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# CYCLONE DEVASTATION ALONG SAURASHTRA COAST OF GUJARAT IN NOVEMBER 1982

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A severe cyclonic storm with a wind velocity of 150 km per hour swept through the coastal districts of Junagadh, Amreli and Bhavnagar of Saurashtra (Fig.1) on the afternoon of 8th November 1982 leaving behind a trail of destruction along its path. It is reported to be the worst of its kind in the living memory of the local people and has taken a toll of 550 human lives and 2 lakhs heads of livestock. About 2 lakh huts were completely damaged and about an equal number of pucca houses were either partly damaged or destroyed. Thousands of trees were uprooted and electric and telecommunication poles got twisted. Communication was totally disrupted and the three districts were plunged into darkness. Amreli district was the worst hit with a death toll of 265. The cyclone played havoc with the garden crops like banana, coconut and sugarcane. While the cyclonic winds and incessant rains inflicted heavy damage along the coast, flooding of lowlying areas due to overflowing and breaching of dams devastated the inland villages taking a heavy toll of human beings and livestock.

The course of the cyclone was monitored precisely by the Colaba Observatory since 5th November. The storm developed in the Arabian sea was to touch Bombay on 6th November. But it had changed its course by 6th evening and it was predicted that it would touch South Gujarat. A further change in the course indicated that it was picking up momentum and would cross the land somewhere along the Saurashtra coast by 8th November with wind velocity of 150-200 km per hour. By 8th morning it was certain that the storm would cross between Diu and Veraval by the forenoon of the same day. As predicted the cyclone touched the land at Madhwad, a fishing village about 50 km from Veraval, with a wind speed of 150 km and passed through Kodinar, Amreli and Bhavnagar. Its full force was felt between Jaffrabad and Veraval along the coast. The whole area had been experiencing intermittent heavy rains since 6th evening and the intensity increased by 8th noon. The entire town of Veraval was flooded with rain water and in some places as much as 5 feet of water was flowing

