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A Policy Monograph

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Revival of Pasni Fish Harbor – A Policy Monograph

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Pasni Fish Harbor, as the sole economic hub in Pasni, has progressively deteriorated over time because of the lack of concern and neglect by the organizations responsible for the development of harbors and the Government of Balochistan. The harbor's entrance and navigational channel are now blocked due to reclamation, erosion, excessive siltation, and inadequate dredging. This means closure of the sole source of livelihood of the surrounding community which depends on fishing and fishing industries, creating serious implications in the form of increased poverty, violence, lack of earning opportunities, etc. This research was conducted to assess the issues faced in the development of the harbor, collect information regarding its hydrological features, investigate Pakistan's existing facilities to support port development, and make tangible recommendations for the development and sustainable maintenance of the facility. For the development of the harbor and the welfare of the community along the Pasni coast, this study has found that the task of dredging needs to be entrusted to competent authorities and a proper framework by the Government of Balochistan for the fish harbor needs to be maintained.

Keywords: Pasni Fish Harbor, PFHA, rehabilitation, Karachi port, Gwadar, coastline community, marine navigation, dredging, sedimentation, climate change, hydrographical analysis, Government of Balochistan, Planning Commission, PSDP, Hydrographer Pakistan, PC-I.

Introduction

The sustainable extraction of the fisheries resources along Pakistan's coast could improve the socioeconomic conditions of the population living in the arid coastal areas. It can also increase the supply of inexpensive protein food and foreign exchange earnings.[1] This was also recognized by the three-year Public Sector Development Programme (PSDP) (1981/82-1983/84).

1987

Year in which construction work was awarded to Bilfinger Berger AG at a total cost of Rs445 million

1989

Year in which the fisheries harbor was inaugurated by the then prime minister Benazir Bhutto

Accordingly, a feasibility study for establishing a fish harbor at Pasni was carried out by an international firm, Scandia Consulting, of Sweden. In 1984, PRC Engineering Ltd of UK, in association with Engineering Consultants, Karachi, was appointed for the design of the harbor. In 1987, construction work was awarded to Bilfinger Berger AG at a total cost of Rs445 million. Upon completion of work in 1989, the fisheries harbor was inaugurated by the then prime minister Benazir Bhutto.[2]

Three executing agencies were given responsibility of implementing the project, i.e. the Directorate of Fisheries Balochistan (DOFB), the Pasni Fisheries Harbor Authority (PFHA), and the Agricultural Development Bank of Pakistan (now Zarai Taraqiati Bank Ltd).[3]

The project description included construction of the fishing harbor for 500 vessels of up to 1,200 tons gross weight and two meters draft; construction of breakwater with a total length of 1,225 meters; capital dredging in the basin area of 5 million cubic meters and reclamation of berthing area;

[1] K. Nazir, M. Yongtong, M.A. Kalhoro, K.H. Memon, M. Mohsin, and S. Kartika, "A preliminary study on fisheries economy of Pakistan: Plan of actions for fisheries management in Pakistan," *Canadian Journal of Basic and Applied Sciences* 3, no. 1 (2015): 7-17.

[2] R. Haider, "Gateway to unemployment: Pasni fishermen demand restoration of inactive fish harbor," *The Friday Times*, January 3, 2022, https://www.thefridaytimes.com/2022/01/03/gateway-to-unemployment-pasni-fishermen-demand-restoration-of-inactive-fish-harbour/

[3] "Project performance audit report on the Balochistan fisheries development project," Asian Development Bank, PPA-PAK 15031 (1995).

construction of cargo quay with four meter draft; construction of power house, fish market hall, workshop, and port buildings; construction of fuel storage tanks; and, construction of hard standing area and access roads.

As per the Asian Development Bank (ADB) Audit Report of 1995, the harbor breakwater, jetties, and other project facilities constructed at Pasni were of sound and lasting quality. The performance audit report clearly mentioned in the follow-up actions that PFHA, in consultation with the Government of Balochistan, should make an engineering review as soon as possible to address the need for dredging and the concerns over the contamination of Pasni's fresh water supply with further tidal erosion.

> The project description included construction of the fishing harbor for 500 vessels of up to 1,200 tons gross weight and two meters draft

This research was therefore conducted in order to assess the issues faced in the development of the harbor so far, to collect information regarding its hydrological features, to look into Pakistan's existing facilities to support port development and finally to make tangible recommendations for the development of Pasni Fish Harbor for the betterment of Pakistan's economy.

Methodology

This is a qualitative research conducted through PC-Is submitted to the Planning Commission, Ministry of Planning Development & Special Initiatives (MOPD&SI), literature reviews, site visits, and key informant interviews.

Problem Identification

As anticipated by the ADB report, reclamation started on the southern side of the harbor and erosion on the northern side. In 1994, 65 acres of land were reclaimed on the southern side that increased to 155 acres in 2003 and 235 acres in 2009. By 2010, the main channel of the harbor was blocked by continuous siltation. Because of excessive siltation and inadequate dredging, the harbor entrance and navigational channel are now blocked.

> **Rs800 million**
> Grant given by Japan for rehabilitation of Pasni Fish Harbor (three-year project) in July 2010

In July 2010, the Government of Japan extended a grant of Rs800 million for the rehabilitation of Pasni Fish Harbor (three-year project).[4] These funds were to be applied towards consultancy, surveys and overheads as well as the purchase of a mechanical dredger, repair and extension of the breakwater, and maintenance of dredging.

As per available record, in the years 2014 to 2016, MEW (Pvt) Ltd removed around 325,000 cubic meters of sand from the main channel and the harbor was made functional on March 23, 2016. However, the monsoon season of the same year deposited about 46,000 additional silt and the channel was again closed. Since 2016, children have been pictured playing football in the so-called navigation channel of the harbor.

> Since 2016, children have been pictured playing football in the so-called navigation channel of the harbor

The efforts made in the years 2014 to 2016 had not contributed well to the implementation and progress of the project as a whole. The main reason for sedimentation was the leaking southern

[4] R. Haider, "Gateway to unemployment: Pasni fishermen demand restoration of inactive fish harbor," *The Friday Times*, January 3, 2022, https://www.thefridaytimes.com/2022/01/03/gateway-to-unemployment-pasni-fishermen-demand-restoration-of-inactive-fish-harbour/

breakwater which allowed the sand to flow through it and into the harbor basin. Without work on the repair and construction of breakwater, maintenance dredging was not fruitful.

However, leaking of breakwater is not a new phenomenon. The famous Manora breakwater of Karachi was designed and constructed in the 1870s, and having suffered the ravages of time, it was rehabilitated in 1969 and then again in 2010. The prime purpose of the breakwater was to tranquilize the fury of the southwest monsoon and create an artificial niche for the harbor itself. Due to these engineering feats, Manora breakwater and Keamari groyne in Karachi was established as a major harbor and continues to be the lifeline of Pakistan's seaborne trade.[5]

The Planning Commission, in its SDGs Status Report 2021, the first national status report of Pakistan on SDGs which is a compendium of the national and provincial undertakings, has reported that proportion of the population living below the international poverty line increased by 0.4% between 2015 and 2018.[6] The situation is more alarming in Balochistan's coastal regions where reportedly there has been marginal or no increase in the spending on essential services between 2014-15 and 2019-20.

