

## KOLKATA PORT : CHALLENGES OF GEOPOLITICS AND GLOBALISATION

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Much before Calcutta ( now Kolkata) became an ‘Imperial city’ , it had ‘docks for repairing and fitting ships’ bottoms’ <sup>1</sup>. Armenian traders possibly used these docks to trade with ‘China to the East and Persia to the West’ much before Job Charnock set foot on the swampy villages of Kalikata, Sutanuti and Gobindapur to lay the foundation of a port city from where the British went out to create an empire “ at which they looked with incredulous elation , shot with sharp tinges of doubt, of a village grocer who had inherited a chain of department stores.” <sup>2</sup>. The Bhagirathi river on which the Calcutta port came up, has been and remains a huge navigational challenge ,but its location never failed to entice the freebooter and the brave. A Dutch fleet of seven ships even negotiated the channel without pilots (as ships entering Calcutta rarely dare to) in 1759, two years after Plassey in a futile bid to deny the Englishmen the control of the Calcutta port. But the bid failed and after the opening of the Suez Canal in 1869, the importance of the Calcutta port went up several times, both for world trade and for British interests. .

Muslim League stalwart H.S Suhrawardy , the mastermind of the 1946 Great Calcutta Killings, could not imagine an East Pakistan without Calcutta and pushed for its inclusion in the newly created country. India’s current Prime Minister Narendra Modi has now designated Calcutta as the ‘starting point’ of his ‘Act East’ policy for connecting India to South-east and East Asia. Calcutta’s port , a geo-morphological nightmare, lies 232 kms inland from the sea , but its multi-modal linkages to a huge hinterland in India and its eastern neighborhood has ensured its survival as an odd riverine port in an era of globalization characterized by giant container-driven shipping.

The changing geopolitics of Asia, marked by China’s sharp rise and India’s emergence , has actually led to renewed importance for the Calcutta port system, even as questions has been raised about its future over poor draft (water depth) , age-old infrastructure and high cost of operations, specially for regular dredging the Hooghly channel . The Kolkata Port Trust (KoPT) which handles Calcutta and Haldia docks that makes up the complex port system seems to be aware of its geo-political and geo-economic importance . The current KoPT chairman R.P.S Kahlon says in a message posted on its official website :

“The process of churning a new and expansive trading hub, on a port-centric customer base with matching logistics and competitive facilities and/tariff structure, while harnessing its riverine potentials, is one of the defining challenges the port faces in the years ahead. **The ‘Look East Policy’ of the country, the proposed Trans-Asian Railway corridor, opening of India-China road and proximity to Lhasa will all contribute to making Kolkata the hub port of the region.**” <sup>3</sup> (bold for emphasis)

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<sup>1</sup> Capt Alexander Hamilton, *New Account of the East Indies*, London, 1710

<sup>2</sup> Geoffrey Moorhouse, *Calcutta*, Weidenfield & Nicholson, 1971

<sup>3</sup> KoPT website, Message of Chairman R P S Kahlon

Indian policy makers may worry at possible Chinese maritime encirclement by a 'string of pearls' ( China- constructed ports like Gwadar in Pakistan, Hambantota in Sri Lanka, Kyauk Pyu in Myanmar and possibly Sonadia in Bangladesh) , but the KoPT chairman is indeed looking at an China-India road and reaching out to Tibet as possible options to augment the future business of the port. In fact, India's considerable diplomatic leverage in Nepal and Bhutan owes much to Kolkata port being the official port of the two countries. With all its economic muscle, China cannot provide a port to Nepal and Bhutan in close proximity , something that significantly adds to India's ability to influence politics in the two Himalayan nations.

The Chinese , for their part, have identified the Kunming-Kolkata ( K2K) corridor , now popular as the proposed BCIM ( Bangladesh-China-India-Myanmar) corridor, as one of the six economic corridors to be developed under President Xi Jinping's Maritime Silk Route and 'One Belt One Road' (OBOR) initiative. Chinese Vice-Premier Zhang Gaoli recently listed the six economic corridors – the one linking China-Mongolia-Russia, China-Central and Western Asia, China-Indo-China Peninsula, China-Pakistan and Bangladesh-China-India-Myanmar as well as the New Eurasian Land Bridge, which will be the focus of efforts related to Asia-Europe connectivity..<sup>4</sup> Billions of dollars in Chinese investment will flow into these designated corridors to prop up trade and connectivity, infrastructure and investment..

