## Ambuja Cement

### REGD. A/D

ACL/EMD/F-16/2014/

25.05.2014

The Director (s),
Ministry of Environment & Forest (MoEF),
Regional Office, Western Region,
"Kendriya Paryavaran Bhavan"
Link Road No.3, Ravi Shankar Nagar,
Bhopal – 462016 (M.P.)

Sub.: Six Monthly Compliance Status Report of Environmental Clearance.

**Ref.:** Environmental Clearance Order No. J -13012/20/2004.I (A)-II (T) dated 15<sup>th</sup> March 2005 & amendment on 03<sup>rd</sup> June 2009.

Sir,

We are pleased to submit herewith half yearly compliance status report (i.e. for the period of October'13 to March'14) of Environmental Clearance Order No. 13012/20/2004.I(A)-II (T) granted by MoEF to 90 MW *Thermal Power Plant* of Ambuja Cements Ltd., located at Ambujanagar , Taluka - Kodinar , District – Junagadh (Gujarat ). We are also enclosing here with CD containing soft copy of the same.

In case of further clarification/information require, we shall be please to provide the same.

Thanking you,

Yours Faithfully,

For Ambuja Cements Ltd.

Dr. Anand K. Rai HOD (Environment)

Encl.: As above.

Copy to: 1) Central Pollution Control Board
Western Zonal Office, Synergy House-II,
Subhanpura - Gorwa Road, Vadodara-390023 (Gujarat)

2) Member Secretary, Gujarat Pollution Control Board, Sector 10A, Paryavaran Bhavan, Gandhinagar-382010

Ambuja Cements Limited (Unit : Ambujanagar)

Regd. Office: P.O. Ambujanagar - 362715, Tal: Kodinar, Dist.: Junagadh, Gujarat. Phone: (02795) 221137, 232009, Fax: (02795) 220328, 232032

#### MONITORING THE IMPLEMENTATION OF ENVIRONMENTAL SAFEGUARDS

Ministry of Environment & Forests Regional Office (W), Bhopal Monitoring Report Part-I

#### **DATA SHEET**

Date: 25.05.2014

01 Project type : Thermal Power Plant

02 Name of the project : Captive Thermal Power Plant (90 MW)

03 Clearance letter(s) / OM no. and date : Letter No. J – 13012/20/2004. IA –II (T)

dated 15<sup>th</sup> March and 18<sup>th</sup> March, 2005,

amended on 03<sup>rd</sup> June 2009 & 3<sup>rd</sup>

December 2009.

04 Location :

a) District(s) : Junagadh

b) State(s) : Gujarat

c) Latitude : 21°00' N

d) Longitude : 70° 30' E

05 Address for correspondence

 a) Address of concerned Project Chief Engineer (with pincode & telephone /

telex / fax numbers).

: Shri, S Ramarao

(Unit Head)

Ambuja Cements Ltd. PO Ambujanagar-362715

Taluka- Kodinar

District- Junagadh (Gujarat) Tel: 02795-221136/237200 Fax: 02795-220328/222032

b) Address of Executive Project
Engineer / Manager (with pincode /

fax numbers.

: Shri, Pravin Varotaria

(Head -TPP)

Ambuja Cements Ltd. PO Ambujanagar-362715

Taluka- Kodinar

District- Junagadh (Gujarat) Tel: 02795-221136/237230 Fax: 02795-220328/222032 a) of the project

- : To full fill the power requirements for manufacturing of cements, ACL has decided & commissioned 90 MW coal based captive thermal power plant adjacent to cement plant at Ambujanagar. At present 3x30 MW has been commissioned & under operation.
- b) of the environmental management plans
- : 1. Separate Environment Management Division (EMD) with suitable qualified staff has been set up as per company's policy with adequate monitoring instrument and other infrastructure for implementation of the stipulated environmental safeguards.
  - Continuous online monitoring systems for measurements of particulate matter, SO<sub>2</sub> & NO<sub>x</sub> have been installed at boiler stack.
  - Ambient Air Qualitty Monitoring being regulary carried out at three locations for SPM, RSPM, SO<sub>2</sub>, NO<sub>x</sub> and data collected regulary submitted to SPCB & MoEF.
  - Occupational Exposure Monitoring Worker exposure to dust from coal and fly ash & noise is being regulary carried out in plant area.
  - Metereology- Wind speed, wind direction, temperature, relative humidity & rainfall is being regulary monitored and record maintain on daily basis.
  - Water Quality Monitoring It involves regular monitoring of waste water from RO plant. Waste water from RO plant is being stored in closed Water tank and used for cement cooling process in cement plant.
  - A green belt in available area has been created which gives aesthetic look to the plant and also helps in dust level abatement.
  - 8. Fly Ash Utilization Plan Imported coal is being used as fuel in Power

plant with low sulpher content. 100 % fly ash generated from TPP is being stored in closed silos and being totally utilized in cement manufacturing in Cement plant in environment friendly manner.