The report further cites that due to lack of earning opportunities, unlike other provinces, the proportion of physical violence has slightly increased in Balochistan from 31.4% to 34% during the same period. With no or limited access to 24/7 electricity, water, sanitation, etc. and closing of the only earning source, i.e. fish harbor, the plight of the community cannot be emphasized enough.

With the closure of the only source of earning, i.e. fish harbor, the plight of the community cannot be emphasized enough

The issue was also echoed in the National Assembly on June 17, 2021, by Aslam Bhotani, the area MNA, while seeking federal government support to address the challenges in revival of Pasni Fish Harbor.

As of 2022, the navigational channel is still closed rendering the whole project unusable, while almost 80% of the population of Pasni continues to suffer as they solely depend on fishing for their livelihood.[7] The episodes of attacks on security personnel in December 2021 are also reviewed in this backdrop.

Hydrographical Analysis

Hydrographical studies indicate that the coast of Pasni was in a naturally stable condition prior to the 1990s as evident by the presence of a crescent-shaped bay. Technically speaking, this type of bay is created in an area where the net transport of sediment is almost zero. In other words, the volume of sediments coming into the bay equals to the volume of sediments going out of the bay. In any such environment, a small disturbance in the naturally stable condition might drastically change the physiography and hydrodynamics of the area. This is what has happened at Pasni.[8]

Hydrographical studies indicate that the coast of Pasni was in a naturally stable condition prior to the 1990s

Due to the construction of the fish harbor, drastic changes occurred on the coastline of Pasni. The hydrodynamics of the coastline, which were initially in a naturally stable condition, began to change

[5] "Yearbook 2017-18," Karachi Port Trust, Ministry of Maritime Affairs, Maritime Division, 2018.

[6] A.R. Cheema, M. Kemal, N. Ahmed, and H. Hassan, "Pakistan SDGs Status Report," Federal SDGs Support Unit, Ministry of Planning, Development & Special Initiatives, Government of Pakistan, 2021.

[7] Muhammad Akber Notezai, "The woes of Pasni Harbour," *Dawn*. November 15, 2021, https://www.dawn.com/news/1658215.

[8] A.R. Tabrez, A. Inam, S.M. Ali, M. Tabrez and M. Danish, "The issue of coastal erosion and accretion along Makran coast of Pakistan," presented at International Conference: Land-Sea Interactions in the Coastal Zones, Lebanon, 2012.

at an alarming rate without being noticed by those at the helm of affairs. A significantly large coastal area has already been lost as a result of erosion by the strong long-shore currents developed by the intensive wave action during the southwest monsoon seasons of the consecutive years.

When comparing the satellite images from 2003 to 2021 (images 1 to 8 in Annex), it has been observed that a spit has developed strongly in the last two decades. All the changes in the coastline and deposition of sand that took place since the construction of the harbor in 1987-89 and the severe erosion in the north are expected to have changed the hydrodynamic condition along the Pasni coast.

> All the changes in the coastline and deposition of sand since construction of the harbor changed hydrodynamic condition along the Pasni coast

The influences of waves and tidal currents keep beach material in continuous motion.[9] Wherever the prevailing wave direction is at an angle to the beach of less than 90 degrees, some material moves along the beach or foreshore or even offshore. This movement is most rapid under storm conditions. If this lost material is not replaced, the beach and eventually the shoreline will erode. If the lost beach material is not replaced naturally, beach nourishment may be necessary to enhance the beach profile and moderate the wave climate at the shoreline. This is what the Pasni Fish Harbor has witnessed.

Just after the construction of the harbor, the beach south of Pasni Harbor has grown fast. On average, the beach surface increased by 43,000 m^2/y. When considering a profile height (the layer thickness of the accumulated sediment) of three meters, this yields an accretion volume of approximately 130,000 m^3/y. Various hydrological studies show that the accretion rate has reduced to approximately 12,000 m^2/y (or 36,000 m^3/y) since 2006. This reduction is due to the change in coastline orientation, which is getting more in an equilibrium state with the prevailing hydraulic conditions. This means that the gradients in long-shore sediment transport capacity are reducing, resulting in less accumulation.

It may be noted that Pasni lies in an area affected by earthquakes of a strong magnitude, e.g. on February 7, 2017, an earthquake of 6.3 magnitude occurred close to Pasni. The average displacement in Pasni is estimated at about 250 mm. Maximum area of Pasni has been uplifted by earthquake and the maximum uplifting that occurred was about 1,200 mm. Some of the areas subsidized like those near to the shoreline and maximum subsidence was estimated at about 1,500 mm.[10]

> Pasni is facing many problems due to increasing sea water intrusion under prevailing climatic change

Pasni is facing many problems due to increasing sea water intrusion under prevailing climatic change where land deformation due to a strong earthquake can augment its vulnerability. Construction of dams in hinterlands as well as routing of fresh water (like Shadi Kaur) have also contributed such sea intrusion ashore along the Pasni coastline.

The Makran region also features a number of mud volcanoes. The active mud volcanoes occur in a well-defined zone, called Makran Zone Active Mud Volcanos (MZAMV), which is parallel to the regional trend of the accretionary belt. The MZAMV also includes the offshore mud volcanoes of the shallow shelf area, specifically the Malan Island or Hingol Island that has periodically emerged and vanished three times since 1945 in the same locality.[11] The years 2013 to 2016 also

> Enhanced mud extrusion activity, i.e. violent extrusion of mud volcanoes and/or emergence of islands, also significantly contributes to the siltation process in harbors

[9] Yolanda L.M. Foote, "Waves, currents and sand transport predictors on a macro-tidal beach," University of Plymouth, 1994, https://dx.doi.org/10.24382/4514.

[10] M. Ali, M.I. Shahzad, M. Nazeer, I. Mahmood, and I. Zia, "Estimation of surface deformation due to Pasni earthquake using Radar interferometry," *Geocarto International* (2019):1-16.

witnessed emergence of a mud volcano off Pasni (near Jabl-e-Zareen). The island was three kilometers long and called Peer Ghaib after it disappeared in about two months' time. Such enhanced mud extrusion activity, i.e. violent extrusion of mud volcanoes and/or emergence of islands, also significantly contributes to the siltation process in harbors and needs to be considered in planning dredging operations.

Efforts Made So Far

As per the Planning Commission's Manual for Development Projects, the projects with a foreign exchange component exceeding 25% of the total cost must be processed through the Central Development Working Party/Executive Committee of the National Economic Council irrespective of the source of funding, provincial or otherwise. Accordingly, on August 6, 2020, the PC-I of 'Rehabilitation of Pasni Fish Harbor Project' was presented at the CDWP and approved at a cost of Rs1.454 billion, including Rs800 million of Japanese aid (since funding through Japan was more than 25% of the total cost of the project).

> The PC-I of 'Rehabilitation of Pasni Fish Harbor Project' was presented at the CDWP and approved at a cost of Rs1.454 billion on August 6, 2020

a. The project consisted of the following components:

   (1) Procurement of a new dredger;
   (2) Repair and extension of existing breakwater (465 meters);
   (3) Maintenance dredging (0.51 million cubic meters) till procurement of a new dredger;
   (4) Consultancy and survey services;
   (5) This project shall cater to the berthing and developmental needs of over 3,500 fishing vessels of the Gwadar coastal district area.

b. On November 14, 2020, the Balochistan chief minister conducted groundbreaking of rehabilitation of Pasni Fish Harbor project. However, non-execution of any physical work had shadowed the very groundbreaking, necessitating upfront measures by all stakeholders.

