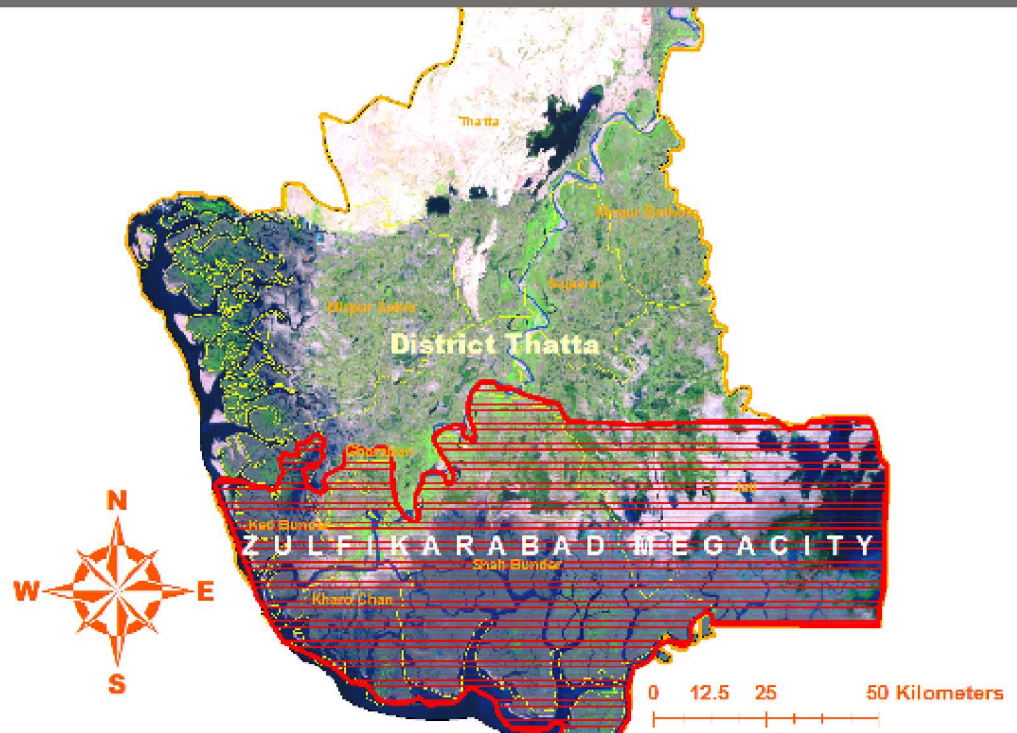


Position Paper: Ecological and Social Impacts of Zulfikarabad - A Megacity Project

Friends of Indus Forum



Summary

Friends for Indus Forum raise some of the major concerns over the Zulfikarabad Megacity Project. These concerns include: (1) the potentially hazardous location of the project that can create major human disasters in future; (2) the massive clearance of mangroves; (3) the effect of land use changes on the local livelihoods and absence of any justifiable resettlement plans; and (4) lack of government's commitment along with its international obligation. Therefore, the forum perceives the project as economics biased and ignorant of the various environmental and social facts.

¹ Friends for Indus Forum (FIF) is an advocacy platform that mobilizes conservation activists, intellectuals and passionate persons for the protection of collective natural heritage, biodiversity and natural resources of the lower Indus Valley. FIF visions for a society that coexists in harmony with nature so that the inter-generational well-being of the society can be ensured. The forum believes that such a vision is reachable through effective advocacy and mass awareness aimed at alleviating the high degree of human pressure from critical habitats and natural resources and advising policy making circles.