The BCIM corridor that aims to connect Calcutta ( Kolkata) to Kunming in Yunnan province is one of China's priority project . India seems to going slow on it. But by getting India to declare Kunming and Calcutta ( Kolkata) as sister cities during a recent pairing exercise , China has made its priorities clear. Its limited coast in the East has compelled China to push for multiple land-to-sea access into the Indian Ocean through both the Bay of Bengal and the Arabian sea to avoid the Malacca Straits ( most Chinese security analysts see it as a 'chokepoint') . Besides Kyauk Pyu in Myanmar and possibly Sonadia in Bangladesh, Calcutta could serve as the third land-to-sea access in the Bay of Bengal for China – only if India were to agree to operationalising the BCIM corridor. That seems to be China's long-term perspective – use Calcutta as the third opening into the Bay of Bengal – a prospect somewhat mutely highlighted in the KoPT chairman's message. “ The Kunming-Kolkata corridor will not only rejuvenate the economies of south-west China, northern Myanmar, Bangladesh , east and northeast India, but will also connect to the proposed Amritsar-Kolkata growth corridor in India . Calcutta is thus the only Indian city that can connect a trans-regional corridor with an important Indian domestic growth corridor and the port system of the city will sustain an unique convergence of regionalization and globalisation .”<sup>5</sup>

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<sup>4</sup> “Six economic corridors to better connect Asia and Europe” in *China Daily* , accessed from [http://www.chinadaily.com.cn/business/2015-05/29/content\\_20858327.htm](http://www.chinadaily.com.cn/business/2015-05/29/content_20858327.htm)

<sup>5</sup> “Look East through Northeast : Challenges and Prospects for India”, ORF Occasional Paper 51, June 2014

No wonder , during the 2014 K2K Forum in Kunming , it was decided to “develop several initiatives for greater connectivity between Kolkata and Kunming, with the BCIM economic corridor in mind”.<sup>6</sup> But even if the Kolkata-Kunming corridor does not materialize anytime soon, Calcutta will remain the ‘starting point’ of India’s ‘Look East’ policy and its port system will be crucial for India’s multi-modal connectivity to nations further east. With the coastal shipping agreement coming through with Bangladesh during Modi’s Dhaka visit in June 2015, India seems to have taken the first steps in that direction. And the Calcutta port system , that will soon include a deep sea component at Sagar island, will be crucial to connect to India’s neighbours further east to southeast Asia, and if Delhi agrees, to China as well.

### **Sagar : the future of Calcutta port system**

Despite its obvious locational advantage, the Calcutta port has been hard put for survival. Draft in the Bhagirathi, the branch of Ganges flowing into West Bengal, has come down over the years due to siltation . So much so that grants for dredging from the Central government is seen as critical for the operability of the Calcutta port. At Kolkata, the draft is never above 7 metres . At Haldia, it is just above 7.5 metres. Calcutta and Haldia can accommodate Panamax ships ( those that are capable of traversing the Panama canal fully loaded). But logistics executives and port officials say even these ships have to reduce their load by half or more than half in other Indian ports or at the mouth of the river ( from they are transported by smaller vessels ) to be able to dock at Calcutta/Haldia port for depth restrictions.<sup>7</sup> As a result, Calcutta port’s cargo volume dropped from the historic peak of 57.32 million tones (MT) in 2007-08 to 39.88 MT in 2012-13. Through some local marketing moves and technological upgradation, the handling volume might pick up a wee bit in future, but that would not be much . Large number of exporters and importers may want to use Calcutta port for its splendid location, but they are upset by rising costs that make its operations less competitive.<sup>8</sup>

Deposition of the huge silt volume brought down by the Ganges that gets deposited in its lower course impacts very adversely on the Calcutta-Haldia port system. The development of the Haldia docks further down the river the 1970s did provide some relief to Calcutta’s British-time docks in the metropolis . But now the draft has began to drop at Haldia as well , necessitating the development of a true deep-sea port component to the Calcutta port system. Dredging has become key to the survival of the Calcutta-Haldia dock systems . The Indian government, which owns the port, has to fund between Rs 350 to 400 crores a year for dredging the Bhagirathi to keep its channels just about navigable. The real beneficiary is the state-owned Dredging Corporation of India , as the Calcutta port is its largest customer.<sup>9</sup>

