

The Predicament of Pakistan Maritime

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Abstract

As trade and commerce increase, mode of sea transportation also increases, as major portions of the trade/commerce are carried out on seas. As a result, maritime supply chain management along with maritime geostrategic, geopolitical and geo-economics related aspects gain significant importance. Countries, naturally endowed with geostrategic locations get an added advantage of becoming prominent regional/global maritime players, provided they use these advantages judiciously. Pakistan, since its independence, has not attained the desired levels of standards, as a maritime nation, for various reasons. In this paper, an endeavour has been made through systematic Literature Review to highlight essential aspects, to be taken into consideration while strategically managing maritime affairs.

Introduction

David Kilcullen, in his book, *The Dragons and the Snakes* (pg 188, 2020), discusses China's rise as a maritime power, especially during the last two decades. Its earlier land centric mindset denied it the capability which it has presently. Russian geopolitical theorist , Alexander Dugin, declared China, as a land based traditional society. However, his theory of tellurocratic (land ruling) as opposed to thalassocratic (sea ruling), as a most of the developed nations, breakdown in China's case. How and why?

China has an enormous land area, as well as extensive oceanic claims (14000 miles and 9000 miles respectively), besides the largest population on earth, (till date). As it depends heavily on maritime commerce, China carried out a sea world reorientation. Chinese reformist leader, Deng Xiopeng, pursued a twin track policy of political authoritarianism and economic liberalisation, in view of its continental and maritime objectives. David Kilcullen, further elaborates that with market reforms bringing economic growth, during the 1980s-1990s, China became increasingly dependent on sea borne trade, including imports of petroleum products and materials to sustain its industrialization and urbanisation programs. With enhanced industrialization, exports increased manifold, bringing high levels of prosperity and development to a large segment of its population. Geographically, Chinese coastal cities underwent comparatively higher levels of growth and development, in turn tremendously enhancing littoralization.

The rise of a scientifically and technologically backward country in such a short time, besides other factors, could not have materialised without effective strategic management, at national and industry/organisational levels. For Pakistan, which has a much lesser population, having a coastline of approximately 1000 kilometres, at the northeastern part of the Arabian Sea, close to the Persian Gulf and Strait of Hormuz, there are many lessons to be learnt from China's rise as a maritime nation. Systematic literature Review has yielded the following aspects which need to be considered for Pakistan's national maritime strategy formulation, implementation, and evaluation.

Why Maritime?

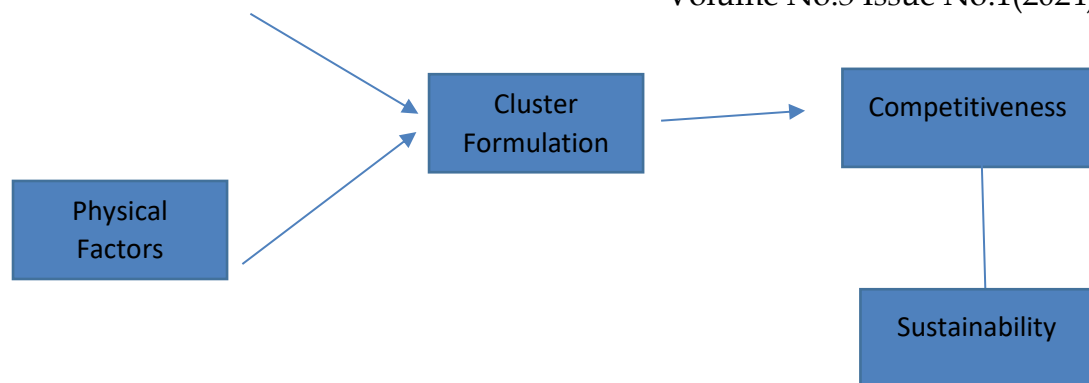
Profits and growth, within shipping are altogether of different context. Stopford (2008), states that shipping firms resemble dinosaurs of classical economics with wealth creation but no monopolies. Maritime business is different and peculiar. Hence, industry clusters within maritime business are different from other industrial clusters. Doloneux & define maritime clusters as a geographical location which has higher concentration of firms from a particular domain. Koliouisis et al. (2019), findings claim that industrial clusters involve scientific domain. Maritime clusters require strategic management. Thus, strategy is an important catalyst for maritime cluster threads. Koliouisis et al. (2019), has substantiated that strategy plays the role of a unifying factor, thereby enhancing the functional role of strategic management, especially within the maritime domain. As per Koliouisis et al. (2018), maritime clusters are extremely important for national/regional economics. Chang (2011) very rightly points out that maritime activities automatically cluster within localities. Gwadar in Pakistan, other international ports reinforce this finding.