> November 14, 2020
> When the Balochistan CM conducted groundbreaking of rehabilitation of Pasni Fish Harbor project

c. The secretary of Fisheries and Coastal Development informed that the Government of Balochistan's internal inquiry report on the subject indicates that the PC-I of year 2020 was revised without any detailed feasibility study and the estimates were again not taken deliberately. In PC-I, the estimates and costs of construction and rehabilitation of the breakwater, its length, dimensions, sedimentation trap, etc. all needed professional marine engineers for designing and making bill of quantities (BOQs) for the award of work.

> The PC-I of year 2020 was revised without any detailed feasibility study and the estimates were again not taken deliberately: Inquiry report

d. The CDWP, in its meeting held on August 6, 2020, while deliberating the 'Rehabilitation of Pasni Fish Harbor Project' worth Rs1454.98 million, entrusted the Gwadar Port Authority (GPA) as the executing agency. It has been further desired that the dispute regarding execution between the Government of Balochistan and Government of Pakistan is to be settled by the apex committee. During progress review meeting held at MOPD&SI on August 27, 2021, under chairmanship of the secretary planning, the secretary Ministry of

[11] A.M. Kassi, S.D. Khan, H. Bayraktar, and A.K. Kasi, "Newly discovered mud volcanoes in the Coastal Belt of Makran, Pakistan – tectonic implications," *Arabian Journal of Geosciences* 7, no. 11 (2014): 4899-4909.

Maritime Affairs showed inability to undertake the project for being beyond the capacity of GPA.

e. Furthermore, a decision was also taken in the CDWP meeting held on August 6, 2020, asking sponsors to submit a comprehensive report indicating reasons for delay, incurring of unauthorized expenditure, and fixing of responsibility through internal inquiry within three months. Analysis of available documents reveal that due to frequent changes of project directors (PDs), the administrative approval of the project was never issued. The report is also a testimony to the fact that the project was not handled in a professional manner. For referral, PC-I comparison of the project is given below while the same will have to be reviewed prior to submission of the second revised PC-I by the Government of Balochistan. Considering depreciation of the rupee against the dollar of approximately 28% since 2020 and price hike, the project cost was revised. The revised project will be funded through the Government of Balochistan's PSDP as well as Japanese grant.

Table 1.1: PC-I Comparison of Project

S #	Components	Allocation PC-I (2009) (Rs million)	Allocation Revised PC-I (2020) (Rs million)	Estimate for 2023 (Rs million)
1.	Fresh feasibility study	-	-	500.00
2.	Construction of new breakwater	-	-	1000.00
3.	Procurement of dredger	330.000	343.20	700.00
4.	Repair and extension of breakwater	357.050	476.565	800.00
5.	Maintenance dredging	102.750	523.842	800.00
6.	Consultancy, surveys and overheads	10.200	61.38	100.00
7.	PMU cost	50.000	-	-
	Total	**850.000**	**1545.987**	**3900.00**

Federal Capability and Expertise

Only through regular maintenance dredging, harbors and jetties can be kept navigable round the year with clean and silt-free channels and basin yards. However, it appears that Gwadar Port is also suffering from such sea blindness by the authorities which clearly indicates that policymakers do not know how to maintain harbors.

> Neither Balochistan Coastal Development Authority nor Pasni Fisheries Harbor Authority has the capacity and the resources to undertake operations/maintenance dredging of such fish harbors

It may be noted that another fish harbor, established at Surbandar, has also witnessed siltation and is suffering from a situation like Pasni. Located in the near vicinity of the GPA and established for the very purpose of providing an alternate fish landing site to the fishermen of Gwadar, Surbandar demonstrates the GPA's incompetence to undertake any such tasks. The large demonstrations by the local populace are a testimony that the fishermen are not happy and satisfied with the overall management of fishing harbors.

Since neither Balochistan Coastal Development Authority (BCDA) nor PFHA has the capacity and the resources to undertake operations/maintenance dredging of such fish harbors, an out-of-the-box approach could be placing all such minor harbors under the Ministry of Maritime Affairs on a mutually agreed revenue sharing model (on the pattern or Korangi Fish Harbor whose funding is through the federal government's PSDP). An alternate model could also be through PSDP Plus/public-private partnerships mode of financing through CEO Public Private Partnership Authority (P3A), Islamabad.

Hydrographical surveys and dredging are specialized fields. In addition to having trained human resources for manning such ships, the availability of requisite repair and maintenance facilities as well as support ships/boats for clearing mud/debris, etc. are also required. Just dredging vessels/ships may not be able to do the job.

The Makran coastal region experiences strong southwestern monsoons from May till September which, along with mud volcanoes, add to siltation processes and needs to be considered at planning stages in order to establish subsequent dredging efforts. Hence, almost all ports and even fishing villages are established on the east bays which offer natural protection.

The Makran coastal region experiences strong southwestern monsoons which, along with mud volcanoes, add to siltation processes and needs to be considered at planning stages to establish dredging efforts

It may be noted that the Hydrographer Pakistan has recently conducted bathymetric surveys of Gwadar Port. The hydrographer is also conducting dredging at Ormara Harbor, located about 80 nm from Pasni and 100 nm from Gwadar.

Pakistan Hydrographic Department, a national hydrographic organization under Ministry of Defence, is primarily responsible for conducting hydrographic surveys of coastal and offshore waters of Pakistan and publishing nautical charts and relevant publications. The organization has the requisite capabilities for conducting dredging independently as well as through joint ventures. In the case of Pasni Fish Harbor as well, on the request of the Government of Balochistan, Hydrographer Pakistan extended technical support for dredging works and carried out three bathymetric surveys at different stages of the work in 2013, 2015 and 2016. However, such surveys are required to be undertaken on, at least, an annual basis, which has been observed in this case.

Pakistan is an active member of international organizations, such as International Hydrographic Organization (IHO) and International Maritime Organization (IMO), which are dealing with subjects related to hydrography, oceanography, and safety of life at sea. As a member of IHO, Hydrographer Pakistan is obliged to maintain a high standard of performance in hydrographic services. To accomplish these obligations, the Hydrographic Department has the following components:

1. Survey vessels
2. Dredging vessels
3. Charting centers and hydrographic press
4. Chart depots
5. Electronic Navigation Chart (ENC) divisions
6. Headquarters Navarea IX
7. Hydrographic and dredging schools
8. Collaboration with various international organizations

Established in 1995, one of the most significant pillars of Bahria Foundation, a constituent organization instituted under Ministry of Defence SRO, Bahria Maritime Works Organization (MWO) is engaged in a wide range of maritime activities. Some of the salient activities being handled by MWO are:

1. Shipyard and engineering works

2. Surveying, dredging, tugging, diving
3. Manufacturing of channel buoys and jetty designs/construction
4. Boat-building yard
5. Crewing services on sea going crafts and technical skilled manpower

The dredging work is undertaken through deployment of equipment and allied machinery such as cutter suction dredger, trailer suction hopper dredger, hopper barges, and associated dredging plants (if required) for dredging all kinds of strata/soil with discharging of resultant dredge materials to designated dumping site at sea. Hydrographer Pakistan has recently acquired new dredging ships with two split hopper barges from China. Due to its design and functioning methodology, the dredgers like *Rah Kusha* can dredge in proximity of jetties and berths, whereas other conventional dredging means are less effective.

