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Poverty Alleviation & CPEC: As the Nexus of Transformative Blue Economy

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Introduction

The phrase “blue economy” denotes the economics of using, protecting, and regenerating the marine environment. Organizations view it differently depending on its context. However, when referring to a sustainable development strategy for coastal resources, the phrase is typically employed in the context of international development (Farmery et al., 2021). This can encompass an extensive array of economic activities, from further established ones like coastal, marine, and maritime tourism, fisheries, aquaculture, maritime transportation, and other traditional uses to more recent ones like bio-prospecting, seabed mining, marine ecosystem services, and renewable energy for the coast (Choudhary et al., 2021).

According to the World Bank, the blue economy is “the sustainable use of ocean resources for economic growth, improved lives, and jobs while protecting the health of the ocean environment” (Bank, 2022). Moreover, the European Commission includes “every economic activity involving all the oceans, seas, and coastlines. It includes many interconnected existing and growing sectors (Heidkamp, Morrissey, Germond-Duret, & Rourke, 2022). The Blue Economy “comprises a variety of economic sectors and related policies that collectively decide whether the use of ocean resources is sustainable,” according to a spokesperson of the United Nations (Hazra & Bhukta, 2022). A fundamental challenge for the blue economy is comprehending and efficiently managing the many dimensions of marine sustainability, including sustainable fisheries, ecosystem health, and pollution control (Ayilu, Fabinyi, & Barclay, 2022).

Moreover, the blue economy forces us to acknowledge that international cooperation across sectors and boundaries and new collaborations are required for the ecological sustainability of marine resources. This is a challenging task, particularly for Least Developed Countries (LDCs) and Small Island Developing States (SIDS), which have many restrictions (Lyons, Mynott, & Melbourne-Thomas, 2023). The UN claims that the Blue Economy will assist the globe in achieving its Sustainable Development Goals, one of which is to enhance “life below water.”

The World Wildlife Fund gives two definitions of this phrase at the beginning of its report, “Principles for a Sustainable blue economy.” Some define the blue economy as using the ocean and the assets for long-term fiscal growth. Other researchers use the term to describe any maritime-related economic activity, sustainable or not (Setiyowati, Nugroho, & Halik, 2022).

Despite the rising high-level use of the phrase, The WWF highlights in the purpose of the study that there is presently no widely accepted definition of the phrase “blue economy” as a concept and as a goal of policy-making and investment (van de Water, Tignat-Perrier, Allemand, & Ferrier-Pagès, 2022). The World Bank lists three obstacles limiting the possibility for a blue economy to emerge. Current economic trends are quickly depleting ocean resources. The underinvestment in human capital necessary for occupation and growth in cutting-edge blue economy regions is insufficient protection of ocean ecosystem services and marine resources (Novaglio et al., 2022).

Pakistan is a developing nation with a low income. Purchasing power parity (PPP) ranks its economy as the 23rd largest in the world. The country’s population is estimated to be 231 million as of 2022 (the 5th-largest worldwide) (A. Khan, Ilmas, Zubair, Khan, & Zhong, 2022). Pakistan’s nominal GDP was US\$376 billion as of FY22, ranking 177 globally in terms of nominal GDP per person, while its GDP, which is predominantly based on PPP, that is, purchasing power parity, was US\$1.512 trillion, with GDP per person of US\$6662 (i.e., 168th worldwide) (Naqvi, Khan, & ud Din, 2022). Pakistan’s economy is still emerging and is only moderately industrialized. Primary exports include textiles, leather goods, sporting goods, chemicals, carpets, and rugs (Ishfaq, Kouser, & Jepson, 2022).

The large metropolitan centers in Punjab and Karachi, which have diverse economies, are Pakistan’s economic development centers. These places coexist alongside poorly industrialized regions in other regions of the country. Past internal governmental unrest, a quickly escalating populace, and varying levels of international investment have all harmed Pakistan’s economy (Subhan, Khurshid, & Shah, 2022). While regular worker remittances assist in keeping foreign exchange reserves up, a growing current account deficit—caused by an increasing trade imbalance as import expansion outperforms export expansion—could eventually drain resources and hinder GDP growth. Pakistan is now undergoing a phase of financial progress involving privatizing all government-owned firms to attract foreign investment and decrease budget deficits (NANDY, 2022).