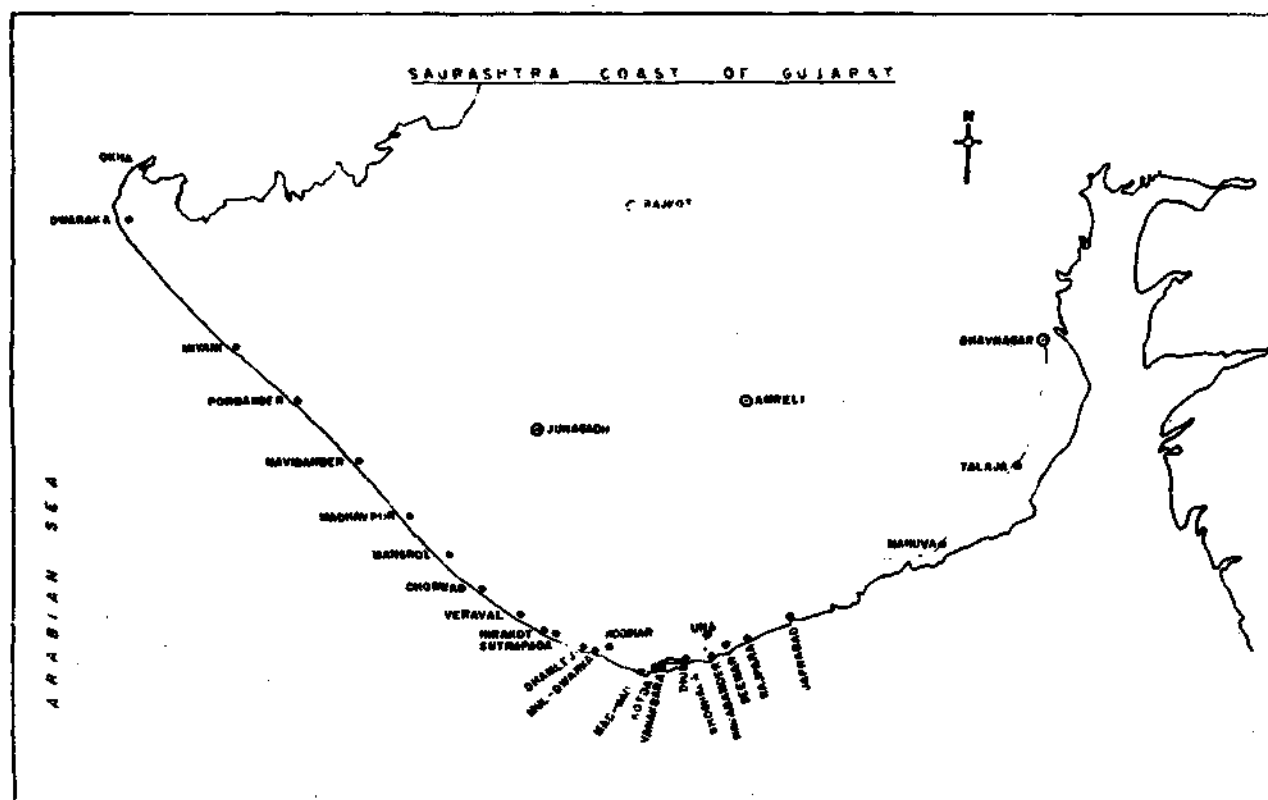


Fig. 1. Map showing the fishing villages affected by the cyclone along Gujarat coast.

**Table.1. Districtwise extent of loss and damage to small scale fisheries along the coast of Gujarat (Value in '000 Rs.)**

District	Loss of human lives		Damages to houses		Loss of boats		Damages to boats		Loss of nets		Loss of fish materials (Value)	Total loss (Value)
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value		
JUNAGADH	3	3210	5363		40	1213	433	1852	817	784	11082	20294
AMRELI	15	365	571		11	310	112	783	949	312	—	1976
DIU	6	330	230		10	383	59	204	5	32	80	929
Total	24	3905	6164		61	1906	604	2839	1771	1128	11162	23199

on the roads. Veraval had 23 cm rain fall on the 8th of November. The coastal areas had a sigh of relief by dusk as the wind subsided while the inland areas of Amreli and Bhavnagar districts continued to have rough weather in the night.

Government machinery was geared up to meet the eventuality. By 8th morning radio broadcast and local announcements were given to keep the people on the alert. The army and airforce were also informally alerted to stand by in the rescue and relief operations. In spite of all the precautionary measures, there was extensive damage to public and private properties due to the cyclone and the loss was estimated at Rs.260 crores. The loss to crops, livestock, fisheries and forestry alone would be to the tune of 150 crores.

There was extensive damage at Veraval as many of the houses collapsed and all communications got cut off. Port department suffered a damage of Rs.40 lakhs. Nine of the barges drifted to high seas and sank and heavy damages were caused to godowns and machinery. World Bank fishery harbour project lost about Rs.40 lakhs as 45 cm of western break-waters and 90 m of eastern break-waters were washed away because of wave action. The coffer dams built to facilitate dredging in the inner basin were breached. The auction hall and gear mending hall built under the scheme were heavily damaged.

#### **Damages in fishing villages (Figs 2-13)**

The fisheries sector is one of the worst affected in the cyclone especially in the districts of Amreli and Junagadh and the Union territory of Diu. The districtwise details of the damages are given in Table 1. The fish landing centres affected are shown in figure 1. 61 boats were lost and about

600 boats, mostly country crafts fitted with outboard engines or inboard engines, were damaged inflicting a loss of about Rs.47 lakhs. Gears, mostly gillnets and dol nets accounted for a loss of about Rs.11 lakhs. About 3900 huts were either blown off or damaged, the extent of damage being about Rs.62 lakhs. Processed fish material—dry fish, fish meal, prawns and squids—worth Rs.112 lakhs was spoiled because of godown collapses and power breakdown.

Madhwad, a fishing village in Amreli district, about 50 km south of Veraval, was the worst hit with 14 lives lost and damages to fishing boats and fishermen houses. About 25 houses were completely washed away because of tidal action. Some of the persons who ventured out of the villages to reach safer elevated places were swept away by tidal water and gales. Almost all the houses were damaged and the boats which were moored in the bay were let loose by the tidal action and drifted helter-skelter. Those that drifted to inland areas ran aground when the tidal water receded after the fury of the cyclone. The total loss was estimated at Rs.10 lakhs.

Mul-Dwarka, another fishing village in Amreli district about 40 km south of Veraval also suffered extensive damage with an estimated loss of Rs.5 lakhs. About 20 houses in the sea front were swept away along with the belonging of the fishermen because of erosion due to tidal action. About 790 pieces of gill net were also swept away.