For revival of breakwater, expertise of Hydrographer Pakistan, Bahria Foundation, MWO and those available in nearby markets could be utilized through suitable joint venture arrangements. The example of Port Qasim, where Korangi Fish Harbor is also located, could be a viable example as well where the port has outsourced dredging work through Public Procurement Regulatory Authority.

Conclusion

Both the fishermen and fish harbor of Pasni have suffered due to the negligence of Government of Balochistan and the lack of senior engineers and project directors. The main channel of the harbor has been blocked by continuous siltation and is affecting the fishing community, which makes up approximately 80% of Pasni's population.

Both the fishermen and fish harbor of Pasni have suffered due to the negligence of Government of Balochistan and the lack of senior engineers and project directors

This paper has identified the organizations present within Pakistan which are responsible for the development of harbors including the Ministry of Maritime Affairs, Pakistan Hydrographic Department (Ministry of Defence) and MWO. It also explored the international organizations of which Pakistan is an active member including IHO and IMO.

For the development of the harbor and the welfare of community along Pasni's coast, this study has found that the task of dredging needs to be entrusted to competent authorities and a proper framework by the Government of Balochistan for the Pasni Fish Harbor needs to be maintained. Revival of Pasni Fish Harbor would also contribute to improving the local's purchasing power that has witnessed either marginal or no increase in the spending on essential services between 2014-15 and 2019-20.

The task of dredging needs to be entrusted to competent authorities and a proper framework by the Government of Balochistan for the Pasni Fish Harbor needs to be maintained

Recommendations

In view of the above, the following way forward is proposed:

a. **Immediate Actions** (within three months)

(1) **Option-I**. Pasni Fish Harbor may be federalized and placed under Ministry of Maritime Affairs (like Korangi Fish Harbor Authority). Revenue sharing mechanism may be discussed and agreed between Government of Balochistan and Ministry of Maritime Affairs.

(2) **Option-II**. The Government of Balochistan may consider outsourcing mechanism for operations of all minor ports through other modalities like PSDP Plus/PPP mode/variable grant funding (VGF), etc. as part of PC-I for CDWP consideration.

OR

Option-III

(3) The Government of Balochistan may initiate a holistic review of feasibility study with due regard to observations made in various audit/inquiry reports on the subject. Subject matter expertise held with Hydrographer Pakistan may be considered while preparing/analyzing and processing approvals of feasibility study.

(4) The Government of Balochistan may install floating jetties at suitable locations at Pasni Fish Harbor so that local fishermen can restart their activities immediately.

The Government of Balochistan may install floating jetties at suitable locations at Pasni harbor so that local fishermen can restart their activities

(5) The Government of Balochistan may appoint a dedicated chairman of Pasni Fish Harbor Authority having knowhow of coastal and marine dynamics (on the lines of Korangi Fish Harbor Authority).

(6) The Government of Balochistan may consider assigning execution of hydrographical surveys and dredging work of Pasni Fish Harbor to a federal organization, i.e. Hydrographer Pakistan, on Government-to-Government (G2G) model for facilitating timely dredging activity.

(7) The Government of Balochistan may nominate a competent project director along with competent senior engineers possessing knowhow of coastal and marine dynamics of such projects as Project Management Unit (PMU) to address management and follow-up issues.

b. **Long-Term Actions** (within six months to one year)

(1) The Planning Commission may consider the revised PC-I of PFHA project once it carries authenticated BOQs, estimates and drawings based on proper feasibility study and time-framed schematic diagram indicating port revival/development stages so that work for the rehabilitation of the harbor could immediately be started.

(2) The Government of Balochistan may consider formulating/implementing overall framework of PFHA demanding certain actions like:

The Government of Balochistan may consider formulating/implementing overall framework of Pasni Fisheries Harbor Authority

a) Review of present government policies
b) Basic infrastructure development/maintenance
c) Synchronized facilities development with attention to maintaining integrity of breakwaters and charted depths
d) Integrated fish port and city development planning
e) Investment promotion through aggressive marketing, and
f) Early success of selected trigger projects, etc.

Accordingly, timeframe of such commercial/industrial activities need to be made part of overall framework to exploit Pasni Fish Harbor's conceived potential.

References

Baluch, Dr Faisal, Planning Commission. Interview conducted in April and May 2022.

Jamali, Dr Hafeez, Government of Balochistan, Camp Office, Islamabad. Interview conducted in April and May 2022.

Khan, Babur, director general, Balochistan Coastal Development Authority. Interview conducted in April and May 2022.

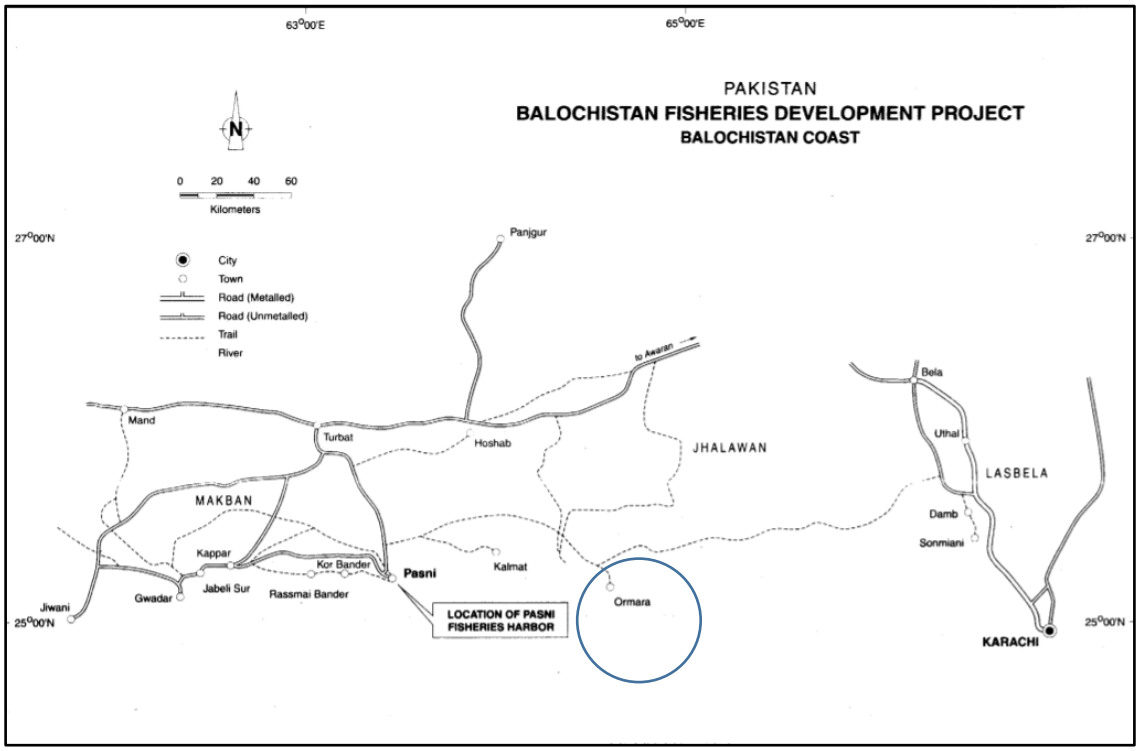
Ministry of Planning, Development & Special Initiatives. "CDWP Approved 04 projects worth Rs. 16.112 Billion and recommended 02 projects worth Rs. 44.172 Billion to ECNEC." August 6, 2020. https://www.pc.gov.pk/web/press/get_press/461.