Thus, maritime clusters for national/regional economies are mainly due to dynamics of maritime industry, (Pagano et al., 2016). With regards to innovation, it is an important proponent within maritime industry (Jenssen, 2003) through mutual dynamics. Strategic management as per Industrial Cluster theory, uses maritime cluster as benchmarks (Stavroulakis et al., 2020). While discussing economics of agglomeration, states that it comprises local pool of skilled labor, local supplier linkages, regarding culture prevalent within a maritime cluster. Shinohara (2010), states that maritime clusters comprise mutualism, thus and cooperation, all within the competitive nature of industry. He has listed a number of strategic factors impacting maritime clusters. Labor market pooling, local supplier synergies, knowledge spillover, cooperation and trust are some of the important ones, followed by innovation, knowledge creation/management and strategy.

It is stated that industrial clusters can be considered as the basis for competitiveness, Innovation, and sustainability. Ellision, Glaseser & Kerr (2007) claim that the basis of industrial cluster are ideas, people, goods and material advantages. Delanger (2002) states that competition further fosters the cluster performance and competition. Thus cooperation may share synergistic and complementary effects. The characteristics of maritime/industrial clusters impart a correlation of clusters within entrepreneurship which leads to innovation (Delgado, Porter & Stern, 2010). Jenssen (2003) investigates the connection between innovation and competitiveness and concludes that skills are to be at the forefront of priorities, providing building blocks for innovation dynamics, so essential for maritime clusters. Moreover, strong government support, business networking, support from financial institutions, HR management, shared culture and policy are of immense importance for cluster sustainability. Lee et al (2014), elaborates that cluster formulation is dependent on conceptual and physical parameters.

Progoulaki et al, (2010) further elaborates as follows: -

As part of the conceptual future, policy and legislation play an important role in formulation of domestic industries (Cariou et al., 2015).



Hence cluster oversight is very important to ensure growth and competitiveness (Mileski et al., 2013).

Wang et al, (2018) have summed up their views regarding maritime clusters, as follows: -

- Competitive nature of the maritime industry necessitates strategic actions in order to strengthen their market positions, resultantly.
- The firms indulge in cooperation and competition (coopetition) in order to enhance business further.
- Concentration of ship owners, port agents, suppliers of marine equipment, Port authorities, ship breakers, logistic providers, etc. within the same region potentially enhance competitiveness as long as these operate in coordinated manner.

What is Strategic Management

According to Morris & Hough (1987), complex projects require an extraordinary level of management. Applying on the ordinary projects, the conventional systems are insufficient/unsuitable for complex projects. (Gidado, 1993) states that the complexities of projects provide guidelines in ascertaining the planning, coordination and control requirements which would be needed in execution of that project. (Andrews & Andrews, 1980) and (Cyert, R. M., & March, J. G. (1963). *A Behavioral...* - Google Scholar, n.d.) state that the strategic management process is primarily concerned with strategy formulation, implementation and monitoring. Hence, it can be deduced that strategic management is an essential ingredient in handling organizations in the process of executing complex projects or handling of complex projects. Strategic management implies when the objectives/initiatives are formulated and implemented, as adopted by concerned decision makers, occupying top managerial slots based on analysis, primarily of existing resources and external environment (Nag et al., 2007).