Union territory of Diu also had severe damage. A trawler with 3 crew drifted into the sea, resulting in the loss of all of them. Another boat, a dolnetter, drifted with 3 crew and sank, killing all the occupants. The total losses at the four fishing cen-

tres of Diu, namely Diu, Ghoghakla, Seemar and Venakbara are to the tune of Rs.9 lakhs.

The dol net fishing zone mainly consisting of the three landing centres Jaffrabad, Rajpara and Nawabunder in Junagadh district has also suffered extensive damages, the loss being estimated at Rs.58 lakhs. Five boats and 84 dol nets were lost. About 2400 huts were blown away by the wind, exposing dry fish stock worth Rs.31 lakhs and resulting in their spoilage.

#### Damages in fishing harbours

The full fury of the cyclone was felt at Veraval where waves of 3-4 m high lashed the coast tossing the fishing vessels in the harbour. Thirteen canoes were lost and 31 trawlers sank in the harbour due to a breach in the cofferdam and subsequent gushing of flood waters into the harbour. However all the 31 trawlers were refloated with the help of cranes and manual dewatering. About 131 boats were damaged inflicting a loss of Rs.9 lakhs to the industry. Unlike the 1981 cyclone, this year the brunt of the fury was felt by the fishing industry. Almost all the buildings and sheds of fish freezing plants, fish meal factories and dryfish traders were heavily damaged at Veraval with an estimated Rs.123 lakhs loss to the industry (Table.2). Buildings, machinery and freezing material worth Rs.63 lakhs were lost. A number of fish meal factories were damaged and the loss was estimated at 44 lakhs. Worst affected are the dryfish traders who lost all their godowns, sheds and dryfish, the loss estimated at Rs.17 lakhs.

The fishing industry at Porbandar and Mangrol which was greatly affected in 1981 cyclone felt only

**Table.2.Losses to the fishing Industry at Veraval (Value in '000 Rs)**

Item	Freezing Plants/ Ice factory	Fish meal factories	Dry fish Traders	Total
Buildings	1304	1759	365	3428
Machinery	327	262	—	589
Frozen material	4417	—	—	4417
Dry fish	—	—	1274	1274
Dry fish for fish meal	—	1350	—	1350
Fish meal	—	917	—	917
Others	243	78	38	359
<b>Total</b>	<b>6291</b>	<b>4366</b>	<b>1677</b>	<b>12334</b>

a fringe of the fury of the present cyclone and escaped with minor damages. At Porbandar a trawler sank in the sea and the crew managed to escape. About 5 boats were damaged. The loss was estimated at Rs.2 lakhs. At Mangrol about 70 boats were damaged incurring a loss of Rs.1 lakh.

#### Loss due to suspension of fishing

Assuming that the catch trend during the period when fishing was suspended due to the cyclone remained the same as in few days prior to the havoc, the expected catches of fish were worked out for each district. The loss was estimated at Rs.442 lakhs (Table.3.)

**Table. 3. Expected loss due to suspension of fishing after Cyclone**

Name of the District	No.of days fishing suspended	Expected quantity lost (in tonnes)	Loss in Value ('000 Rs)
JUNAGADH	15	13170	36676
AMRELI	22	1914	4124
DIU	12	1428	3416
<b>Total</b>	<b>—</b>	<b>16260</b>	<b>44216</b>

#### Relief measures

The Government of Gujarat has taken prompt relief measures to rehabilitate the displaced persons, to provide essential commodities and to resume power supply. Prompt action was taken in clearing the roads to provide communication system and to supply essential goods to the affected persons. Fresh water was supplied by tankers in towns and villages. About 48 towns and 2,000 villages were in darkness for days together. Due to prompt action power supply has been restored to 38 towns and 1,343 villages within a fortnight. Power generators were pressed into service in remote towns to run flour mills and other essential units to avoid inconvenience to the public. However, it would take some more time to restore the normal power system as the damages were extensive. Medical teams were sent to all the areas to prevent spreading of epidemics. About 2 lakh doses of anticholera vaccine have been despatched to the affected areas.

Government agencies have distributed Rs.3.5 lakhs as cash assistance to the families of the persons killed in the calamity and Rs.50 lakhs have been distributed as assistance in kind. Central



Fig. 2. Fury of the cyclone-bent electric poles.



Fig. 3. Road in Veraval after flood water receded.