National Institute of Oceanography (NIO) – Sediment Sampling of Pasni Harbor.

Patil, Pawan G., David James Kaczan, Julian Peter Roberts, Rahat Jabeen, Bradford L. Roberts, Jorge Guillermo Barbosa, and Saima Zuberi. "Revitalizing Pakistan's Fisheries: Options for Sustainable Development." World Bank Group, 2018. http://documents.worldbank.org/curated/en/122481529566117025/Revitalizing-Pakistan-s-Fisheries-Options-for-Sustainable-Development.

Annex

Map 1: Pasni Fish Harbor



Map 2: Pasni Fish Harbor Project Overview

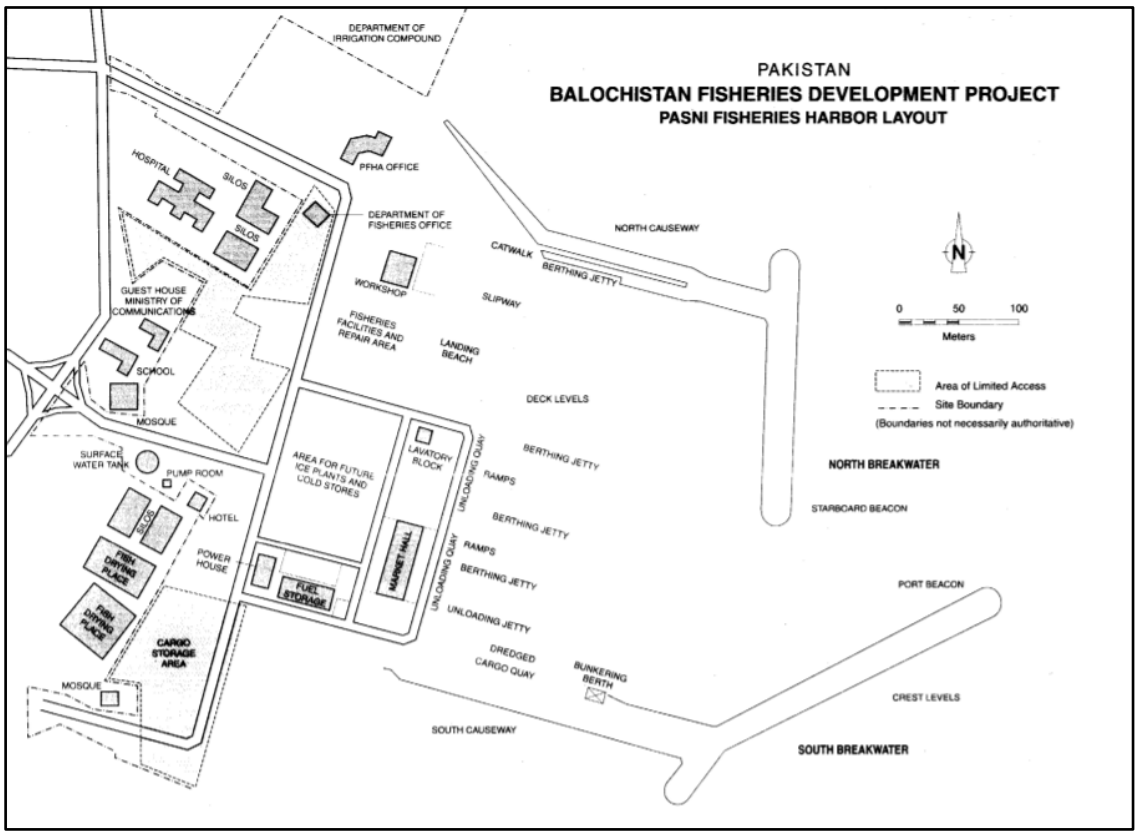