9. Adequate pollution control air equipement like ESP and Bag filters has been installed for effective air pollution control.

07 Break up of the project area.

> a) Submergence area (forest & non-forest)

: Not applicable

b) Others : 4.8 ha.

80 Break up of the project affected: Not applicable population with enumeration of those losing houses / dwelling unit's only agricultural land only, both dwelling units & agricultural land & landless labourers / artisan.

a) SC, ST / Adivasis

b) Others

09 Financial details

> a) Project cost as originally planned: Rs. 350 Crore, Year 2005 and subsequent revised estimates and the year of price reference.

b) Allocation made for environmental: Rs. 9.85 Crore management plans with item wise and year wise breakup

c) Benefit cost ratio / Internal rate of return and the year of assessment.

: Not Applicable

d) Whether (c) includes the cost of environmental management as shown in the above.

: Not Applicable

e) Actual expenditure incurred on the : Rs. 350 Crore project so far.

f) Actual expenditure incurred on the environmental management plans so far.

: 8.48 Crore

10 Forest land requirement. : Not applicable.

a) The status of approval for diversion of forest land for non-forestry use

b) The status of clearing felling

c) The status of compensatory afforestation, if any

d) Comments on the viability & sustainability of compensatory afforestation programme in the light of actual field experience so far.

11 The status of clear felling in non-forest : Not applicable areas (such as submergence area of reservoir, approach roads), if any with quantitative information.

12 Status of construction.

> a) Date of commencement (Actual and / or planned)

60 MW commissioned in November 2007 30 MW commissioned in January 2010

b) Date of completion (Actual and / or planned).

: Not applicable. Plant commissioned

13 Reasons for the delay if the project is yet to start.

: Not applicable.

14 Dates of site visits

> a) The dates on which the project was monitored by the Regional Office on previous occasions, if any.

: 12.10.10 to 13.10.10 by Dr. A. Mehrotra Regional Office, Bhopal

b) Date of site visit for this monitoring report

: 12.10.10 to 13.10.10

15 Details of correspondence with project: Half yearly compliance status report is authorities for obtaining action plans / information on status of compliance to safeguards other than the routine letters for logistic support for site visits).

being regularly submitted and submission was on 23.11.2013 vide letter no.ACL/EMD/F-16/2013