Strategies are evolved based on environment surrounding/enveloping analysis, suggesting the concerned organization/ entity, (Král et al., 2016). In turn strategy is defined as long term goals /objectives of institutions/organizations, consequently adopting feasible course(s) of action and allocating resources for the attainment of same (Chandler, 1962). Mintzberg et al (1985), add that strategy is coalignment /coordination of various states/trajectories. According to them, effective strategies are a coherent set of analysis/concepts/policies and actions that respond to high-risk challenges. As one of the main functions of Strategy Management is strategy formulation, it can again be deduced that a focused and formalized strategic management process would have to be

implemented/practiced at all those levels, especially, where strategy formulation forms the basis of functioning. At organization level, strategies define or lay down road maps extending into the near/far future. Strategic planning is among the five (5) most popular managerial approaches, internationally. Its significance within the public sector, got enhanced from the 1980s onward and is considered to be most viable in ascertaining effectiveness, time and resources. (George & Desmidt, 2014). Similarly, strategic management of mega projects involves public coordination of investment intentions, development of control mechanisms coupled with coordination management plan, which should include public commitments of ministries / agencies. (P. Gellert et al., 2003) state that mega projects require coordinated applications, sophisticated technology, intense planning and political influence. The content of strategy is related to strategic decisions required to be taken for its implementation and attainment of goals/ objectives. Drucker, (1980) adds that the main output of managers are decisions and related actions. Bartol Km & Martin DC (Book) emphasizes the importance & Strategic Management, as follows;

1. Assists organizations in identifying and developing competitive advantage(s).
2. Provide a sense of direction thereby encouraging appropriate application and economy of effort.
3. Highlight needs for innovation.
4. Systematic and organized approach in creating/ applying new ideas with strategies.
5. Involves managers at various levels in formulation/implementation of strategies.

With regards to maritime issues, Wang et al., (2018) mention that in academia, strategic management in different dimensions, such as maritime, is an emerging phenomenon. Thus, based on the definition of the field of strategic management by Nag et al (2007), Wang et al (2018), define strategic maritime management as the management of having to deal with utilization of resources, in order to enhance the performance of maritime organizations within the global, maritime related environment. Maritime issues are mostly impacted by business logistics and Supply Chain management. Maritime logistics includes following (Lam & Bai, 2016):

- a) Management of maritime related transportation flows.
- b) Management of marrying up/interfacing various processes within the maritime supply chain.
- c) Enhancing performance and quality, spectrum of operations/processes
- d) Enhancement of environmental performance
- e) Growth and corporate responsibility

Panayides & Song (2013), spell out following main functional areas which directly impact maritime issues:

- a) Strategic management
- b) Organizational/structural studies
- c) Logistics
- d) Supply chain management.

Brooks et al (2008), add that strategic maritime management issues are examined in organizational studies back in line with networking and strategy (Rodrigue & Notteboom, 2009); Maritime economics, according to Wang & Mileski (2018), has caused the emergence of maritime logistics, strategic maritime management and operations management in the

maritime industry. Woo et al (2011), states that strategic maritime management includes issues relevant to management in the maritime industry. These are;

- a) Business models (e market)
- b) Strategic positioning
- c) Competitive advantages
- d) Coopetition strategies
- e) Flexibility
- f) Leanness
- g) Services quality
- h) Social responsibility

Strategic management has influenced the evolvement of strategic maritime management, which stands confirmed as a recently emergent academic discipline.

Dynamics of Strategic Management in Maritime

Strategic Planning

Formal definition (Oxford Dictionary) of Sustainability is the ability to provide services with minimal impact on natural resources and environment.

Lorange (2009) and Wang & Mileski (2018) state the coastal areas of mostly all countries comprise of global port cities which are heavily populated, comparatively, also spilling into adjoining areas. Lugt et al (2016), further add that due to globalization of the world economy, Ports along with the capabilities of providing logistics services, integrated with advanced IT and international shipping has provided a great impetus to international trade, primarily maritime with inland transportation system ,(Mclaughlin et al., 2013). This has greatly economized overall transportation costs, enhanced logistics efficiency while also ensuring services continuity. Hence, the need for strategic planning (Selig et al., 2018).