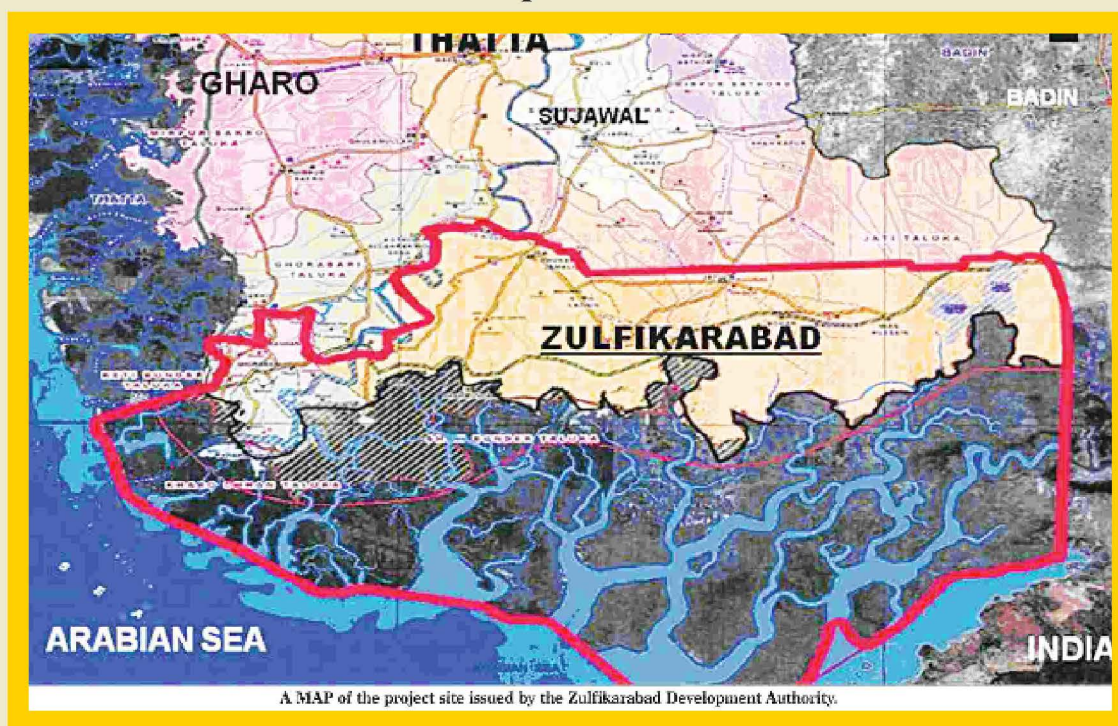
Background

Following the New Growth Strategy for Pakistan that prefers urban over rural development [1], the Government is busy with the Zulfikarabad Megacity Project (ZMP). The city will be built on both sides of the Indus River in its deltaic region (Figure 1) that comprises Kharo Chan, Keti Bandar, Shah Bandar and Jati, sub-districts of District Thatta [2]. Details on the various aspects of the project are yet to be drawn but according to Sindh Telegraph [3], the city will utilize about 199 dehs or 70 percent of the land in the four coastal sub-districts. President Zardari was told in the fifth briefing on the project that, at first the 'useless state lands' will be converted into valuable assets [4]. It is also being considered that if necessary, the private lands would also be acquired at the rate of USD 4,500 per hectare [3]. The Sindh Assembly has already passed the Zulfikarabad Development Authority (ZDA) Bill in 2010 and the authority is in place to carry out the development work of the new coastal megacity [5].

Even before the announcement of ZMP, various government agencies and their allies in the corporate sector had been keen to develop the deltaic lands into a highly lucrative urban enterprise [6]. In 2002, the City District Government Karachi (CDGK) signed a Memorandum of Understanding (MOU) with a Thai firm for 'Technology City' on the 'twin islands' - locally known as the Bundal and Buddo Islands. More recently, the Port Qasim Authority and a Dubai based firm signed a MOU for "Model City" - also known as Sky Land City - on the twin islands. While the former project was withdrawn due to the controversial claims over the ownership of the twin islands between CDGK and Port Qasim Authority (PQA), the latter project got severe opposition from the environmentalist lobby and local fisher communities. The local fishers perceived the project as a threat to their livelihood; environmentalists were concerned with the foreseeable clearance of mangroves and habitat destruction of the endangered Green Turtles [7]. Memon [6] also reported that the "Model City" project could convert about 850 hectares of mangroves and more than 3,000 hectares of sand dunes and mudflats into concrete structures, roads and recreational centers.