As the new Indian government headed by Prime Minister Narendra Modi is considering phasing out most subsidies as a matter of policy, the dredging subsidy is likely to be slashed. The idea to use the funds saved by slashing the dredging subsidy for setting up a

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<sup>6</sup> Resolution adopted at 10<sup>th</sup> K2K Forum at Kunming, 25-26<sup>th</sup> November 2014

<sup>7</sup> Interview with Bikram Sarkar , former Calcutta Port Trust chairman , 12<sup>th</sup> July 2015 and Deep Gupta, regional manager, DHL Logistics, 7<sup>th</sup> August 2015

<sup>8</sup> Atin K Sen, former general secretary, Asian Council of Logistics Services (ACLS) , 5<sup>th</sup> August, 2015

<sup>9</sup> “All above board: Kolkata port’s survival blues” , article by P.Manoj, in ‘The Mint’ newspaper, 17<sup>th</sup> May 2013

new deep sea port off Calcutta has been mooted by many since the late 1990s.<sup>10</sup> In May 2013, the Indian government approved the setting up of a new deep sea port at Sagar Islands in the Bay of Bengal near the confluence of the Bhagirathi and the sea. West Bengal's new Trinamul government lobbied hard with the Union government on the issue. The port may take at least five to seven years to become operational, given the pace at which infrastructure projects are implemented in India.

In neighbouring Bangladesh, for similar reasons, the government is going ahead with construction of a deep sea port off Chittagong. Earlier, Sonadia was chosen as the location and China was supposed to fund its development, but now Matarbarhi has been chosen and Bangladesh is all set to develop with assistance from Japan. Work on it is likely to begin in early 2016.<sup>11</sup> Like Chittagong, Calcutta is a traditional port and experts say its handling volume cannot be improved merely by port modernization. Only a sprawling deep sea component gifted with a substantial draft capable of handling large modern container carrying vessels is crucial and its successful integration into the existing Calcutta-Haldia port system holds the key to its ultimate survival of India's only riverine port.<sup>12</sup>

The Indian government has already committed to invest Rs 12000 crores for the Sagar deep sea project. It has promised to pay back the West Bengal government which already invested Rs 170 crores for the Sagar Islands deep sea port at Bhorsagar.<sup>13</sup> A recent study by Assocham business chamber and Institute of Chartered Accountants has indicated that a draft of at least 14 metres is needed for the Calcutta port system to receive the big ships, without which its commercial viability is at stake.<sup>14</sup> Neither the docks at Calcutta or Haldia can have that kind of draft even after extensive dredging. So like Bangladesh is going for a deep sea port at Matarbarhi to take the load of Chittagong, the only option to do that for the Calcutta port system is to go for a deep sea port at Sagar islands. West Bengal chief minister Mamata Banerji has said this joint venture between the KoPT and West Bengal government should be implemented soon because there are no issues over land acquisition.

The key to the whole exercise now is to strike a balance between the phased cutbacks on the dredging subsidy for Calcutta-Haldia port to make available sufficient funds for timely implementation of the deep sea project. But since the Modi government has also indicated on revamping the internal water transport in India, the dredging on the Ganges can never be totally cut down. Also if the cutback on the dredging subsidy is abrupt and immediate, it will impact on the existing business of the Kolkata Port Trust by way of sharp drop in handling of tonnage, as bigger vessels will give up on the port and try access competitors like Paradip and Vizag on the eastern coast. The Indian government, therefore, may have to continue with much of the present level of dredging subsidy if it wants to keep the Calcutta port system alive and kicking until the Sagar deep sea port is ready. But the present government headed by Prime Minister Narendra Modi

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<sup>10</sup> Sanjoy Sen, former chairman, Eastern India Shippers Association, interview on 11<sup>th</sup> June 2015

<sup>11</sup> <http://bdnews24.com/bangladesh/2015/06/24/matarbarhi-deep-sea-port-work-to-start-next-year>

<sup>12</sup> Interview with R.P.S Kahlon, current chairperson of Calcutta Port Trust, 13rd August 2015