According to Woo et al (2011), there are three (3) levels of planning:-

- a. Strategic Planning Is an outline of steps designed in relation to goals of the entire organization.
- b. Tactical plan Involve action by subordinate depts. regarding who is in charge and how to execute.
- c. Operational Plan Utilized by managers at top, mid and first level to accomplish their objectives.

Strategic plan also targets at Industrial level. Hence, if the unit of analysis has to be derived, strategic planning for maritime matters would have to be conducted at: -

- a. Industry level (i.e Maritime Industry)
- b. Organizational level (organizations which make up for maritime assets or form part of maritime cluster)

According to ATAP guidelines Steering Committee (2016), approach to strategic planning is either data driven or vision /goal oriented. (Mileski et al., n.d.), state that maritime management is the integration of physical maritime transport flows, information flows and interface between the participants/organizations. Strategic planning also is required to lay down strategic direction for shipping, primarily between locations (Wang & Mileski, 2018). Problems which are required to be catered for by strategic management/planning include building stable, multi-jurisdictional or multi stakeholders. collaboration/partnership and

problems encountered due to sustainability and environmental management (McLaughlin et al., 2013).

Innovation in Maritime Sector

One of the main determinants of competitive advantage for service providers is the ability to offer new/better outputs, competitive costs. The role of innovation is thus pivotal in management and planning. (Bharadwaj et al., 1993) (Duane Ireland & Webb, 2007). Within logistics, innovation contributes to development of options for value addition through lower costs, better asset utilization, reduced fuel consumption, environmental performance (Beltman-Estevé & Tades, 2015). According to Busse & Watterberg (2011), other advantages to be accrued from innovation are; -

- a. Emphasis of network reach
- b. Better customer services
- c. Service additions, such as;
 - 1) Increased shipment traceability
 - 2) Integration of efforts

However, Baer & Frese (2003), state that degree of innovation is not sufficient to explain organizational performance. Innovation that does not generate value may not be able to improve organizational performance (Baer & Frese, 2003). The main task of strategic processes is to define how customer value can be generated (Duane Ireland & Webb, 2007).

According to Jenssen (2003), Jenssen & Ravddeg (2002) innovation endeavors within maritime logistics are often uncoordinated, unfocussed, poorly managed and fail to deliver. Innovation process within an organization should be well aligned with its vision and strategy in order to be pursued.

According to Doloreux & Melançon (2008), obstacles to innovation can be; -

- a) Organizational size
- b) Obstacles to collaboration and knowledge exchange.

Supply chain participants' cooperation has emerged as an important logistics industry feature (McLaughlin & Fearon, 2013). In most strategic /operational decisions, innovative concepts need to inject benefits within the supply chain (Soosay et al., 2008). According to Sys et al, (2005), co innovation is a new inform of innovation where various stakeholders jointly acquire new expertise and create opportunities in the supply chain for new partnerships.

According to Yang et al (2009), resources such as marine equipment, information equipment, network and corporate reputation have higher innovation capabilities.

Within the maritime supply chain, lack of innovation can be due to;

- a) Conservative approach by managers
- b) Availability of limited resources in bulk transportation
- c) High risk associated with maritime business (Yang et al., 2009).

Frutk and Tenteberg (2017) mention digitalization in shipping in six areas i.e. automation, big data simulation & modeling, software and sustainable maritime transport risks. Thus it is important that strategic processes are aligned with the innovation strategy of the organization/firm in order to derive advantage of supply chain collaboration (Craighead et al., 2009). The objective of management should be to plan and monitor development of

innovation, in accordance with organizational strategy. Strategic relevance and strategic alignment must be taken into account when developing innovation programs.