Image 1: Pasni Fish Harbor – 1989

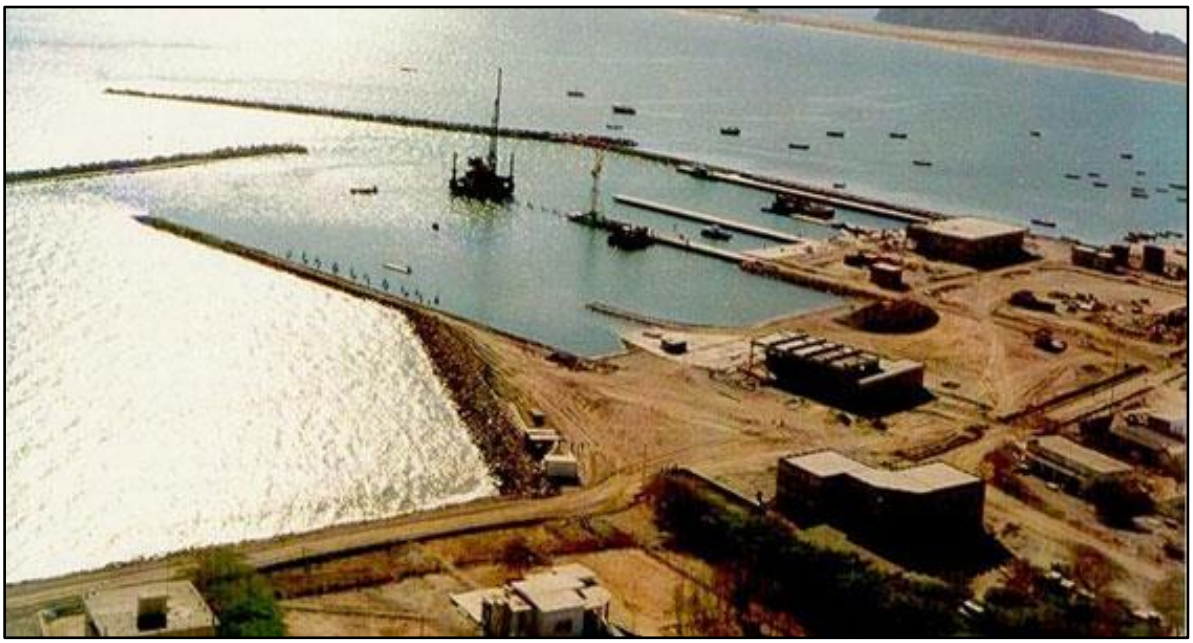


Image 2: Satellite View of Pasni Fish Harbor – 1989

Image 3: Satellite View of Pasni Fish Harbor – 1994

Image 4: Satellite View of Pasni Fish Harbor – 2003

Image 5: Satellite View of Pasni Fish Harbor – 2006

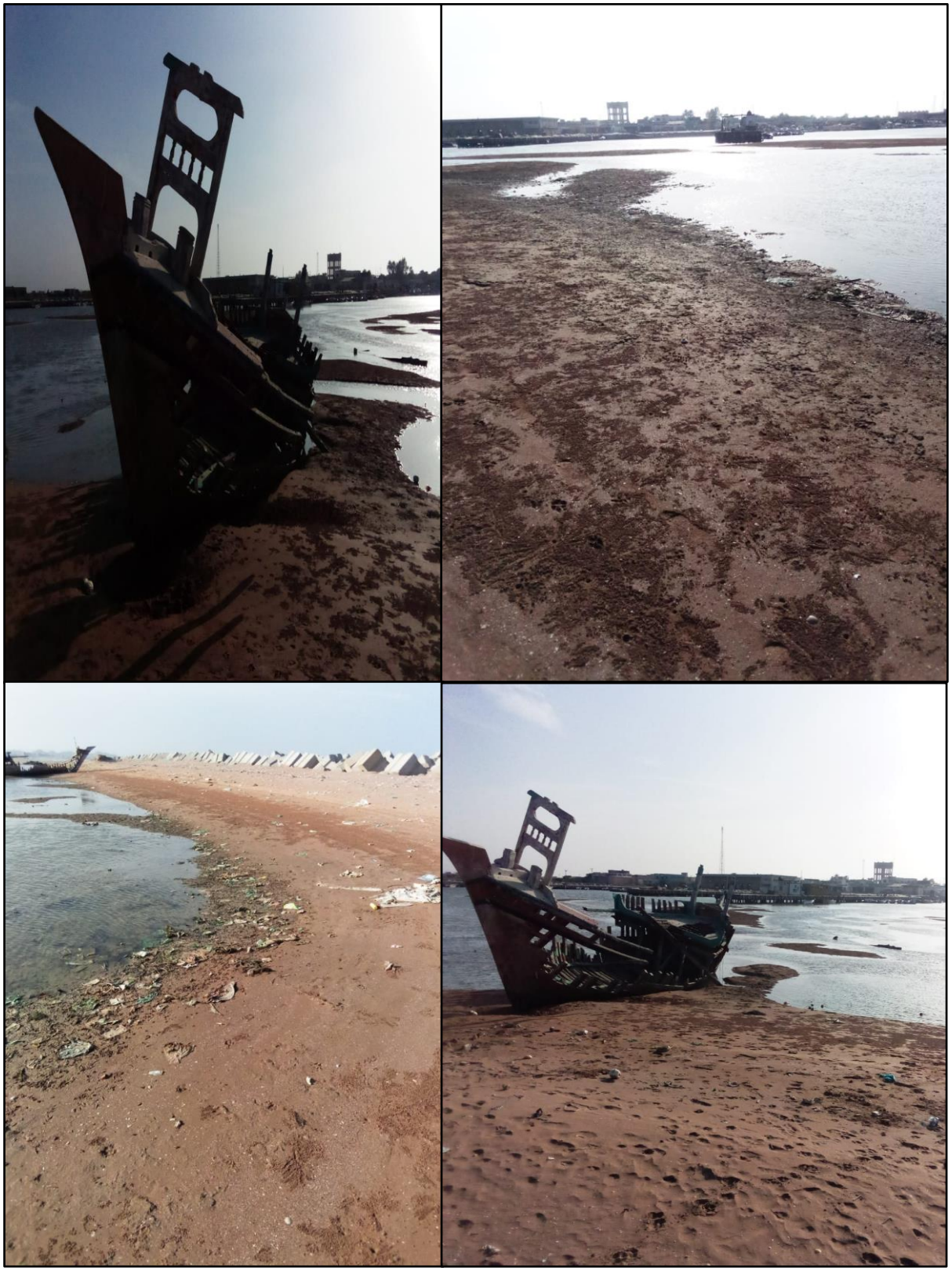
Image 6: Satellite View of Pasni Fish Harbor – 2010

Image 7: Satellite View of Pasni Fish Harbor – 2014

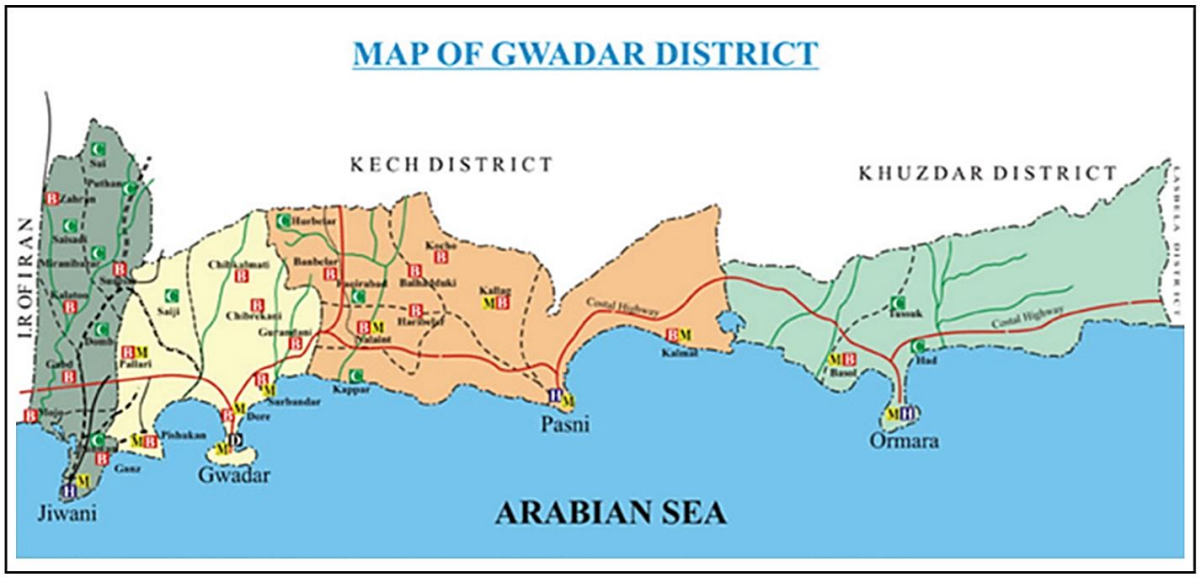
Image 8: Satellite View of Pasni Fish Harbor – 2021