<sup>13</sup> <http://www.thehindu.com/news/cities/kolkata/gadkari-assures-support-for-sea-port-at-sagar-islands/article6721551.ece>

<sup>14</sup> Study of Calcutta port by Assocham and Institute of Chartered Accountants of India, 2014, quoted in [http://www.dailyshippingtimes.com/news-upload/upload/fullnews.php?fn\\_id=9388](http://www.dailyshippingtimes.com/news-upload/upload/fullnews.php?fn_id=9388)

has a strong anti-subsidy lobby in it led by Finance Minister Arun Jaitley. So while its move to set up the Sagar deep sea port is a welcome development and one that may save the Calcutta port system, what it does with the dredging subsidy is something to be closely watched. KoPT officials fear that once they lose out heavily on handling volumes to competitors like Paradip and Vizag, it may not be easy to recover lost business even after Sagar deep sea port is ready for operation.

As of now, the effort to revive Calcutta as a port system (rather than revive the river-side docks in the Calcutta city) provides multiple options, once the deep sea component is ready. While the deep sea port at Sagar will be able to handle the large vessels and account for rising cargo volumes, Haldia will be able to compliment it by handling medium size vessels. Even the Calcutta docks can become a profit centre as a barge port for smaller specific cargo volumes and inland shipping (possibly extending to Bangladesh). The sprawling Garden Reach Shipbuilding Yard around the Calcutta port (whose orders are going up as India seeks to beef up its navy and coast guards and also export ships) adds a profitable ship building component with increasing orders from the Indian Navy and Coast Guards. The GRSE is also turning on a fairly aggressive campaign to export medium sized patrol craft for Coast Guards in neighbouring countries like Bangladesh and Mauritius. The KoPT also is in possession of large swathes of what is turning out to be prime urban land. So far, some of it was given out on lease to companies like the film-making Shree Venkatesh Films. But now the KoPT is drawing up a comprehensive plan for privatization by making available much of this land for real estate and some of it for industrial renting. This is bound to boost KoPT coffers by adding to its kitty sizeable one-time funds and regular income from renting.<sup>15</sup> The KoPT also is considering joint venture commercial partnership for riverside development to boost tourism that could add to its coffers.

But the deep sea port at Sagar is also seen by some as only a medium term solution. Logistics expert Atin Sen feels that a floating port at the Sandheads, further down from Sagar, could be the lasting solution.<sup>16</sup> Cargill on the west coast is a ready model for such an offshore port. It is based on an inventive port structure, designed to float offshore in deeper waters capable of accommodating bigger ships. Cargill's massive platform debuted in India in 1998, featuring integrated cranes that unload more than 55,000 metric tons of dry bulk commodities while simultaneously loading other cargo for exporting. Floating five miles off the coast, goods are quickly unloaded from ships onto smaller barges, then ferried to shore for ground distribution.<sup>17</sup> Sandheads could be to the Bay of Bengal what Cargill is to the Arabian Sea. Its draft would be more than fifty metres at the least.

The KoPT touched its highest cargo handling volume in 2005-06 when it handled 41 million tonnes. That represented a rise of 35 per cent in two years, while all major ports grew by only 20 per cent in this period. Only two major ports handled more cargo than Kolkata--the Kandla port at 41.5 million tonnes and the Vizag port at 47.7 million tonnes. In 2003-04, the Kolkata Port Trust clocked a growth of 15 per cent, compared to the 10 per cent growth recorded by all the major ports. There was no looking back for

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<sup>15</sup> "CPT sniffs big bucks in land lease", news report in The Telegraph (Calcutta), 16<sup>th</sup> Oct 2015—available at [http://www.telegraphindia.com/1151016/jsp/business/story\\_48267.jsp#.ViCpLuyqqko](http://www.telegraphindia.com/1151016/jsp/business/story_48267.jsp#.ViCpLuyqqko)

<sup>16</sup> Atin K Sen, former general secretary, Asian Council of Logistics Services (ACLS), 5<sup>th</sup> August, 2015

<sup>17</sup> <http://www.cargill.com/150/en/ROZY-PORT-FLOATING-BARGE.jsp#sthash.zhSoO5fT.dpufport> .