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	Compliance Status of Environmental Clearance (EC vide MoEF letter No. J – 13012/20/2004. IA	•
Sr.No	Compliance Condition	Implementation Status
3 (i)	All the conditions stipulated by GPCB by Gujarat Pollution Control Board letter No. PC/NOC/CCA-49/11712 dated 15.04.2004 & PC/CCA –JNG-49/32287 dated 11.10.2004 should be strictly implemented.	
	DG set shall be discontinued after commissioning of captive power plant	28 MW DG sets (3 DG sets of 6 MW & 1 DG set of 10 MW) have been discontinued. 30 MW DG sets have been retained and shall be continued for emergency purpose during preventive maintenance of 2x30 MW & 1x30 MW captive thermal power plant. MoEF has granted permission for retention of 30 MW DG set (3 x 10 MW). A Copy of an approval letter has been already been submitted to MoEF vide our letter no.ACL/EMD/F-16/2010/55928 dated 25.12.2010
	Coal requirement is estimated at 1180 TPD (Indian/Imported Coal) of 25 – 35% / 15% ash content and 0.9% / 0.5% Sulphur content.	
	Any change in fuel shall be referred to the committee.	MoEF has amended EC vide its letter dated 3 <sup>rd</sup> June, 2009 & 3 <sup>rd</sup> December 2009 in respect of fuel change.Copy of letter has already been submitted to MoEF vide our letter no.ACL/EMD/F-16/2010/55928 dated 25.12.2010.
	of coal should be submitted before starting commissioning at the site.	Coal linkage has been approved by SLC, Ministry of Coal and CIL have issued letter of assurance on dated 24.09.2008 for 90 MW captive thermal power plant. Copy of LoA has already been submitted to MoEF vide our letter no.ACL/EMD/F-16/2010/55928 dated 25.12.2010.
	No discharge of waste water be done out side the	Point noted and complied. Water requirement is not exceeding 1460 m³/Day.Waste water generated from thermal power plant is being re-used for cooling at cement plant.
	Ground water will not be extracted/purchased for any purpose / use in captive power plant. Only recycled water and / or stored water in Mine pit reservoirs shall be used.	
	use by an independent agency should be put in place.	Studies on ground water potential in 1 km radius zone of captive power plant was carried out jointly by Ground Water & Mineral Investigation Consultancy Centre (P) Ltd. Jaipur, Rajasthan.
	Ground Authority / Board shall be consulted for finalization of appropriate water harvesting	Water-harvesting practices are already in place. However, as directed, we have consulted CGWA/CGWB for finalization of appropriate water harvesting technology. Officials from – Central Ground Water Board, Ahmedabad has visited our site. Water conservation measures to augment ground water resources in the area is being done by our Ambuja Cement Foundation (ACF). A glimpse about ACF & community development work done by ACF in surrounding areas is enclosed as <b>Annexure 1</b> .
	with continuous online monitoring system with exist velocity of 20-25m/sec should be maintained.	Continuous online emission monitoring system has been installed for both stacks. 03 nos. of ESP's have been Installed and designed to restrict the PM emission below 100 mg/Nm³. Stack monitoring results for the period of
	High efficiency Electrostatic Precipitator (ESP) having efficiency of 99.8% should be installed to limit outlet SPM emission at 100 mg/Nm <sup>3</sup>	Oct'13 to March'14 are enclosed as <b>Annexure 2.</b>

	Compliance Status of Environmental Clearance	issued to 90 MW Captive Thermal Power Plant
	(EC vide MoEF letter No. J – 13012/20/2004. IA	-II (T) dated 15th March and 18th March, 2005)
Sr.No	Compliance Condition	Implementation Status
	A station in the SE sector at a distance of 1 Km able to capture the impact of the existing & proposed stacks should be set up.	We have already setup AAQ stations in 5 Kms to the E and 1 Km in SE direction as suggested. Ambient air quality monitoring report for the period of Oct'13 to March'14 are enclosed as <b>Annexure 3</b> .  Space for FGD installation has been kept in the plant
	premises.	premises itself.
3 (xiv)	,	All the generated fly ash (including bottom ash) is being stored in Silo and being fully (100%) utilized in cement manufacturing at own cement plant.
3 (xv)	Regular monitoring of water quality including heavy metals should be undertaken around ash dyke and the project area to ascertain the change in water quality, if any, due to leaching of contaminants from ash disposal area.	
, ,	maintenance of equipment will be undertaken. For people working in the area of generator and other high noise area, earplug should be provided.	People working in the area of generator and other high noise area are provided with necessary PPE's like earplugs and ear muffs.
	Greenbelt of 20-25 m along the plant boundary should be developed covering an area of 0.5 ha.	Green belt in and around plant boundary have been developed. Photographs of the same is enclosed as <b>Annexure 4.</b>
, ,	carried out in and around the power plant and records be maintained. Periodic six monthly reports should be submitted to this Ministry.	Ambient air quality is being regularly monitored at identified AAQM stations and report is being regularly submitted to SPCB on monthly basis and six monthly basis to MoEF.Ambient air quality monitoring report for the period of Oct'13 to March'14 are enclosed as <b>Annexure 3.</b>
3 (xix)		Measures are being taken to control fugitive emission like construction of RCC roads in side plant premises, closed conveying system for fly-ash handling. Transport roads and plant premises is being regularly cleaned using mechanized and vacuum sweeping machines.
	All other mitigative measures shall be taken as enumerated in Chapter 5 of the REIA report.	Compliance status has already been submitted to MoEF vide our letter no.ACL/EMD/F-16/2010/55928 dated 25.12.2010.
	two local newspapers widely circulated in the region	Advertisement has been published in local newspapers. Copy of advertisement has already been submitted to MoEF vide our letter no.ACL/EMD/F-16/2010/55928 dated 25.12.2010.
	suitable qualified staff should be set up for	A well established Environmental Management Division (EMD) with suitable qualified personnel is exist. Head of environmental management cell directly report to the Works Head of the organisation. EMD organisation chart is enclosed as <b>Annexure 5</b> .
3 (xxiii)	the conditions stipulated and environmental	Half yearly compliance status report is being regularly submitted to MoEF/CPCB/SPCB, our last submission was on 23.11.2013 vide letter no.ACL/EMD/F-16/2013.