ZMP appears to be in less harmony with the sustainable development agenda in view of various environmental and social attributes of the proposed location. Thus, it can be a potential threat to the lives and properties of future residents of the city. Friends for Indus Forum (FIF) therefore raise some of the emerging concerns over the project based on the following premises.

Friends for Indus Forum's position on Zulfikarabad



A MAP of the project site issued by the Zulfikarabad Development Authority.

The Friends for Indus Forum have some serious environmental and social concerns over ZMP which includes:

- The proposed location of ZMP lies in front of various geological and atmospheric hazards. Any large scale urban development on this risky location may leave huge population masses vulnerable to a series of disasters.
- City may cause extensive clearance of environmentally important mangrove forests
- Expected land use changes and resettlement will increase the livelihood vulnerabilities of local communities
- Under the Ramsar Convention and other global treaties, the conservation of the deltaic ecosystem is a key international obligation for the Government



The proposed location of Zulfikarabad Megacity lies in front of hazards

The location proposed for ZMP has a history of geological and atmospheric hazards such as tsunamis and earthquakes. In its southeast, Zulfikarabad is juxtaposed with Gujarat Seismic Zone (GSZ) while in its northwest, Makran Subduction Zone (MSZ) can also cause severe disturbances for the proposed city [8]. Particularly, the Allah Band Fault, upon which the city will be built, has produced some of the largest earthquakes in the world. The ABF poses a big threat not only to the new city itself but can also affect Karachi megalopolis that is located at a distance of about 300 kilometers from the origin of the fault in Gujarat India [9, 10]. During the last 15 years, this location has experienced some large-scale geological and atmospheric disturbances such as the Cyclone TC - 02A in 1999, Bhuj Earthquake of Gujarat, India in 2001 and Cyclone Yemyin in 2007 (Table 1). Memon [8] provided the hazard profile of the location covering a history of about two centuries; and opined that ignorance of the site's hazard vulnerability during the planning stage of Zulfikarabad City can ignite a series of mega disasters for future residents of the city.

FIF believe that the megacities might have the potential to serve as engines of economic growth. Nevertheless, building new cities in risky locations may reverse years of economic and human development in case of major disasters experienced by the nation on account of faulty planning.

Table 1: Some recent natural hazards and disasters in the coastal region (Indus Delta)

Hazard	Disaster
Cyclone TC - 02A, May 19, 1999 Category 3 hurricane	<ul style="list-style-type: none"> The cyclone had landfall near Keti Bandar and caused widespread destruction in the 160 km coastline of the Sindh Province. It caused 56 breaches in the tidal link, wiped away 73 settlements¹, triggered the collapse of 75,000 houses and partially damaged 59,000 houses². At least 168 people and 10,000 livestock died^{1, 2}. It inundated 0.16 million ha of farmlands², destroyed 1,800 boats and partially damaged 642 boats¹. The loss to infrastructure and fishing assets of the local communities exceeded PKR 1,000 million¹.
Bhuj Earthquake, January 26, 2001 (7.9 Mw on the Richter scale) in India	<ul style="list-style-type: none"> Negligible human loss along the Sindh Coast but the quake devastated almost everything 300 km radius from the epicenter³ in India. The aerial distance between the epicenter⁴ and Zulfikarabad was less than 150 km. Reportedly⁵ 20,000 people died, about 166,000 injured of whom 20,700 sustained serious injuries and 247 people were missing. Livestock death also exceeded 20,000⁵. The affected 21 Indian districts had 800 villages which were destroyed, about 187,000 houses which collapsed and 500,000 houses which were partially damaged⁵. Together with these losses, thousands of schools, about 750 km of the Indian National Highway and severe damages to telecommunication networks were estimated at INR 214,620 million⁵.
Cyclone Yemyin, June 21-26, 2007 causing severe floods	<ul style="list-style-type: none"> The cyclone caused 460 deaths in Balochistan, 89 deaths in Karachi and 38 deaths in Thatta and Badin⁶. Reportedly in Keti Bandar⁷, three persons died while a dozen were injured, about 750 houses totally collapsed while 1,050 were partially damaged. Besides, 26 boats were destroyed and 174 were damaged⁷. An estimated population of 22,424 living in 2,822 households⁷ in the northern part of the Zulfikarabad site was affected.