the Kolkata Port even in respect of container cargo, which grew by 19 per cent to about 4 million tonnes last year, behind only the Jawaharlal Nehru Port Trust and the Chennai Port Trust. But that spurt in growth of cargo handling volumes was made possible by some management decisions like the abolition of the the age-old tariff system and making it more flexible, like cutting down wharfage charges several times. But this rise in handling volumes did not lead to profits. In fact between 2002-03 and 2004-05, there was a drop in operating profits by 16 percent. Ever since then, the KoPT's cargo handling volume has stagnated between 35 to 42 million tones. In 2013-14, it handled 41.39 million tonnes against 39.28 million tonnes in 2012-13. The Haldia docks handled 28.51 million tonnes in 2013-14 against 11.84 million tonnes handled by Kolkata docks, clearly pointing to the limitations of the riverine port . But put together, the KoPT notched third place in handling container traffic. **Number of vessels handled at Kolkata Port during 2013-2014 was the highest amongst all Indian Major Ports. KoPT handled 17.1% of the total number of vessels, which worked at Indian Major Ports in 2013-2014. During the year 2013-2014, 3236 vessels called at KoPT.**

But for the Kolkata port management, tariff flexibility has not been the only strategy. It has tried to attract new types of cargo that would also give a boost to the economy of its hinterland. For instance, it found out that West Bengal had an annual surplus of 2.5 million tonne of potatoes and that Singapore was a market ready to import more of this vegetable, which would otherwise either go waste or be sold in the domestic market at a throwaway price. A few thousand container loads of potatoes had been exported. But it was felt that such exports needed special containers, which increased the packaging costs. If only the port could reduce its cargo handling charges, Bengal's potato growers could reap huge export benefits. The Kolkata port authorities did not take long to reduce by half the wharfage charges for handling potato containers. Now potato exports have become viable. The gainers are the Kolkata port and of course the farm economy of Bengal.<sup>18</sup>

### **Modernising for Survival**

The journey of the first major as well as the only riverine port of the country continues through the tortuous process of ebb and tide, expectancy and challenges, intricately woven with the varying draft/siltation of the river Hooghly which cradles it, as it continues to adapt and re-engineer itself in newer locales and diversifying functions. The port of Kolkata has made investment decision both for KDS and HDC, keeping in mind the river morphology and traffic that can best be handled in these two locations, harnessing the respective potentials of the two dock systems. A major challenge for a riverine major port like Kolkata has been its inadequate draft preventing vessels of higher dimensions/parcel size to visit the port. Simultaneously, being a riverine Port and strategically connected to the NW-1 and NW-2, Kolkata Port has huge potential in respect of movement of cargo through Inland Water Transport (IWT) mode.

A well diversified investment programme, aimed at improvement of infrastructure / capacity augmentation to be funded through internal resources and Grant-in-Aid by Gov-

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<sup>18</sup> "Why Calcutta port has a future," A K Bhattacharyya , article in Business Standard, available at <http://www.rediff.com/money/2004/sep/01guest.htm> , "

ernment of India, has been embarked upon in the 11th / 12th Five Year Plan. It encompasses construction of riverine terminals with improvement of back-end facilities; integrated development of infrastructure including road / rail connectivity, improved storage /yard logistics, induction of state-of-the-art equipment, viz. Stacker-cum-Reclaimer, new VTM System alongwith AIS with interfacing/ integration etc, augmentation of IT infrastructure, River Regulatory Measures for improvement of draft at Hooghly estuary etc.

Apart from above, various PPP/ allied projects with an investment commitment of around Rs.12000 crore have been/are being taken up, the details are given below in a nutshell :-

### 1. Major PPP Projects included in 2012-13 for placement of award, spilling over to 2013-14

#### ○ **Development of berth facilities at Haldia Dock II (Salukkhali)**

There is a need for expansion of Haldia Dock Complex at an alternative location on the west bank of river Hooghly to cater to a higher volume of traffic, primarily, coal, coking coal and iron ore. Development of Haldia Dock – II has been envisaged in the west bank at Salukkhali / Rupnarayanachak, 15 kms north east on the same bank from the existing HDC, where the land connectivity is conducive to cargo handling operation. Increased cargo throughput at the new site at a reduced overall logistic cost would be possible because of availability of relatively better draft, low turn round time of the vessels by way of avoiding the existing Lock system.