Change Management within Maritime

As already explained, an industrial cluster is a group of firms/agencies and institutions showing relational capacity to quite an extent. This relational capacity of clusters drives social dynamics, in achieving collective excellence, beneficial to national /regional economies. Innovation has been amply covered above. However, Furman et al (2002), add that knowledge creation and management skills are essential to innovate. Innovation is a major factor, dependent on the proximity of firms/organizations G. G. Bell (2005). M. Bell & Albu (1999), further state that in developing countries, Clusters are studied and formed based on technological factors and knowledge. Linkage of entrepreneurship with clusters, thereby the role of innovation within a cluster. Clusters are important due to knowledge creation and innovation by its members. Hence policy/ strategy is important for clusters as these facilitate change management, imperative in all instances of knowledge creation, innovation and competitiveness In turn strategic management is important for clusters as effectiveness of strategic decision has direct impact on competitiveness (Ding et al, 2009). Strategic management can affect the performance and has an impact on trust between players Huang et al (2013), add that strategy and policy are not divergent but correlate various aspects. Contribution of cluster assessment in conjunction with strategic management impacts strategic decisions at organization level and concepts /policies at national/industry levels. Strategic management within maritime clusters promotes entrepreneurship and innovation. These in turn can be directed by policy/strategy (Doloreux & Melançon, 2008). Monteirs (2016) also states that dynamics of cooperation and competition (coopetition) within maritime clusters influence innovation, competitiveness, and performance and value addition. Ortega, Nogiera & Pinto (2013), reinforce this by stating that innovation, policy and governance are important factors for maritime clusters, as well. Management of change affects both policy and strategy.

Dynamic Capabilities

According to Trace, Pisano and Shuen (2007), firms/organizations achieve and sustain competitive advantage by applying the concept of developing dynamic capabilities. This concept is required to be addressed in the modern day world, which is knowledge driven and innovative. The competition includes; -

- a) Price/performance rivalry
- b) Increasing returns
- c) Creative destruction of existing competencies

Strategic management inculcates competitiveness within organizations/firms. One paradigm comprises a competitive forces approach developed by (Porter, 1980). The second Paradigm comprised of strategic conflict approach (Shapiro, 1959), through strategic investments, pricing strategies, control of information. The third paradigm was that of building competitive advantage through capturing entrepreneurial rents obtained from organizational efficiencies, technological and organizational changes. Tecce, Pisans & Shuen (2007) have identified yet a new paradigm of dynamic capabilities; Dynamic capability is identification of organizational specific capabilities that can be a source of advantage and also describing how

a combination of competencies and resources can be developed/deployed /protected. Teece (1988) and (Mittler, 1989) have highlighted certain elements of dynamics capabilities: -

- a) Management capabilities
- b) Difficult to imitate combination of organizational, functional and technological skills
- c) Research and Development

The key aspect of the organizational environment is the industry (s) in which it competes. Hence industry structure strongly influences competitive rules as well as strategies potentially available to organizations. This would be very much relevant to the maritime industry based on its dynamics. If control over scarce resources is the source of economic profits, team issues such as skill acquisition, management of knowledge and learning become fundamental strategic issues. Skill acquisition, learning, accumulation of organizational assets thus are important contributions to strategy and strategic management (Itami & Roehl, 1987). Winners in global markets are organizations that demonstrate timely responsiveness and rapid/flexible product innovation coupled with the management capability to effectively coordinate and deploy/redeploy internal/external competencies. Ability to achieve new forms of competitive advantage is a dynamic capability, involving renewing of competencies and timely innovative response. Dynamic capability would thus be an essential ingredient in strategic management of maritime, which itself is highly dynamic.

Strategic management enables appropriate adoption, integration and reconfiguration of internal/external organizational skills, resource and functional competencies as per changing environment. (Penrose, 1959). Augier & Teece, (2008) and (Wernerfelt, 1984) all agree that competitive advantage requires both the exploitation of existing internal/external organization specific capabilities and developing new ones. Aoki (1990) adds that efficient and effective internal coordination/integration is most important. According to Schoemaker, (1993), there is tremendous value in the ability to reconfigure the organizational assets/structure and accomplish requisite internal/external transformation in rapidly changing environment. also state that the strategic position of a firm/organization is gauged by its learning process, coherence of internal/external processes and specific assets. Teece (1996), adds that the formal/informal structure of organizations, external linkages have an important impact on the note and direction of innovation and evolving of capabilities/competencies. Strategic management seeks to guide aspects of general management that have material effects on the survival and success of business enterprises.

