURVEY (DATE 27..02.2013)

Discharge 'Q' 0.000 Cumecs — Water edge R.B. m. L.B. m.
Area of Section 'A' Sq.m. — Mean velocity 'V' m/Sec
Wetted Perimeter 'P' m. — Hydraulic Mean Depth 'R' m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)				Remarks
1	0.00	38.080	0.79	**Av.mean dia."m" =**	**0.38**	**mm**	River dry
2	240.00	36.090	0.32				
3	480.00	36.620	0.20	**Silt factor "f " =**	**1.08**		
4	600.00	37.180	0.30				
5	840.00	37.620	0.29				

Note 1.Discharge observation was at station gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

BED MATERIAL ANALYSIS DATA FOR THE YEAR 2012 -2013

SITE	**GANOD**	**CODE**	**01 02 07 001**
RIVER	**BHADAR**	**BASIN**	**BHADAR**
MEASURING AUTHORITY	**MAHI DIVISION**	**CROSS SECTION**	**STATION GAUGE LINE**

PRE MONSOON SURVEY (DATE 13.06.2012)

Discharge 'Q' 0.000 Cumecs — Water edge R.B. — m. — L.B. — m.
Area of Section 'A' — Sq.m. — Mean velocity 'V' — m/Sec
Wetted Perimeter 'P' — m. — Hydraulic Mean Depth 'R' — m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	0.00	33.435	1.26	**Av.mean dia."m" =**	**3.15 mm**	River dry
2	70.00	22.820	5.11			
3	130.00	22.440	4.15	**Silt factor "f " =**	**3.12**	
4	210.00	25.325	3.90			
5	237.00	33.160	1.33			

Note 1.Discharge observation was at station gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

MONSOON SURVEY (DATE)

Discharge 'Q' — Cumecs — Water edge R.B. — m. — L.B. — m.
Area of Section 'A' — Sq.m. — Mean velocity 'V' — m/Sec
Wetted Perimeter 'P' — m. — Hydraulic Mean Depth 'R' — m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
	SURVEY NOT DONE			**Av.mean dia."m" =**	**mm**	
				Silt factor "f " =		

Note 1.Discharge observation was at station gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

POST MONSOON SURVEY (DATE)

Discharge 'Q' — Cumecs — Water edge R.B. — 40.00 m. — L.B. — 139.00 m.
Area of Section 'A' — Sq.m. — Mean velocity 'V' — m/Sec
Wetted Perimeter 'P' — m. — Hydraulic Mean Depth 'R' — m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
	SURVEY NOT DONE			**Av.mean dia."m" =**	**mm**	
				Silt factor "f " =		

Note 1.Discharge observation was at station gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

BED MATERIAL ANALYSIS DATA FOR THE YEAR 2012 -2013

SITE	**LUWARA**	**CODE**	**01 02 09 001**
RIVER	**SHETRUNJI**	**BASIN**	**SHETRUNJI**
MEASURING AUTHORITY	**MAHI DIVISION**	**CROSS SECTION**	**STATION GAUGE LINE**

PRE MONSOON SURVEY (DATE 12.06.2012)

Discharge 'Q'	0.000	Cumecs	Water edge	R.B.	m.	L.B.	m.
Area of Section 'A'		Sq.m.	Mean velocity	'V'	m/Sec		
Wetted Perimeter 'P'		m.	Hydraulic Mean Depth	'R'	m.		

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)				Remarks
1	0.00	63.350	1.34	**Av.mean dia."m" =**	**6.35**	**mm**	River dry
2	20.00	56.480	9.36				
3	40.00	56.350	17.66	**Silt factor "f " =**	**4.43**		
4	60.00	56.440	2.17				
5	80.00	62.790	1.20				

Note 1.Discharge observation was at station gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

MONSOON SURVEY (DATE)

Discharge 'Q'		Cumecs	Water edge	R.B.	m.	L.B.	m.
Area of Section 'A'		Sq.m.	Mean velocity	'V'	m/Sec		
Wetted Perimeter 'P'		m.	Hydraulic Mean Depth	'R'	m.		

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)				Remarks
	SURVEY NOT DONE			**Av.mean dia."m" =**		**mm**	
				Silt factor "f " =			

Note 1.Discharge observation was at station gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

POST MONSOON SURVEY (DATE 02.02.2013)

Discharge 'Q'	0.000	Cumecs	Water edge	R.B.	52.00 m.	L.B.	16.35 m.
Area of Section 'A'		Sq.m.	Mean velocity		m/Sec		
Wetted Perimeter 'P'		m.	Hydraulic Mean Depth	'R'	m.		