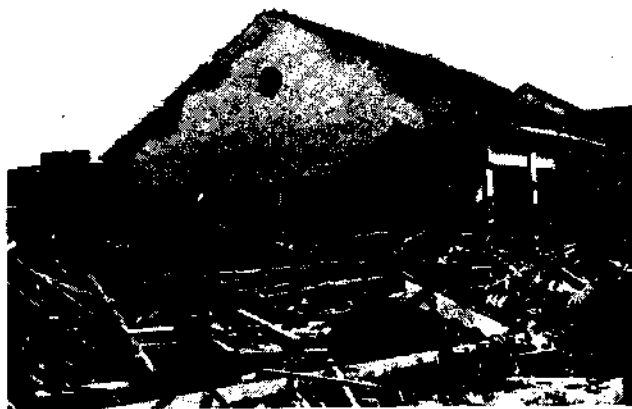


Fig. 4. Damaged Municipal market of Veraval.



Fig. 5. Damaged roadside shops in Veraval.

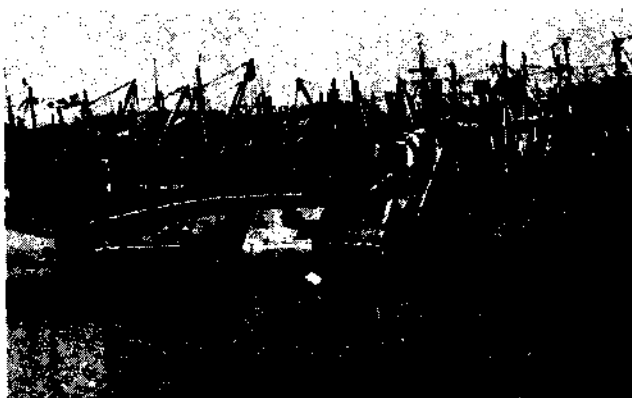


Fig. 6. Boats damaged in Veraval fisheries harbour.



Fig. 7. Lifting sunken trawlers by crane at Veraval.



Fig. 8. Uprooted coconut trees.



Fig. 9. Gear mending Hall in Fishery Harbour Project.



Fig.10. Damaged building of a freezing plant.



Fig.11. Houses in heaps.



Fig.12. Boats among huts at Madhwad.



Fig.13. Grounded boats.

# severe cyclone may hit Bombay

**Express News Service**  
PUNE, Nov 6  
A severe cyclonic storm is rapidly advancing towards the West Coast from the Arabian Sea, and Bombay falls in its path.

servatory, the severe storm will start adversely affecting the coast from Monday morning. It is still not clear which part of the coast it will strike, since storms tend to behave in the erratic manner, but the entire coast of Gujarat

# Cyclonic storm heading for S. Gujarat

**Storm toll 487  
76 still missing**

**By Our Staff Reporter**  
GANDHINAGAR, Nov 18  
The death toll in last week's cyclone in the State rose to 487 this morning.

ernment had so far disbursed Rs 40 to Rs 42 lakhs as cash doles and other reliefs to the cyclone victims. Mr Raval said that the Central team to assess the cyclone damage was likely

**HMEDABAD, Nov 7**  
(PTI, UNI)

he activities in coastal villages and towns of the South Gujarat came to a standstill this evening following impending

The rainfall was caused under the influence of severe cyclonic storm which was situated about 800 kms south-west of Bombay at 1730 hours yesterday and which is likely to cross the South Gujarat coast between Harnal and Bulsar tomorrow afternoon.

Fishermen in coastal villages of South Gujarat and Saurashtra have been warned again

# Nature's fury haunts Amreli re

**SAIBAL DASGUPTA**  
**Express News Service**  
AMRELI, Nov 18  
Cyclone victims of Amreli know which of the two final blow — the cyclone the neck-high sheet of water gushed out of the river they know is that they are exposed to the fury of nature on the fateful night the walls of their houses tumbled. And the battle for survival.

Madha of Wankia village braced up for the fight and to pull out his family through the roof, as the jammed shut by the intense wind. The family of quivering on a raised made by stacking sacks over a huge metal trunk



## Amreli not likely to forget the cyclone

**severe damage to railways**

**Express News Service**

**BOMBAY, Nov 12**

the gauge sections of the Railway between the junction and Khijadiya and Visavadar in the Nagar division, have suffered extensive damages due to the storm.

road gauge trunk routes Surat and Baroda and Ahmedabad have suffered extensive damages to the overhead equipment. Reports reach-

**Damage in Saurashtra over Rs 100 crore**

**Express News Service**  
RAJKOT, Nov 10  
Damage due to cyclone in Saurashtra is estimated to be over Rs 100 crores, according to preliminary reports reaching here. A much worse damage is

Amreli Chamber of Commerce and Industries at over Rs one crore. Industrial sheds severely damaged.

ected. About two km of railway track has been completely washed away and more than half of all trees in the district have been uprooted.