Fresh RFQ was issued in April 2012 Haldia Dock-II (North) (cost Rs.821.40 crore) and Haldia Dock-II (South) (cost Rs.886.10 crore), each having one mechanized / one multipurpose jetty (with 23.4 mt - each 11.7 mt., per annum capacity). 15 applications have been received and 8 applicants have qualified. PPPAC meeting was held on 21.11.2012. RFP along with Draft Concession Agreement /Feasibility Report was issued to provisionally qualified applicants on 18.12.2012. In view of no responses received with regard to the RFP, as on 4.3.2013, the last date for receipt of offers has been extended.

#### ○ **Transloading facilities at Sandheads and its vicinity for midstream handling of Dry Bulk cargo**

In order to overcome the river draft problems faced by the port, Kolkata Port has already taken a string of initiatives aimed at setting up of new port facilities at deep-drafted locations. Priority has been assigned to the creation of transloading facilities within the limits of the port in an integrated manner with construction of a riverine terminal (Outer Terminal - 1) outside the lock gate at Haldia Dock. The transloading facility would avoid two-port call by the mother vessels, which are now visiting Haldia Dock with much reduced parcel load due to draft constraints. PPPAC meeting already held in July 2012. Earlier, activation of the project was, however, subject to the outcome of the SLPs filed by KoPT, MoS, GoWB in the Hon'ble Supreme Court of India against the order passed by the Hon'ble Odisha High Court regarding territorial jurisdiction of KoPT. During a recent hearing, the Hon'ble Supreme Court directed the parties con-

cerned to have the matter amicably settled and action taken accordingly. Government approval has been obtained and as per observation of the Hon'ble Supreme Court, the locations for Transloading Operations have been identified with the neighbouring ports of Odisha. Draft notification prepared by Union Ministry of Shipping declaring the concerned location being within KoPT Limit is awaiting approval of the Government of Odisha.

## 2. PPP Projects included in 2013-14 for placement of award.

- **Diamond Harbour Container Terminal**  
Development of a dedicated Container Terminal at Diamond Harbour, in the east bank of river Hooghly, was recommended by a High-powered committee set up by the Ministry. The project site, around 50 km south of KoPT by road, is envisaged at an indicative cost of around Rs. 1433 crore. The first phase of the project will comprise a contiguous quay length of 900 mtrs. (design capacity : 1.2 million TEUs). Projected container traffic is 1.2 million TEUs i.e, 100% rise in container handling has been envisaged with the setting up of this container terminal, expected within four years from the date of award of contract. 1st phase of the project will comprise a contiguous quay length of 900 mtrs. comprising two jetties capable of handling container vessels of parcel load of 1200 TEUs. Revised RFQ has been published with last date of receipt of applications being 28.2.2013. Five responses have been received. Transaction Advisor has been appointed who has been tasked to expedite the process of short listing of bidders. Announcement of shortlist of responsive applicants is expected shortly. Issuance of RFP has been slated by September, 2013 and award of LOA is expected by last quarter of 2013-14.

## 3. Other Major PPP Projects to be taken up beyond 2013-14.

- **Development of deep drafted Project for handling Dry Bulk Cargo and Containers at Sagar Island**  
For establishing port facilities at Sagar Island including rail-road connectivity and construction of a rail-cum-road bridge over Muriganga, a Feasibility study was entrusted to M/s. RITES Ltd. who have since submitted the final report. In terms of decisions taken during a high level meeting held recently at Kolkata/subsequent site visit, M/s. RITES made necessary changes in the draft final report in project cost /implementation schedule/ economic analysis. Recently, a presentation on proposed Sagar Port was made before Hon'ble Finance Minister, Govt. of India, by Secretary, Ministry of Shipping, GoI. Feasibility Report submitted by M/s. RITES in Dec.'12 and approved in-principle by KoPT Board in Jan'13, highlights setting up of a port facility at Sagar Island for handling 13.5m drafted vessel at a cost of Rs. 4806 cr. and another Rs. 3014 cr. for rail road connectivity handling 54 MMTPA traffic in 2019-20. Project is currently awaiting Cabinet clearance.
- **Development of Floating Storage Operations**  
Owing to draft constraints, importers / exporters are not able to bring in fully laden vessels leading to higher transportation cost. KoPT intends to



address the above constraint by introducing Floating Storage Operations (FSO). An ULCC/ VLCC shall act as Floating Storage which will have segregated tanks for accommodating different types of liquid cargo. Daughter vessels would transport Liquid Cargo between the oil terminals at Haldia and the Floating Storage. Tugs and other Floating Craft / equipment will be required for undertaking Floating Storage operations. Project parameters are to be finalized through initiation of Feasibility Study during the current year.