Notes: (NDMA, 2007b)¹, (F. Q. Khan & Nomani, 2002)², (M. A. Khan et al., 2002)³, (Indian Metrological Department in Malik, Nakata, & Sato, 2001)⁴, (Ministry of Agriculture, Government of India in CESNED, 2001)⁵, (NDMA, 2007a)⁶ (WWF-Pakistan, undated)⁷

Source: Memon [8]

Zulfikarabad may cause extensive clearance of mangroves

The Government's major attraction for the proposed location appears to be the availability of so-called 'unused' state land that can be converted into a highly lucrative urban enterprise. No doubt, the government owns the major proportion of the land area of the proposed location [6, 8]; it seems generally ignored that the area houses about 50 percent of the country's remaining mangroves cover, most of which has been declared as 'protected' since the 1950s [6]. Recent studies on the existing land use of the location indicate that mangrove forests, wet mudflats and seawater in various major and minor creeks cover 7.2, 40.2 and 20 percent of the total area of the site respectively (Table 2). The remaining one third is the inland area which comprises of agriculture and inland vegetation on about 09 percent and uncultivated agricultural land and residential areas on 24 percent of the total area of the Zulfikarabad site ([8]). What appears highly strange is that despite the fact that more than 50,000 hectares of the proposed site are covered with mangrove forests, most of which are under the administrative jurisdictions of Sindh Forest Department, none of its officials have been kept on the board which will govern city affairs [5].

FIF perceive this as a lack of government interest in environmentally important mangroves and contradicts draft forest policy statements discouraging the conversion of forestlands into any other so-called high economic efficiency land uses.

Table 2: Existing land use of Zulfikarabad site

Major Land Cover/Land Use	Entire Site		Declared Protected Areas	
	Area (ha)	% a	Area (ha)	% b
Mangroves vegetation	54,708	7.20	26,726	48.85
Agriculture and non-mangrove vegetation	66,688	8.77	1,088	1.63
Empty mudflats	305,870	40.25	114,987	37.59
Inland residential and uncultivated agricultural areas	182,675	24.04	14,355	7.86
Water in major and minor creeks	150,053	19.74	47,426	31.61
Total	759,995	100	204,581	26.92^a

a. Percentage of the total

b. Percentage of the relevant land cover class

Source: Memon [8]

Zulfikarabad will increase the vulnerability context of the local livelihood

The Zulfikarabad site is sparsely inhabited with a population density of not exceeding 40 persons per km² [11]. According to the District Government Thatta [2], about 275,898 persons are living in 1,734 villages of the four sub-districts comprising the Zulfikarabad site (Table 3). Of this, at least 70 percent of the settlements are likely to be disturbed by the implementation of ZMP [3]. It can be gathered that about 25 percent of the land identified for Zulfikarabad is either private property of these people or used by them as 'land for public purposes' [6, 8]. The coastal ecosystem provides various means for the local people to eke out their living as most of these communities are engaged in marine fishery followed by crop cultivation and livestock herding; some of them are also formally employed, engaged in non-fishing labor and as vendors and village artisans [8]. Recent research [12] has reported that the upstream diversion of the Indus River already resulted in the loss of traditional paddy farmers and camel herders downstream who handled the situation by joining the marine fisheries.