	Compliance Status of Environmental Clearance (EC vide MoEF letter No. J – 13012/20/2004. IA	•
Sr.No	Compliance Condition	Implementation Status
3 (xxiv)		
3 (xxv)	Separate funds should be allocated for	Details of capital and recurring expenditure for environmental protection measures are enclosed as Annexure 6.
3 (xxvi)	Full cooperation should be extended to the Scientist/officer from the Ministry / Regional Office	Project was monitored by Dr. A. Mehrotra (Regional Office, Bhopal) during 12.10.10 to 13.10.10.
4	The ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the ministry.	Point Noted.
5	The environmental clearance accorded shall be valid for a period of 5 years for construction/operation of the power plant. In case ,if the project authorities fails to do so within this stipulated period , this environmental clearance shall stand lapsed automatically.	
6	In case of any deviation or alteration in the project proposed from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition (s) imposed and to add additional environmental protection measures required, if any.	
7	The above stipulations would be enforced among others under the Water (Prevention and Control of pollution)Act, 1974, the Air (Prevention and control of Pollution) Act 1981, the Environment Protection Act, 1986 and rules there under, Hazardous Waste (Management & Handling)Rules, 1989 and its amendments, the Environment Impact assessment Notification of January, 1994 and its amendments.	
Complia		2004- IA. II (T) dated 03.06.2009 issued to Thermal Power Plant
(1)	[EC 1 <sup>st</sup> amo	
	The Pet coke shall be blended with imported coal and the blended fuel shall be used instead of imported/indigenous coal.	·
(ii)	coke and Imported coal) should not exceed 3.5%. Quenching of sulphur through limestone dosing should be at least 90 %.	Blending of fuels is done in a manner to restrict % sulpher below 3.5% in blended fuel.Limestone dosing is done along with coal, in order to limit sulpher dioxide emission.
(iii)	All the waste generated from sulphur quenching shall be used in a cement plant.	Point noted & comply regularly.
(iv)	First aid and sanitation arrangement shall be made for the drivers and the contract workers during construction phase.	·
(v)	SO2, NOx, Hg, SPM and RSPM shall be carried out in the impact zone and records maintained. If at any stage these levels are found to exceed the	

	Compliance Status of Environmental Clearance	issued to 90 MW Captive Thermal Power Plant
	(EC vide MoEF letter No. J – 13012/20/2004. IA	–II (T) dated 15th March and 18th March, 2005)
Sr.No	Compliance Condition	Implementation Status
(vi)	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc.The housing may be in the form of temporary structure to be removed after the completion of the project.	
(viii)	compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall	
(VIII)	reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	
(ix)	status in their website and up-date the same from time to time at least six monthly bases. Criteria pollutants level (Stack & ambient level of NOx) will be displayed at the main gate of the power plant.	, ,
	[EC 2 <sup>nd</sup> am	· ·
2	Ministry has no objection in permitting lignite and domestic coal in addition to petcoke and imported coal blended as fuel subject to strict compliance of the following.	
(i)	CFBC Boiler shall be installed along with air cooled condenser and ESP having at least 99.8% efficiency.	
(ii)	Sulphur content in blending fuel shall not exceed	Blending of fuels is done in a manner to restrict % sulpher below 3.5% in blended fuel.Limestone dosing is done along with coal, in order to limit sulpher dioxide emission.
(iii) 3	1	All the generated fly ash (including bottom ash) is being stored in Silo and being fully (100%) utilized in cement manufacturing at own cement plant.
3	Ministry letters of even no. dated 15.03.2005 and 03.05.2009 respectively shall remain the same.	