Future growth rates in Pakistan are expected to reach only 2% in the fiscal year 2022-2023, running through June 2023, one of the lowest in South Asia. The economic situation could be better with the most corrupt and incompetent federal government currently heading the nation (Rasheed, Hamid, Talha, & Ibrahim, 2022). World Bank reported that Pakistan’s poverty rate has reduced from 64.3% in 2001 to 21.9% in 2018. In addition, Pakistan’s debt outlook was elevated by Moody’s to “stable” as a result of the nation’s improved macroeconomic situa-

tion. Moody's downgraded it to Caa1 outlook negative in April 2022 following the change of administration et al. Pakistan's GDP surpassed USD 1 trillion in 2017. The current account deficit is one of the issues the nation's economy deals with due to the increased costs of imported goods. By May 2019, the Pakistani rupee's value relative to the US dollar had declined by 30% yearly. With new billion-dollar deals, the second Phase of the CPEC began in 2020 (M. T. Khan, Anwar, & Husnain, 2021). Experts and Trading Economics' global macro models forecast that Pakistan's GDP will reach 350.00 USD billion by the end of 2022. According to our econometric models, Pakistan's GDP will have a positive trend of around \$300 billion in 2023 and \$310 billion in 2024 (S. H. Khan, 2023).

The Blue Economy of Pakistan

Marine transport makes up a large portion of Pakistan's blue economy. Pakistan receives more than Rs20 billion annually through the government-run Karachi Port Trust and Port Qasim Authority. If we can connect our ports with the landlocked Central Asian States, this may be significantly enlarged (Tagar, Shaikh, Tagar, & Bijarni, 2021). Due to its closeness to Malacca and Suez Canal—two extremely active maritime channels—Gwadar also has the potential to serve as a center for transshipment, ship repair, and shipbuilding. It is also close to one of the busiest maritime channels in the world. Baluchistan is lucky to have a coastline with deep indentations (Muhammad, Brohi, & Ullah, 2021). Despite this, Pakistan possesses an Exclusive Economic Zone (EEZ) of 240,000 sq. km, which UNCLOS expanded by an additional 50,000 square kilometers in 2015 (Samad & Abbasi, 2022). The potential for fishing and farming in this region is considerable. Despite this, Pakistan may be able to adapt to climate change and global warming with the aid of blue carbon. Baluchistan can act as a gateway for maritime goods because of its crucial strategic relevance. Fisheries and aquaculture are the cornerstones of the blue economy since they not only support individuals who live by the coast but also promote economic development (Baig & Zehra, 2020; Syed & Safdar, 2021).

There are many different fish species in Pakistan; 529 species have been found, of which 230 are freshwater fish, and the other 296 are marine fish (Muhammad et al., 2021). Unfortunately, there has not been any significant government attempt to use the potential of the blue economy. Now that CPEC is in place, it is up to the present administration to ensure that this project is used to its full potential and that our blue economy expands; expanding the Gwadar port will guarantee the growth of the marine sector. Energy consumption, which is presently very low globally and significantly lower in developing countries due to increased prices and limited supply conditioned by dollar value and geopolitical difficulties, is closely related to eradicating poverty and meeting a person's basic requirements (Cooray, Premarathna, Atapaththu, & Priyadarshana, 2022).

Pakistan's maritime potential is immense but has yet to be completely realized. The nation should switch from a conventional old economy to a new blue econo-

my to accommodate our population growth and global trends. The blue economy can be used entirely, and our maritime industry can grow thanks to CPEC. Economic analysts think this industry may generate more than a million employment opportunities in Pakistan if the blue resources are used well. Since 95% of Pakistan's trade occurs on the sea, the maritime sector is one of the primary drivers of the national economy and military might. The open sea provides the potential for unrestricted, unfettered trade and access to all nations (M. R. Khan, 2021).

It is time for Pakistan to implement comprehensive and practical measures to raise marine awareness throughout the country. It must eventually turn toward the sea to harvest its resources and satisfy future needs (H. Y. Malik, 2021). Pakistan, a growing nation, must give the marine industry more attention to reap appropriate economic rewards. Ports, harbors, commercial ships, and their infrastructure are all part of maritime power, including maritime defense (Aijaz & Butt, 2021). The CPEC project demonstrates that the interested parties appreciate and utilize the marine area as a potential resource. The main goals of CPEC are to advance regional integration, Pakistan's economic growth, and China's hegemonic position in the seas (Aijaz, Hassan, Butt, & Ghauri, 2021).