Handling of Mega Projects

Key features of Global Mega Projects

According to Floricel & Miller (2001), these are characterized by complexity, uncertainty, ambiguity, dynamic interfaces, significant political/external influences over long time periods. Capka & Boutaba (2004) and Flyvbjerg (2006) further add that mega projects involve large quantities of resources, high human, social and environmental aspects. Thus complexity risk and uncertainty in funding and construction (Frick, 2008). Van Marnewijk et al, (2008) highlights the challenges such as long time span, large scale, multiplicity of technological disciplines, number of participants, multi nationality, interests of stakeholders, sponsor interests, escalating costs overtime, country risk, uncertainty and high levels of public attention and political interests. Some examples of mega projects are Undersea Channel, Kuala

Lumpur AirPort, Port of Shanghai, Burj Khalifa and CPEC/Gwadar Port. According to (Flyvbjerg et al., 2003) reasons for failures of mega projects are usually; inefficient use of resources, cost overruns, lower than predicted revenues, delays in deliveries, loss of business, technical failure, changes in quality, project specification/designs and money exchange rate. However, it is uncommon to cancel a mega project (Covusgil & Makuke, 2012). Warnack (1992) claims that strategic considerations can enhance chances of success and reduce the chances of failure, objective evaluation of project viability from micro (Sponsor) and macro (society) perspectives is essential. A stronger economy makes social improvements more affordable. The economic development strategy is stronger if it facilitates the possibility of mega projects. An objective of the economic strategy should be to capture the essentials of mega projects economic benefits.

An appropriate sequence would inject competitive supplier and market investment decision making in the project location. The Govt, for mega projects, is a decision making partner as these, at various levels, are related to the domain of Public Policy decision making. Collective logic, reliable and speedy decision making becomes essential, (Warnack, 1993). This brings us to the risk factor involved. According to Warnack (1993), the risk factor is greater for mega projects, especially as these do not have reliable regulatory framework. According to Capka (2004) mega projects need to leave behind a sense of public pride in both the accomplishment and the manner of accomplishment. The public should feel that the mega project was necessary and essentially required for the benefits of all.

Management of Mega Projects

Warnack (1993) claims that to maximize odds for success and minimize for failure, a sound and systematic mega project decision making process is essential. The three (3) main components of the mega project decision making process are Sponsor, Government and Interface. According to Playskina & Kharitonova (2012), mega projects represent a single system based set of projects, to be implemented within related industries, which possess/occupy large territories and involve several projects. The strategic goal of developing such projects is to achieve high economic performance of an inter-sectoral complex, provided by highly competitive leaders operating in the global market. Initially these projects were developed in the natural resources sector, now the energy sector has become quite active. Because of the magnitude of the projects, these are mostly executed through public-private partnership.

Kandes et al, (2013) states mega projects are highly complex, due to technological sophistication, funding issues, political uncertainties and supply chain structure complications. Hence mega projects require coordinated applications, sophisticated technology, intense planning and political influence (Gellert & Lynch, 2003). Bennet (1991) further states that certain project characteristics require appropriate managerial actions and some projects require exceptional level of management. Application of conventional systems developed for ordinary projects have been found to be unsuitable for complex projects. (Morris & Hough, 1987). The project complexity dictates planning, coordination and control requirements (Gidado, 1993), as project complexity requires clear identification of goals/objectives of major projects, (Morris & Hough, 1987). Thus complexity becomes an important criterion in selection of an appropriate organizational form (Bennet, 1991).

Woznaik (1993), States that complexity is based on criticality of project, project visibility and accountability, clarity of scope of definition. While designing/developing organizational structure for undertaking mega projects, Bacarini (1996) states that structures should be able to define relationships in terms of communication and reporting, allocate responsibility and authority for decision making and be able to allocate tasks.