Officials estimated the losses to roads at Rs 77 lakh while damages to Government buildings and public sector establishments work out to about Rs 1,000 crore. The State Finance Minister Mehta who is supervising operations in the area.

damage caused by the cyclone would be given to the relatives of the deceased and Rs 500 to the weaker section who got 100 square metres of land and had 5000 such houses on this land. Around 1000 such houses have been badly damaged.

Government has already sanctioned Rs.20 crores as relief advance to the state. Several social organisations and individuals have been distributing utensils, clothes, blankets and foodgrains in the affected areas.

The state announced that fishermen who lost their boats will get a subsidy to the extent Rs.1/3 of the price of a boat upto a maximum of Rs.8,000/-. Those whose boats have been damaged will get a subsidy of 1/3 of the damage with a ceiling of Rs.2,500/-. Higher amounts were given to replace /repair trawlers.

Low interest loans are being provided to rehabilitate cyclone affected industrial units by Gujarat State Finance Corporation and Gujarat Industrial Investment Corporation. The latter has decided to open depots at Veraval, Junagadh and Amreli to supply cement and galvanised iron sheets to the affected units. Government has also decided to defer the recovery of sales tax and electricity tariff from the affected units for one year period. Already about 36 affected units have received loans over Rs.4 lakhs. Under the special scheme, loans of upto Rs.25,000 at 4.5% interest would be granted to the small units affected. The loan requirements between Rs.25,000 and Rs.50,000 carrying an interest of 9% would be financed by the State Finance Corporation. Loans exceeding Rs.50,000 upto 5 lakhs would also be financed to the needy units but at normal rate. Moreover, the State Government has formulated a proposal that Banks should extend loans of upto Rs.50,000 which would be guaranteed by the Government.

#### **Overall effects of Cyclone**

The marine catches of Saurashtra coast comprise mainly Bombay duck, sciaenids, pomfrets, elasmobranchs, clupeoids, seer fish, cat fish, ribbon fish and prawns. For about 15 days immediately after the cyclone, no fish was landed due to suspension of fishing consequent to the cyclone havoc, resulting in an estimated loss of Rs.442 lakhs. The loss due to damages to crafts, gears, fish materials and houses in the fishing villages of Junagadh, Amreli and Diu districts was estimated at Rs.232 lakhs. The fishing industry at Veraval suffered a loss of about Rs.123 lakhs. In addition Rs.9 lakhs were estimated to be the loss due to damages

to the boats anchored in the harbour. The damages to the fishing harbour at Veraval were estimated to be about Rs.80 lakhs. The loss at Porbander and Mangrol worked out to Rs.3 lakhs. Thus the total loss to the marine fishery sector due to the cyclone is estimated at Rs.889 lakhs.

About 13,000 fishermen engaged in fishing in Saurashtra coast were rendered jobless for a period of 15 days. Another 1,500 persons engaged in allied activities like transportation of ice and marketing of fish also could not take up any work during the same period. Moreover, these fishermen are not in general benefited by institutional credit agencies. They take advances from traders and sell their catches to them. The traders charge heavy interest through purchasing the fishes at rates much less than the open market price. The fishermen generally repay their loans during the season. But due to the cyclone and the subsequent lay off it was impossible for them to clear off their debts. In addition, these fishermen took advances for repairing their boats and huts damaged, by which their debts are further getting accumulated resulting in their bondage to those traders. This will have social repercussions.

After cyclone it is reported that there was a decrease in catches. This has brought ill-luck not only to the fishermen but also to others involved in fishing industry like merchants, traders and owners of freezing plants. In Saurashtra coast, most of the freezing plants run below capacity but after cyclone this un-utilization further increased and aggravated the unemployment problem.

The boats that got damaged during cyclone period were attended by a heavy influx of carpenters, machanics and other labour force from the mainland. This has accelerated the repair works.

The Government is doing its best to rehabilitate the victims. While the fishing operations are fast reaching normalcy it would take a few more months before the freezing plants and fish meal factories would be able to process fish at the normal level. Inspite of the will and determination on the part of fishermen, fishing industry, government and social organisations, it would take at least another three months to put the system back on the wheels.