Image 9: Pasni Harbor – 2021

Image 10: Pasni Harbor – 2021

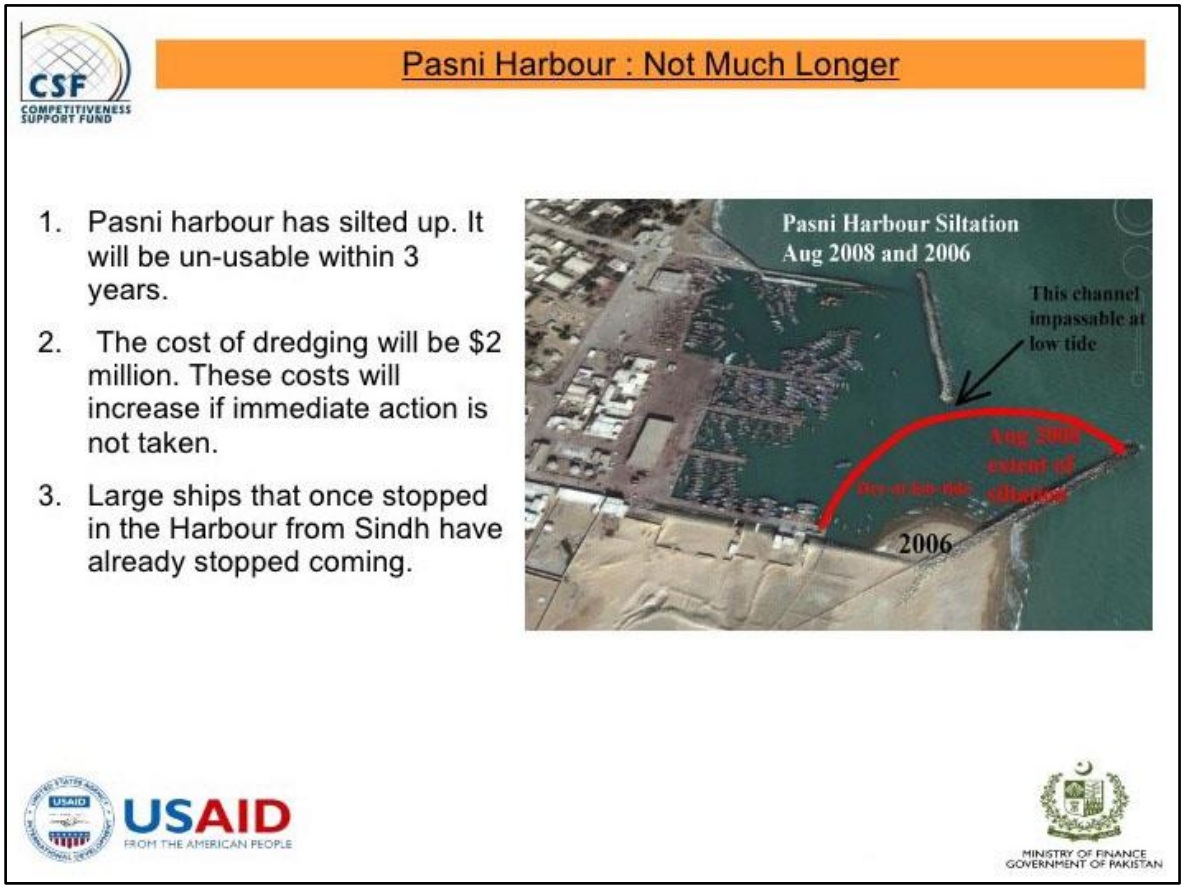


Map 3: Map of Gwadar District

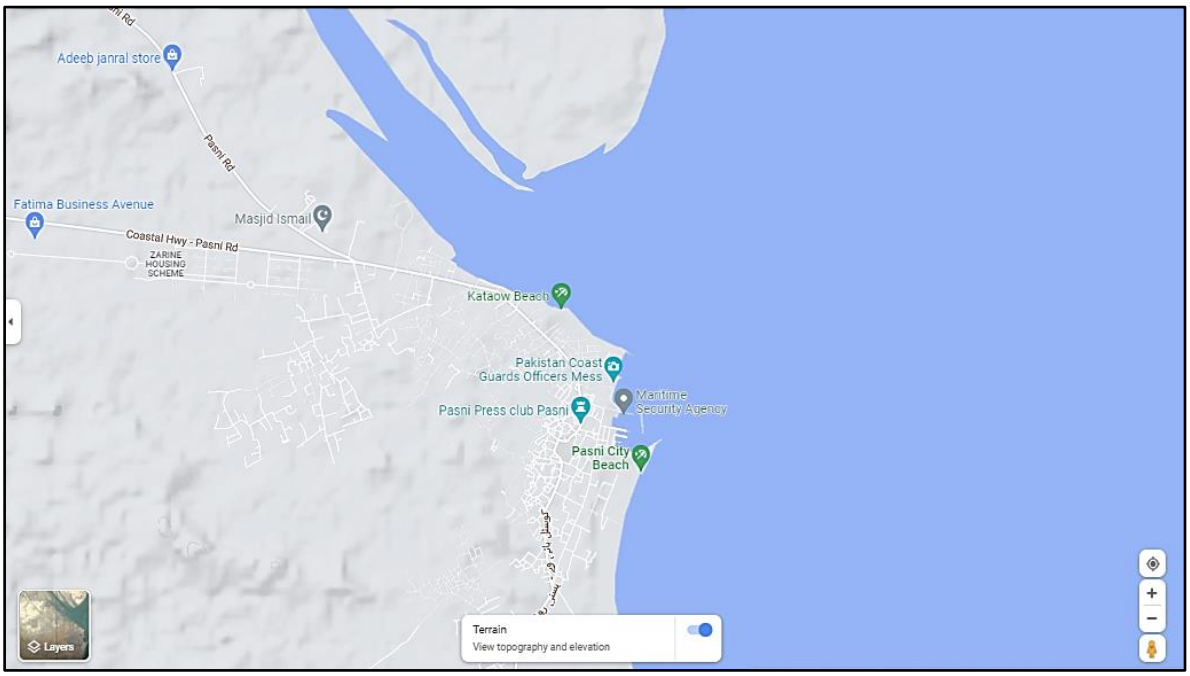


Source: Gwadar Development Authority.

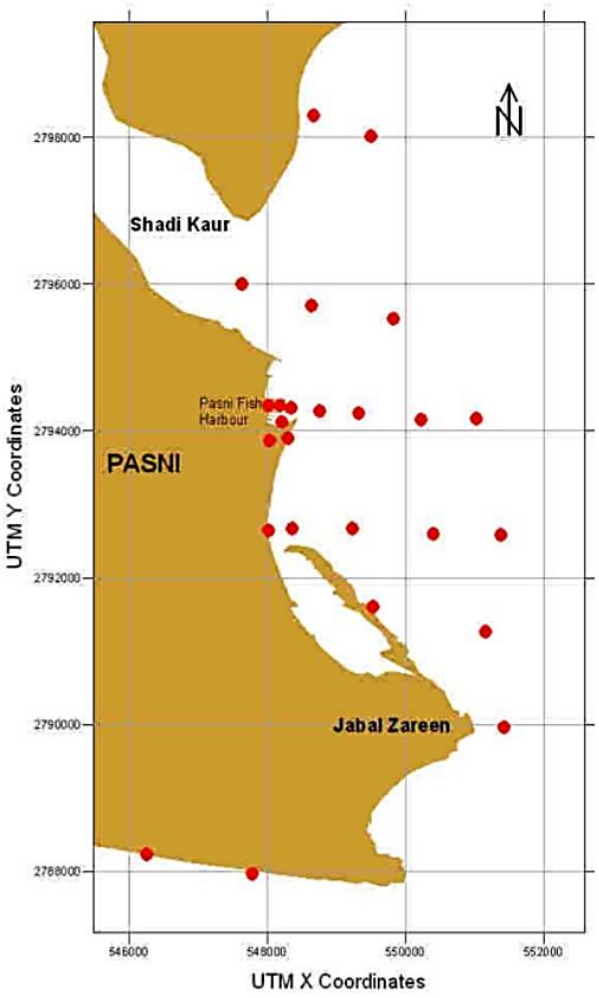
Image 11: Pasni Harbor USAID Slide



Map 4: Pasni Bay and Fish Harbor



Map 5: Sediment Sampling of Pasni Harbor – National Institute of Oceanography



Twenty-five sediment samples were collected from predetermined sites. Peterson Grab Sampler was used for sediment sampling from the offshore locations while beach sediments were obtained by hand.