Elements of the Blue Economy of Pakistan

Fisheries

According to estimates, Pakistan's fish and seafood business is worth \$1.2 billion. The value of exports alone is roughly US\$ 240 million annually. 41 The industry contributes about 1% of GDP. An estimated 1.5 million people are employed in the fishing industry, with more than half of the workforce in Sindh and Baluchistan's coastal regions (Muhammad et al., 2021). The nation's fishing fleet consists of 14,000 big and small boats. Pakistan is rated 28th in the world for fish output. Pakistan has a total fish harvest of roughly 600,000 tons, of which 400,000 come from marine fisheries (Faran & Ejaz, 2022). However, just ten percent of the produce is distributed outside the country. Whereas around sixty percent is used to make fish food, the remaining 30% is used by locals (Samad & Abbasi, 2022). The first challenge to the seafood business comes from irresponsible and unsafe fishing methods, which might lower the resource bases and, in turn, the production. However, the other is from inadequate quality control, which results in much wastage and underutilization of the catch (Syed & Safdar, 2021). The biggest problems impeding quality control are post-harvest handling and waste fish. Fish reproduction suffers a terrible loss due to using prohibited nets and fishing during the off-season (Gill & Iqbal, 2021).

Furthermore, the catch 48 created from harmful fishing techniques is merely a plunder of marine resources. It is a severe problem that jeopardizes the environment and the existence of threatened species. These unethical fishing methods result from the lack of knowledge among the fishing community, an inadequate regulatory system, and a weak enforcement apparatus (Cazcarro, Arto, Fer-

nandes-Salvador, & Lauriad, 2022). Additionally, illegal fishing and the smuggling of catch are seriously depleting our marine resources. Valuable fish species are smuggled out of Pakistan daily in amounts close to 200 tons. All these problems can only be resolved by enforcing regulations with solid control and oversight (Faran & Ejaz, 2022).

The greatest obstacle to the administrative control of fisheries is a need for coordination among the numerous parties. For over 20 years, Pakistan has had considerable export growth in fish products. Natural advantages stemming directly from the Arabian Sea's enormous capacity for fish production have helped this success (Syed & Safdar, 2021). Comparing Pakistan to nations like Indonesia and Thailand, which depend on aquaculture and may weaken Pakistani prices by more than 20%, reveals that Pakistan does not qualify as a low-cost manufacturer. The high price can be attributed to the high fuel costs associated with fishing and the need for a thorough stock assessment and current survey (Muhammad et al., 2021).

Maritime Tourism

The most significant market category worldwide is tourism, which also expands quickly. The tourist industry generates five percent of the global GDP and six to seven percent of jobs worldwide. In roughly 150 countries worldwide, it ranks among the top five revenue-generating industries (Faran & Ejaz, 2022). For half of the developing countries, it serves as their primary source of foreign exchange. Worldwide trends over the next 20 years indicate this business's substantial expansion. However, Pakistan's marine and coastal tourism prospects must be thoroughly assessed (Muhammad et al., 2021 (Baig et al., 2020)). It is solely available to the local population, and neither the governmental nor corporate sectors have considered it a possible income source. The development of coastal tourism can help the local economy and lessen poverty. The sea cruise business and sustainable coastal tourism both require the backing of the private sector (Tagar et al., 2021).

In addition to the potential and obstacles described in each area of Pakistan's marine economic sector, several new difficulties tend to affect maritime expansion and countries' commercial policies. "Unless the seas and oceans constitute a crucial component of these urgently required reforms, a worldwide transition to a low-carbon, resource-efficient Green Economy would not be conceivable" (Syed & Safdar, 2021). Unrestrained pollution, climate change, ocean acidification, frequent and severe natural catastrophes, sea level rise, etc., are all increasing the environmental challenges to the Arabian Sea and coastal ecology. These might also affect our marine and coastal infrastructure. Furthermore, ocean waste disposal depletes marine resources and jeopardizes Pakistan's ability to produce seafood. The marine sector must abide by laws and international treaties governing "Eco-friendly" activities (Samad & Abbasi, 2022).

The blue economy of Pakistan also benefits from the country's maritime and ocean travel industry. In Pakistan, there is much to learn about coastal tourism, which contributes around 5% of the country's GDP. Kund Malir, a newly found desert beach, rapidly attracted the attention of the entire globe due to its mesmerizing beauty (Yasmeen, Aftab, & Muhammad, 2021). Due to seaside tourism, foreign tourists were compelled to visit and experience Pakistan. Regarding this, Eva Zu Beck and several other international travel vloggers visited, investigated, and showed a favorable aspect of Pakistan (Aijaz et al., 2021). This helped Pakistan's tourist industry indirectly.