Present Situation- Pakistan Maritime

1. The role of the shipping industry is essential in the conduct of international trade by the provision of efficient, effective, and voluminous means of transportation and related infrastructure. The geo strategic location and the economic situation of Pakistan renders its highly dependent sea mode of transportation. Ironically, even Pakistan's shipping industry remained neglected and low-prioritized. The shipping industry took off on a positive track and experienced a moderate level of growth till the early 1970s (Nawaz, 2004).
2. The dismemberment of East Pakistan in 1971, followed by the unstable economic policies implemented by the government in the mid of 1970s retarded the maritime progress. Nationalization of the shipment industry was also a great blow as it shunned away private investors. The nationalized shipping cooperation performance continued to decline as there was no competition from the private sector. Thus, affecting, directly/indirectly, the public/private partnerships, economies of scale within organizations, and lack of employment opportunities induction of technology, research, and evaluation of the maritime-related industries. The downward trend continues unabated (Nawaz, 2004).
3. A vibrant shipping industry can save foreign exchange on sea transportation earned tremendous/ numerous revenue through sea-borne trade, transportation/shipbuilding/repair, and shipbreaking. A well-developed maritime sector reduces dependence on foreign carriers.
4. Effective policy making by the government would ensure proper allocation of resources to the concerned sectors as per requirements, protection of business communities, and incorporation of the private sector. The bureaucratic institutions related to the maritime affairs should be more business-friendly and acknowledging the rights of the business community to make just profits. The cautious attitude of investors is mainly just because of a lack of trust due to fluctuating policies and improper implementation (Nawaz, 2004).
5. Legislation related to Maritime
 - 5.1 Pakistan's coastal area is divided between two provinces with separate coastal development authorities.. There is, however, a single entity to ensure integration and coordination inspite of the fact the Earth summit at Rion de Janeiro (1992), to which Pakistan is a signatory and number of events were held internationally and locally, concerning integrated Coastal Zone Management.
 - 5.2 Pakistan's Ministry of Ports and Shipping has been renamed as the Ministry of Maritime Affairs. However, it remains highly confined to ports and shipping, neglecting other Maritime issues. There are more than a dozen ministries directly/indirectly involved with maritime. The National Maritime Affairs and Coordination Committee (NMACC), at the ministry of Defence, like all past committees has failed to perform inter-ministerial coordination to any degree of effectiveness.
 - 5.3 Pakistan is a signatory to many international conventions, concerning marine pollution, environmental protection, climate change, safety / security of labour employed in

ship breaking etc. National Coordination body of Pakistan (NCB) was notified in September 2009 for the purpose of coordination in such matters and it continues to expand without having the requisite impact. The national strategy and action plan was formulated based on knowledge management, capacity development and mainstreaming of gender, climate change and private sector involvement integrated coastal resources management. However, it would require empowering NCB with overseeing and steering authority.

5.4 There is a complete lack of awareness at the highest level to ensure attainment of development goals pertaining to/concerned with maritime. Matters such as maritime policy, coordination of maritime affair, National Maritime Affairs Coordinate Controller (NMACC), implementation of law of the Sea pertaining to maritime affair, liaison with international seabed authorities and other international agencies within maritime, are dealt with by other ministries. The need of the hour is to evolve a Comprehensive maritime policy with nationalized control and executing mechanism through proper legislation. (Elements of Blue economy- 2020).

5.5 Development of ports in Pakistan has remained slow. In the recent past, a shift in the government thinking has led to developing Gwadar as a deep sea, multipurpose port, with Chinese assistance. The port is envisioned to serve as a conduit for landlocked states, transshipment port to global sea borne trade and strategic naval base at the top of Arabian sea and Indian Ocean. The success and development of Gwadar would face tremendous challenges, internally as well as externally. The Government would have to be extremely proactive and effective in this regard (Nawaz, 2004).

5.6 Exploitation of offshore natural resources in Pakistan has progressed extremely slow. There is a dire need to enhance /improve the Pakistan's fishing industry along with preservation of living resources with Pakistan's Exclusive Economic Zone (EEZ). (Nawaz, 2004). Alfred Mohan, in *The Influence of Sea Power on History*, states that it is primarily the respective governments, which can trigger national growth by utilisation of its maritime capabilities. According to the CEO of Bahria Transshipment Hub of Pakistan (2021), sea blindness augmented by lack of will and institutional capacity has greatly contributed towards under development and regression of Pakistan Maritime capabilities. According to Askari, Tahir and Shaheen (2000), maritime sea blindness is the main reason for poor maritime infrastructure and governance. Syed and Safdar (2021) states the foremost challenge to be encountered is the lack of willingness by the Government to focus on maritime issues, such as:-

1. Prioritization of Blue economy
2. Enhance shipping within national flag carrier
3. Conduct an economic survey of Pakistan, for maritime industry.
4. Capacity/capability development of ship breaking at Gaddani.
5. Review National Maritime Policy and incorporate the Blue economy.