Table 1: Sediment Sampling Stations with Corrected Water Depth – NIO

St. No.	Latitude	Longitude	Depth(m)
1	25 17 58.9750	63 29 18.0807	0.2
2	25 17 51.3867	63 29 31.9256	1.4
3	25 16 46.3825	63 28 27.6243	Not determined
4	25 16 27.5305	63 29 6.4519	0.2
5	25 16 31.3116	63 29 42.6149	2.8
6	25 15 56.3297	63 28 43.8399	Shore
7	25 15 52.6244	63 28 43.5751	Shore
8	25 15 50.4707	63 28 46.0693	Shore
9	25 15 50.9911	63 29 5.8776	Shore
10	25 15 47.5162	63 29 24.4544	1.1
11	25 15 46.4571	63 29 59.1644	1.5
12	25 15 49.2611	63 30 25.3816	3.4
13	25 15 45.7332	63 28 43.2978	4.8
14	25 15 38.9303	63 28 45.8452	Shore
15	25 15 38.7997	63 28 46.0234	Shore
16	25 14 57.4778	63 28 36.4597	Shore
17	25 14 58.0530	63 28 49.5812	0.5
18	25 14 56.2286	63 29 20.4594	1.6
19	25 14 56.9726	63 30 0.4276	3.1
20	25 14 53.0803	63 30 35.8366	4.5
21	25 14 47.5953	63 28 46.3229	Shore
22	25 14 11.8104	63 30 30.6603	3.2
23	25 13 43.1825	63 30 54.9166	1.2
24	25 12 34.5695	63 27 32.7578	Shore
25	25 12 25.5552	63 28 27.1124	Shore

Image 13: Changes in Coastline Due to Accretion of Sediments Since 1988

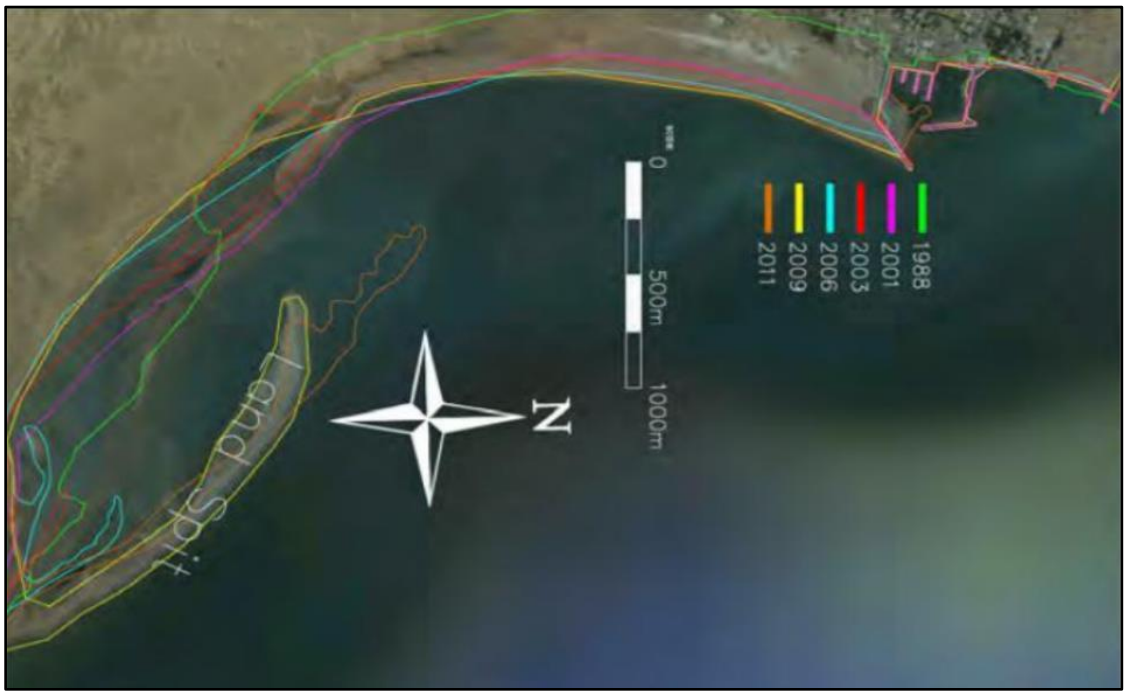


Image 14: Surface Subsidence Range in Built-up Area of Pasni Due to Earthquake

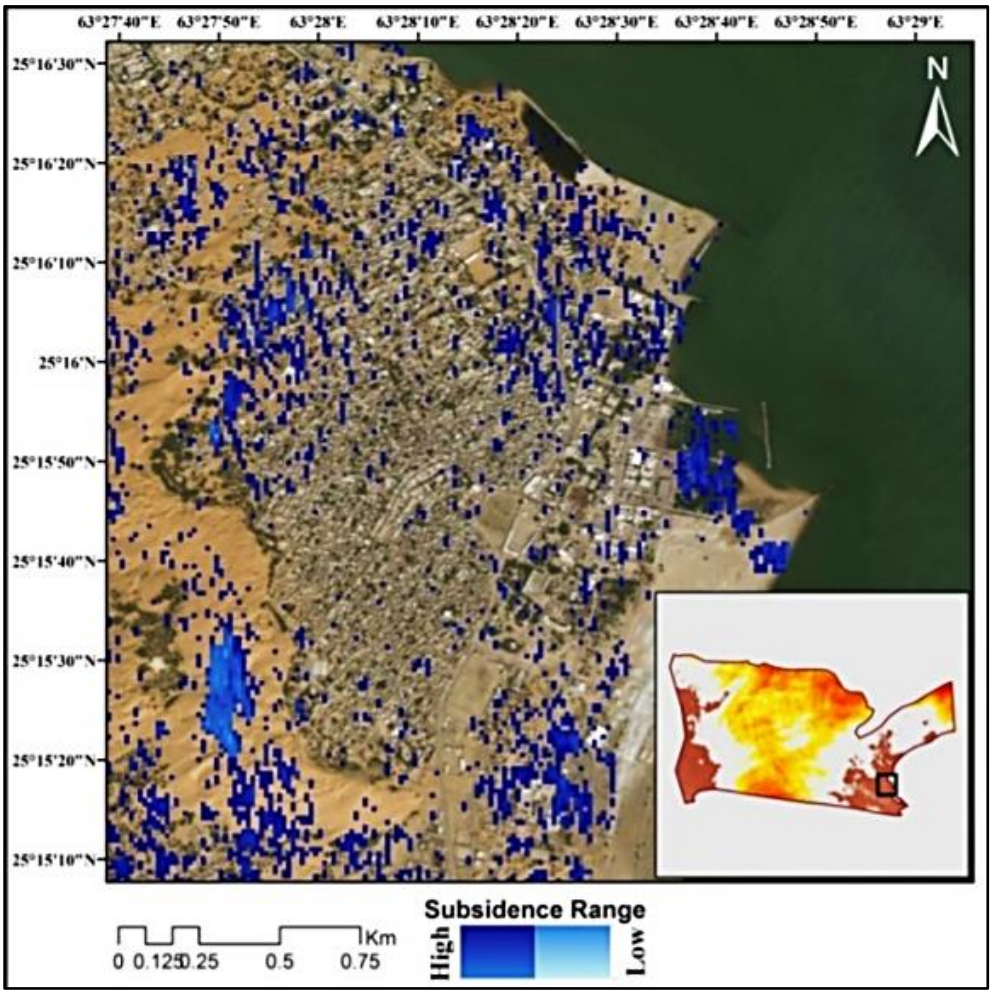


Image 15: Mud Volcano Off Makran Coast – 2013-19

Image 16: Mud Volcano Off Makran Coast – 2015

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