#### Ambuja Cement Foundation - Ambujanagar Details for programme wise expenditure for the year 2013-14

(Rs. In lakhs)

		Funds from	*Funds received through	from other Donors / Donor	***People's	****Direct Funding to	
Sr.No	Programme	ACF Resources	Government	Agencies	Contribution	_	Total Exp.
	GUJARAT - Kodinar						-
1	Water Resource Mangement & Drinking Water Projects						-
	a.Water Resource Devlopment	40.16	17.57				57.73
	B .Drinking Water Programme	37.83	-	13.55	46.29	-	97.67
	c. Salinity Prevention (KVY III)	81.61		52.60	90.93	90.01	315.15
2	Agriculture Development( Farm Forestry &Afforesation)	38.36		16.88	145.03	186.33	386.60
3	Better Cotton Initiative (BCI)	0.54		38.21	1.85	2.30	42.90
4	Krishi Vigyan Kendra (KVK)	16.84	105.59		-		122.43
5	Animal Husbandry Programme	0.44	-		-		0.44
6	Health & Sanitation Programme	12.78			15.31	-	28.09
7	Skill and Enterprunership Development Programme	26.79		15.97	23.78		66.54
8	Village Knowledge Centre & Anganwadi exp	1.93			-		1.93
9	Capacity Building &Training Programmes	0.21	-		-		0.21
10	Women / Youth Development	6.82					6.82
11	Integrated Community Development Programme	80.89					80.89
12	Co-ordination & Administration Expenses	63.65					63.65
13	Capital Expenditure	2.08					2.08
	TOTAL	410.93	123.16	137.21	323.19	278.64	1,273.13

## **Annexure -II**

# Stack Monitoring Results ) (Oct 2013 - March 2014)

	Stack attached to									
Month		Boiler I & II		Boiler III						
WOITH	PM	SOx	NOx	PM	SOx	NOx				
	mg/Nm³	ppm	ppm	mg/Nm³	ppm	ppm				
Oct-13	32.00	49.80	18.60	35.00	51.20	21.40				
Nov-13	36.00	46.50	20.40	39.00	49.70	23.20				
Dec-13	31.00	42.20	18.80	36.0	45.50	20.00				
Jan-14	35.00	41.20	16.70	39.0	42.80	18.70				
Feb-14	31.00	35.60	15.50	34.0	38.40	16.60				
Mar-14	34.00	32.40	16.20	38.0	34.60	15.70				
Minimum	31.0	32.4	15.5	34.0	34.6	15.7				
Maximum	36.0	49.8	20.4	39.0	51.2	23.2				
Average	33.2	41.3	17.7	36.8	43.7	19.3				
Permissible Limit	100.0	100.0	50.0	100.0	100.0	50.0				

## **Annexure - III**

### <u>Ambient Air Quality Monitoring Results</u> (Oct 2013 - March 2014)

	Average Ambient Air Quality Monitoring Results (μg/m3)											
Month	Inside TPP				Navapara				Devalpara			
	PM2.5	PM10	SO2	NOx	PM2.5	PM10	SO2	NOx	PM2.5	PM10	SO2	NOx
Oct-13	21.0	35.0	11.4	18.2	23.0	39.0	12.6	16.8	26.0	45.0	12.8	17.5
Nov-13	25.0	33.0	12.2	16.6	23.0	39.0	12.6	16.8	26.0	45.0	12.8	17.5
Dec-13	21.0	35.0	11.2	17.4	26.0	34.0	11.8	17.2	28.0	40.0	12.1	18.4
Jan-14	24.0	33.0	12.7	16.7	29.0	38.0	12.9	16.1	30.0	35.0	11.7	17.8
Feb-14	28.0	35.0	11.7	17.7	25.0	40.0	12.2	16.8	26.0	32.0	12.8	18.2
Mar-14	30.0	31.0	12.4	16.6	28.0	37.0	13.6	17.8	29.0	35.0	11.8	16.3
Minimum	21.0	31.0	11.2	16.6	23.0	34.0	11.8	16.1	26.0	32.0	11.7	16.3
Maximum	30.0	35.0	12.7	18.2	29.0	40.0	13.6	17.8	30.0	45.0	12.8	18.4
Average	24.8	33.7	11.9	17.2	25.7	37.8	12.6	16.9	27.5	38.7	12.3	17.6