According Syed and Safdar (2021), enablers for a national maritime industry are policy formation, legislation, short / long term goals setting, identification of stakeholders and capacity/ skilled development of workforce. Salman and Abbasi (2017) emphasize that Pakistan needs to focus on a sustainable ocean led development model in order to improve and governance of the marine ecosystem. Pakistan Institute of Developments Economics (P.I.D.E-

31/2021) report states that competitiveness and capacity of government bureaucracy to implement policies is questionable. The Ministry of Maritime Affairs is Pakistan's primary state institution, having PNSC, 3 ports and Merchant Marine Department under it. Karachi Shipyard and Engineering Works as well as the upcoming Shipyard at Gwadar are placed under the Ministry of Defense Production for strategic/administrative reasons (P.I.D.E-31/2021). The National Shipping Policy has been based upon PNSC regulation, 1840 Merchant Marine policy 2001 as well as related regulations of other departments. The Merchant Marine policy lacks the legal status imparted by an Act/Ordinance. There is a need to overcome procedural inefficiencies as well as improvement in service delivery. 406 compliance hours are required by Pakistan for standard service delivery as compared to 270 hours by India and 196 hours by South Korea (P.I.D.E-31/2021). Protectionism policy followed by Pakistan has not ensured the local manufacturers to develop nor upgrade their technologies to meet the needs of modern maritime world trade. Policy makers may consider liberalized economic policy for boosting trade with involvement of maritime. A degree of autonomy needs to be granted to PNSC and other private entities in order to promote investments/competition (P.I.D.E-31/2021). Moazzam (2012) highlights that Pakistan's boat industry, which forms the backbone of our fishing industry requires government support from losing competitiveness. Syed and Safdar (2021), also highlight that the National Maritime Policy 2002 needs to be revised with reference to 18 amendment of constitutional enacted later. Askari, Tahir and Shaheen (2020), have listed following obstacles:

- I. Poor infrastructure and governance due to maritime blindness
- II. Lack of investment in research and development/technology
- III. Poor maritime education
- IV. Human activities along seashore
- V. Intreated savage

Maritime Doctrine of Pakistan was formulated by Pakistan Naval Staff College in 2018, with the purpose of generating interest amongst the general public, shape opinions and galvanize the maritime sector through enhanced awareness. The inability prevailing within the policy makers, government advisors and analysts towards knowing new trends in trade, especially economic globalization has limited them to consider the function of sea for security purpose (Hassan, 2005). Due to incompetency of policymakers, the country is unable to realize the sea and its resources for National interest and economic gains to stabilize the economy (Inayat Karim, 2018). According to Qayum (2021), the Maritime Doctrine of Pakistan (MDP), 2018 has provided vast insight including a comprehensive analysis of the Indian Ocean environment and policy analysis of various relevant states. The Ministry of Maritime needs to work on newly revised National Maritime Policy and National Maritime Strategy commensurate with contemporary needs.

Conclusions

- a. Maritime/sea awareness is essentially required to enhance the "land centric" mindset of the public, in general and decision makers, in particular, who usually are not belonging to the maritime domain.
- b. Following essential aspects have been highlighted, which need to be taken into account, while managing maritime affairs, at national level :-

1. Importance of establishing maritime industrial clusters.
2. Exclusive and deliberate handling of mega projects.
3. Innovation and creativity.
4. Development of dynamic capabilities.
5. Effective and timely change management.
- c. Introduction of a formal strategic management process, encompassing strategy formulation, strategy implementation and its evaluation would enhance effectiveness of handling of maritime assets at national/organisational levels.
- d. Dedicated strategic management would ensure improvement/enhancement of existing infrastructure as well as effective marshalling/utilisation of existing assets.

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