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)				Remarks
1	0.00	63.300	1.97	**Av.mean dia."m" =**	**6.37**	**mm**	River dry
2	20.00	56.490	9.24				
3	40.00	56.710	15.26	**Silt factor "f " =**	**4.44**		
4	60.00	56.410	4.15				
5	80.00	62.780	1.21				

Note 1.Discharge observation was at station gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

BED MATERIAL ANALYSIS DATA FOR THE YEAR 2012 -2013

SITE	**DEROL BRIDGE**	**CODE**	**01 02 12 006**
RIVER	**SABARMATI**	**BASIN**	**SABARMATI**
MEASURING AUTHORITY	**MAHI DIVISION**	**CROSS SECTION**	**STATION GAUGE LINE**

PRE MONSOON SURVEY (DATE 19.05.2012)

Discharge 'Q'	0.000 Cumecs	Water edge	R.B.		m.	L.B.	m.
Area of Section 'A'	Sq.m.	Mean velocity	'V'		m/Sec		
Wetted Perimeter 'P'	m.	Hydraulic Mean Depth	'R'		m.		

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)				Remarks
1	70.00	91.070	0.23	**Av.mean dia."m" =**	**1.04**	**mm**	River dry
2	120.00	88.360	1.94				
3	180.00	87.200	0.86	**Silt factor "f " =**	**1.79**		
4	240.00	89.100	1.28				
5	320.00	89.060	0.87				

Note 1.Discharge observation was at station gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

MONSOON SURVEY (DATE 05.10.2012)

Discharge 'Q'	2.523 Cumecs	Water edge	R.B.	280.0	m.	L.B.	180.0 m.
Area of Section 'A'	36.550 Sq.m.	Mean velocity	'V'	0.069	m/Sec		
Wetted Perimeter 'P'	100.05 m.	Hydraulic Mean Depth	'R'	0.365	m.		

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)				Remarks
1	70.00	91.100	0.79	**Av.mean dia."m" =**	**0.85**	**mm**	
2	120.00	88.200	0.61				
3	180.00	87.300	0.68	**Silt factor "f " =**	**1.62**		
4	240.00	86.650	0.81				
5	320.00	89.200	1.36				

Note 1.Discharge observation was at station gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

POST MONSOON SURVEY (DATE 09.01.2013)

Discharge 'Q'	0.000 Cumecs	Water edge	R.B.		m.	L.B.	m.
Area of Section 'A'	Sq.m.	Mean velocity	'V'		m/Sec		
Wetted Perimeter 'P'	m.	Hydraulic Mean Depth	'R'		m.		

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)				Remarks
1	70.00	90.920	0.63	**Av.mean dia."m" =**	**0.95**	**mm**	Neg.fiow
2	120.00	88.300	1.95				
3	180.00	87.500	0.70	**Silt factor "f " =**	**1.72**		
4	240.00	86.700	0.74				
5	320.00	88.980	0.75				

Note 1.Discharge observation was at station gauge section. 2.River bed Dry / Stagnated water / flowing water.
3.Water flows in multi channel.

BED MATERIAL ANALYSIS DATA FOR THE YEAR 2012 -2013

SITE	**MAHUWA**	**CODE**	**01 02 19 001**
RIVER	**PURNA**	**BASIN**	**PURNA**
MEASURING AUTHORITY	**TAPI DIVISION**	**CROSS SECTION**	**STATION GAUGE LINE**

PRE MONSOON SURVEY (DATE 22.05.2012)

Discharge 'Q' No Flow Cumecs Water edge R.B. m. L.B. m.
Area of Section 'A' Sq.m. Mean velocity 'V' m/Sec
Wetted Perimeter 'P' m. Hydraulic Mean Depth 'R' m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	5.00	19.870	4.22	**Av.mean dia."m"**	**3.91**	**mm**
2	60.00	14.600	3.00			
3	90.00	10.165	5.46	**Silt factor "f "**	**3.48**	
4	120.00	7.880	3.50			
5	210.00	11.950	3.38			

Note 1.Discharge observation was at station gauge section. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

MONSOON SURVEY (DATE)

Discharge 'Q' Cumecs Water edge R.B. m. L.B. m.
Area of Section 'A' Sq.m. Mean velocity 'V' m/Sec
Wetted Perimeter 'P' m. Hydraulic Mean Depth 'R' m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
	SURVEY NOT DONE			**Av.mean dia."m" =**		**mm**
				Silt factor "f " =		

Note 1.Discharge observation was at station gauge section. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

POST MONSOON SURVEY (DATE)