# ANNEXURE – 4 Green belt around periphery of Thermal Power Plant



**Greenary Inside Thermal Power Plant** 

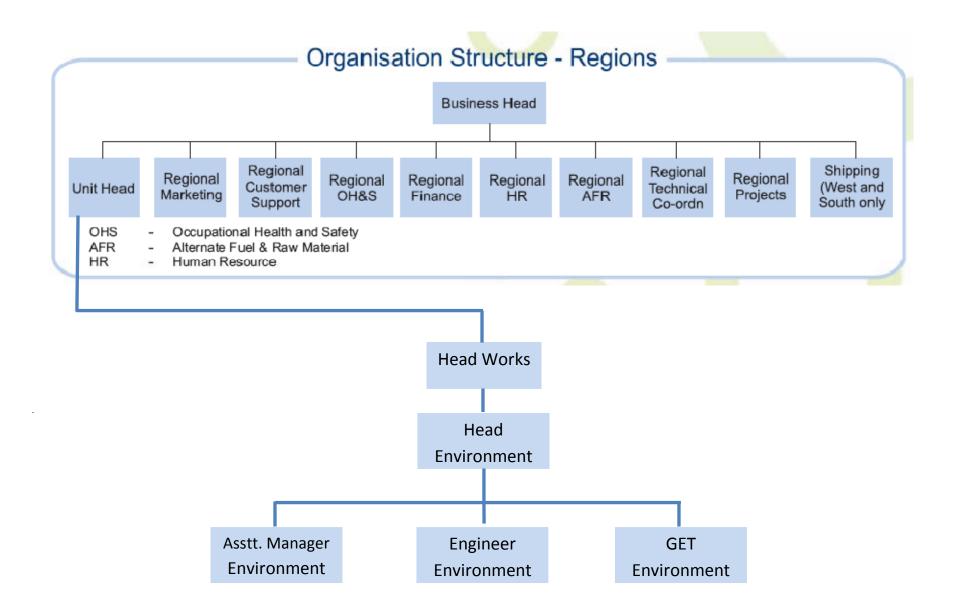


**Greenary Inside Thermal Power Plant** 



Greenbelt around Ambujanagar Plants





## EXPENDITURE INCURRED ON THE ENVIRONMENTAL MANAGEMENT PLANS

### (A) Capital Investment for Environmental Monitoring:

(1) Monitoring Equipments : 37.08 Lakh

(2) Environmental Laboratory : 10.00 Lakh

(3) Others (Monitoring Van & DG sets) : 10.00 Lakh

Total: Rs. 57.08 Lakh

### (B) Recurring expenditure for the period of Oct'13 to March'14:

(1) Green belt development : 0.64 Lakh

(2) Manpower Cost\* : 10.70 Lakh

(3) House Keeping : 5.74 Lakh

(4) Maintenance of Pollution Control Equipments : 17.36 Lakh

(5) Other Env. Protection (Environmental Monitoring) : 0.45 Lakh

(6) Environmental Awareness\* : 0.16 Lakh

Total: Rs. 35.05 Lakh

<sup>\*</sup>Expenditures common for all plants & mines

## EXPENDITURE INCURRED ON THE ENVIRONMENTAL MANAGEMENT PLANS

## (C) Community Development expenditure by Ambuja: Rs. 12.73 Crore Cement Foundation\*\*

\*\* Community development expenditure is common for all plant & mines at Ambujanagar for the period of April'2013 to March'2014.Programme wise Expenditure Details for the year 2013-2014 is as below:

		ja Cement Found gramme wise exp		_	ı		
	betails for proj	grannine wise exp	enditure for th	e year 2013-14			(Rs. In lakhs)
Sr.No	Programme	Funds from ACF Resources	*Funds received through Government	from other Donors / Donor Agencies	***People's Contribution	****Direct Funding to Communities	Total Exp.
	GUJARAT - Kodinar						-
1	Water Resource Mangement & Drinking Water Projects						-
	a. Water Resource Devlopment	40.16	17.57				57.73
	B .Drinking Water Programme	37.83	-	13.55	46.29	-	97.67
	c. Salinity Prevention (KVY III)	81.61		52.60	90.93	90.01	315.15
2	Agriculture Development( Farm Forestry &Afforesation)	38.36		16.88	145.03	186.33	386.60
3	Better Cotton Initiative (BCI)	0.54		38.21	1.85	2.30	42.90
4	Krishi Vigyan Kendra (KVK)	16.84	105.59		-		122.43
5	Animal Husbandry Programme	0.44	-		-		0.44
6	Health & Sanitation Programme	12.78	5		15.31	-	28.09
7	Skill and Enterprunership Development Programme	26.79		15.97	23.78		66.54
8	Village Knowledge Centre & Anganwadi exp	1.93			2		1.93
9	Capacity Building &Training Programmes	0.21	2		121		0.21
10	Women / Youth Development	6.82					6.82
11	Integrated Community Development Programme	80.89					80.89
12	Co-ordination & Administration Expenses	63.65					63.65
	Capital Expenditure	2.08					2.08
	TOTAL	410.93	123.16	137.21	323.19	278.64	1,273.13