Table 3: Existing human settlement on Zulfikarabad site

Sub-District	Union Councils	No of Dehs or Mouzas	Villages	Households	Population (1998 Census)
Keti Bunder	1	42	197	3,928	25,700
Jati	6	56	734	22,337	123,957
Shah Bunder	5	56	634	17,094	100,575
Kharo Chan	1	41	169	2,540	25,666
Total	13	195	1,734	45,899	275,898

Source: Geo-database, District Government Thatta [2]

Friends of Indus Forum is certain that Zulfikarabad will make it impossible for local communities to continue their fishing activities; it will thus put them in a similar situation as whendams were built on the Indus River a few decades ago. The forum asks why these coastal communities are forced to bear the burden of all kinds of 'development' in the country without their say in the matter. The forum also questions how the government is planning the resettlement of local communities who will be displaced on account of this so-called development.

The Indus Delta is a Ramsar Site and covered under various international conventions

The Government of Pakistan has an obligation to protect the Indus Delta ecosystem in purview of its ratification of various international conventions and treaties such as the Ramsar Convention (1971); UNESCO's World Cultural and Natural Heritage



Convention (WHS), Paris (1972); the United Nations Convention on the Law of the Sea (UNCLOS), Montego Bay (1982); the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Convention on Biological Diversity (CBD), Rio de Janeiro, 1992 [6]. Among these treaties, the Ramsar Convention is particularly important as it is the only global environmental treaty that deals with a particular ecosystem in the ratifying countries. This convention acknowledges the Indus Delta as a wetland of global importance because of its unique deltaic features, arid mangroves, destination of migratory birds, diversity of marine life and other geologic and geomorphologic attributes [13]. It is worth mentioning that the Indus Delta is the winter destination of hundreds of thousands of migratory waterfowls commuting between the central Asian countries and the Indus Delta through the Indus flyway [14]. Certainly, the ZMP will bring major changes in the landscape of the Indus River Delta and thereby disturb the coastal ecosystem.

The forum reminds the government that by ratifying the Ramsar Convention [15], the government has recognized the Indus Delta for its great economic, cultural, scientific, and recreational value and that the loss of such services cannot be repaired. Therefore, the government has made a commitment to the international community that it will stem any sort of progressive encroachment on and loss of the deltaic habitat now and in the future; and will conserve the Indus Delta as a habitat of migratory waterfowl which transcend frontiers and thereby are an international resource. It has also made a commitment that the country will adopt far-sighted national policies and will coordinate all international action to save our Earth. Therefore, compliance with the Ramsar and other above-mentioned conventions is highly important in order to demonstrate Pakistan as an internationally and globally responsible country.

Policy advice

Friends of Indus Forum welcome any development endeavor that goes beyond the economic consideration and incorporates the social and environmental aspect during its planning and implementation. On the latter two criteria, Zulfikarabad Megacity Project hardly bears any footing and therefore is a matter of concern for FIF. Among the most serious concerns, the identification of a hazard prone location to develop the city, lack of government's concern for the ecological significance of the deltaic ecosystem and large-scale clearance of mangroves, expected land use change and its effect on local livelihoods, the absence of the resettlement plan for the communities which will be displaced by the project and the project's incongruence with various international conventions and treaties urge the forum to demand that the government should revisit Zulfikarabad Mega City Project and any other urban expansion in the Indus Delta with similar locational, social and environmental attributes.

The Forum believes that the urban sprawl of Karachi and other cities and the subsequent pressure on urban facilities cannot be accepted as a valid justification for any new city including Zulfikarabad. Until the population policies are narrowly focused on reducing the number of people and do not take care of the factors which govern the rural urban migration, the urban sprawl will remain a challenge. The government should adopt policies to stabilize people in rural areas as a mean to alleviate the pressure from urban facilities by providing them with basic facilities and employment at their door step.

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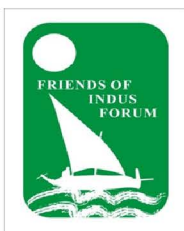
OUR VISION

Ensuring prosperity for current and future generations of Indus Basin, particularly lower riparian, through co existence and harmony with nature

AIM

To address multiple factors that threaten the natural eco systems in which survival of species is becoming increasingly difficult and in which dependent communities are pushed to poverty and despair

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