Discharge 'Q' Cumecs Water edge R.B. m. L.B. m.
Area of Section 'A' Sq.m. Mean velocity 'V' m/Sec
Wetted Perimeter 'P' m. Hydraulic Mean Depth 'R' m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
	SURVEY NOT DONE			**Av.mean dia."m" =**		**mm**
				Silt factor "f " =		

Note 1.Discharge observation was at station gauge section. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

BED MATERIAL ANALYSIS DATA FOR THE YEAR 2011-12

SITE	**GADAT**	**CODE**	**01 02 20 001**
RIVER	**AMBIKA**	**BASIN**	**AMBIKA**
MEASURING AUTHORITY	**TAPI DIVISION**	**CROSS SECTION**	**STATION GAUGE LINE**

PRE MONSOON SURVEY (DATE 23.06.2012)

Discharge 'Q' No flow Cumecs Water edge R.B. m. L.B. m.
Area of Section 'A' Sq.m. Mean velocity 'V' m/Sec
Wetted Perimeter 'P' m. Hydraulic Mean Depth 'R' m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	70.00	6.070	7.55	**Av.mean dia."m" =**	**6.17**	**mm**
2	100.00	3.320	3.11			
3	130.00	2.030	4.43	**Silt factor "f " =**	**4.37**	
4	160.00	1.020	5.65			
5	190.00	3.680	10.10			

Note 1.Discharge observation was at station gauge section. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

MONSOON SURVEY (DATE)

Discharge 'Q' Cumecs Water edge R.B. m. L.B. m.
Area of Section 'A' Sq.m. Mean velocity 'V' m/Sec
Wetted Perimeter 'P' m. Hydraulic Mean Depth 'R' m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
	SURVEY NOT DONE			**Av.mean dia."m" =**		**mm**
				Silt factor "f " =		

Note 1.Discharge observation was at station gauge section. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

POST MONSOON SURVEY (DATE)

Discharge 'Q' Cumecs Water edge R.B. m. L.B. m.
Area of Section 'A' Sq.m. Mean velocity 'V' m/Sec
Wetted Perimeter 'P' m. Hydraulic Mean Depth 'R' m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
	SURVEY NOT DONE			**Av.mean dia."m" =**		**mm**
				Silt factor "f " =		

Note 1.Discharge observation was at station gauge section. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

BED MATERIAL ANALYSIS DATA FOR THE YEAR 2012 -2013

SITE	**DURVESH**	**CODE**	**01 02 25 001**
RIVER	**VAITARNA**	**BASIN**	**VAITARNA**
MEASURING AUTHORITY	**TAPI DIVISION**	**CROSS SECTION**	**TEMP.SECTION**

PRE MONSOON SURVEY (DATE 26.05.2012)

Discharge 'Q' No Flow Cumecs Water edge R.B. 123.5 m. L.B. 221 m.
Area of Section 'A' Sq.m. Mean velocity 'V' m/Sec
Wetted Perimeter 'P' m. Hydraulic Mean Depth 'R' m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	40.00	11.550	8.18	**Av.mean dia."m" =**	**8.30 mm**	Nil
2	80.00	11.900	7.14			Flow
3	110.00	3.500	5.21	**Silt factor "f " =**	**5.07**	
4	180.00	0.150	7.98			
5	220.00	1.400	13.01			

Note 1.As S.G. Line Rocky bed, B.M.section shifte d to 157M U/S ofSGL. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

MONSOON SURVEY (DATE)

Discharge 'Q' Cumecs Water edge R.B. m. L.B. m.
Area of Section 'A' Sq.m. Mean velocity 'V' m/Sec
Wetted Perimeter 'P' m. Hydraulic Mean Depth 'R' m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
	SURVEY NOT DONE			**Av.mean dia."m" =**	**mm**	
				Silt factor "f " =		

Note 1.As Xsection is rocky bed, sample collection shifted to 157 M U/S of SGL. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.

POST MONSOON SURVEY (DATE 23.12.2012)

Discharge 'Q' No Flow Cumecs Water edge R.B. m. L.B. m.
Area of Section 'A' Sq.m. Mean velocity 'V' m/Sec
Wetted Perimeter 'P' m. Hydraulic Mean Depth 'R' m.

Sl. No.	R.D. of sampling point (m)	R.L. of bed (m)	Mean dia. (mm)			Remarks
1	40.00	11.500	6.73	**Av.mean dia."m" =**	**5.61 mm**	No Flow
2	80.00	11.910	5.21			
3	110.00	3.520	6.82	**Silt factor "f " =**	**4.17**	
4	180.00	0.160	4.69			
5	280.00	11.180	4.58			

Note 1.SG line is a rocky bed ,B.M.Section shifted to 157 m U/S of SG Line. 2.River bed Dry/ Stagnated water/ flowing water.
3.Water flows in multi channel.