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4. **Scheme Funded through GBS/ Grant-in-Aid.**

- **River Regulatory Measures for Improvement of Channel Draft**  
River Regulatory Measures (RRM) for improvement of draft at Hooghly Estuary comprising Capital dredging / River Training works was earlier formulated by Hamburg University and the scheme was approved by PIB and subsequently by CCEA at an estimated cost of Rs. 350 Crore. The scheme could not be implemented as the bidders put in technical deviations in the form of un-assured depth. On the backdrop of the earlier scheme, the entire project was given a re-look by different national & international experts and it was finally revalidated by WAPCOS, in association with CWPRS and Lanka Hydraulic Institute, Sri Lanka. Due to hike in dredging cost and rapid siltation within the dredge-cut alignment, the entire project cost ballooned up Rs.1020.22 Crore. Since the unassured depth became the prime issue of contention and no one could assure guaranteed result after implementation of the scheme, as per recommendation of TAC, WAPCOS was requested to take up the Review of the entire situation through an international expert. WAPCOS selected H.R Wallingford, a renowned Institute of U.K for the said study. H. R. Wallingford, during a recent presentation to MoS in March, 2013, suggested KoPT not to implement the RRM in the present hydro-dynamic condition of the river.

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5. **Projects Aimed at Opening of Secondary Channel/ Improved Connectivity**

- **Opening of Eden Channel**  
The existing system of pilotage through Eden channel has commenced on from 1.12.2012. With opening of the channel, ships enter Jellingham via Eden Channel, while bypassing the present Auckland Channel. Steps are also being taken on the basis of recommendations of a High- Power Committee to operationalize the channel throughout the year.
- **Vessel Traffic Management System (VTMS)**  
Kolkata Port Trust has installed Vessel Traffic Management System (VTMS) with surveillance radar stations at Sagar, Frasergunj and Haldia. At present, KoPT is having three radar stations, AIS station respectively at Frasergunj (S - Band Radar), Sagar (X - band radar) and Haldia (X - band radar) interfaced through microwave link. The VTM System is working satisfactorily since 1996 for providing effective navigational aid to the plying vessels in the Zone of VTM Radar coverage area. To arrange bare minimum necessary surveillance through instrumentation, installation of AIS base station at Dadanpatra and introduction of microwave link between Dadanpatra and Sagar has been done in the 1st phase to make surveil-

lance of the vessels passing through Eden channel and its surroundings. Proposal for tender for design/ development/ installation/ & commissioning etc of VTMS on a turnkey basis at a cost of Rs 33.5 crore, over a period of ten years, inclusive of 7 years' CAMC has been taken up which involves replacement of the entire system (Haldia, Sagar & Frasergunj) by the latest state-of-the-art technology. All the four Radar Stations (Dadanpatra, Sagar, Frasergunj, Haldia) will be equipped with 'X' band Radar, dual transceiver etc through MW link, networking etc.

As geo-political considerations influences Asia's emerging geo-economics and India joins China in the big league , Calcutta and its port will grow in importance yet again. Not only does it serve a huge hinterland like the landlocked Northeastern states of India, the Himalayan countries of Nepal and Bhutan and the Bihar-eastern Uttar Pradesh region, but it also sits at the centre of two proposed growth corridors -- one national (Amritsar-Calcutta) and the other trans-national ( Kolkata-Kunming) connecting to eastern India the neighbouring countries of Bangladesh, Myanmar and south-west China. The Modi government has identified Calcutta as the 'starting point' of its 'Act East' thrust. But for the port system to take up these challenges, it has to survive. Modernisation and expansion (with deep sea component and finally an offshore component) are seen to hold the key to the survival of the country's only riverine port.

DRAFT