The world today recognizes Pakistan as a secure nation. Pakistan now has more than ten beach locations that have been identified. There are several stunning terrain features around Pakistan's beaches (Gul & Shah, 2021). If the government properly develops the locations, it might bring in more than \$4 billion for the economy. Beautiful beaches may be found throughout Pakistan's coastline. A framework has been established by public and private organizations for the activities of the blue economy, and it consists of words and policies (M. Islam & Sarker, 2022).

Maritime Transport

With a 40% cargo handling rate, Port Qasim is Pakistan's second busiest port. It is 35 kilometers east of Karachi on a section of the Indus River called Phitti Creek. ²³ The port is approached through a 45 km long navigation channel. Its closeness with many national transportation infrastructures is one of its critical assets (Alam, Li, & Baig, 2019; Muhammad et al., 2021). The international airport is 22 km distant, the national highway is 15 km away, and six lines connect it immediately to the train system (Alam, Li, Baig, Ghanem, & Hanif, 2021; Gul & Shah, 2021). Most jetties and terminals for liquid and solid commodities at Port Qasim are privately owned. Two private container terminals are also present. Port Qasim is also home to Pakistan's sole private oil terminal, FOTCO, and its second private oil terminal is currently being constructed (Ghanem et al., 2021; Yasmeen et al., 2021). Each year, more than 1100 ships stop in Port Qasim. During the fiscal year 2010–2011, Port Qasim controlled approximately 26 million tons of cargo. In the fiscal year 2012–2013 (H. Y. Malik, 2021).

Throughout July–March 2011–12, container traffic increased by 6% over the first nine months of 2012–13.²⁵ Port Qasim (Subhani) throughput is anticipated to increase to 26.6 million tons and container transportation to more than 800,000 TEUs in 2013–14. The current PQA capacity will be upgraded to accommodate ships weighing more than 75,000 tons to fulfill future demands (Gul & Shah, 2021). Additionally, the government intends to construct three secretly owned LNG terminals. A "Textile City" is also being built in PQA's eastern industrial zone to increase textile product manufacturing and export. The project is anticipated to be operational soon (X. Li et al., 2018; Syed & Safdar, 2021).

Offshore Renewable Energy

The term “offshore renewable energy” describes the production of electricity from resources found in the ocean. These include Great Lakes, ocean-based wind farms, and marine-based energy sources such as waves, tides, saltiness, and thermal properties (Fjellstedt et al., 2022). Global trends indicate that the marine sector’s contribution will rise along with population growth, land-based economic activity, and new business prospects like renewable energy (Trifonova, Scott, Griffin, Pennock, & Jeffrey, 2022). Pakistan has enormous potential to tap into the blue economy by fostering renewable energy, marine transportation, and tourism because of its coastal regions. Pakistan has to take notes from the nations that have advanced in the blue economy (Z. Ullah et al., 2021).

Offshore wind farms are positioned underwater. The principles of offshore wind are the same as those of terrestrial wind technologies, but because of the more robust and reliable winds at sea, large-scale wind turbines must be installed by ships. Placing a structure in a fluid ocean environment is challenging (da Silva, Sergiienko, Cazzolato, & Ding, 2022). Offshore wind turbines offer comparable advantages to onshore wind turbines in that they produce no carbon emissions during their lifespan and are thus free of charge compared to other energy-generating technologies like conventional power sources (Nezhad et al., 2021). Freshwater is not necessary for wind energy (Y.-C. Chang, 2021). Therefore, Pakistan must conduct proper research in this field and, inst,sta rt utilizing offshore renewable energy resources as soon as possible.

Aquaculture

Even though aquaculture is a relatively new and developing industry in Pakistan, there is enormous potential for growth in this area. Despite abundant fresh, brackish, and marine water resources, only a little carp culture is carried out in inland waterways (Zahra, Shah, & Badeeb, 2022). Carp are raised in clay ponds utilizing largely intensive farming techniques and relatively minimal inputs. Pakistan has many fish species, although only seven warm-water and two cold-water species are raised commercially. Shrimp culture trials have been attempted in the Indus Delta region but were unsuccessful due to a lack of hatchery-produced seed (Tagar et al., 2021). Aquaculture in Pakistan started as a small-scale side business for crop farmers. However, with the establishment of public fish hatcheries, there has been a shift toward larger fish farms, especially among business people in this industry (Muhammad et al., 2021).

It is a sizable industry that might boost the GDP of the country. Additionally, it offers food and other necessities for survival. The seafood sector in Pakistan is valued at more than \$1 billion. Regarding fish industry goods, Pakistan is ranked 28th globally (Muhammad et al., 2021). The marine food sector in Pakistan may employ more than 10,000 people and makes up around 1% of the country’s GDP. Fish are captured for a total of about 600,000 tons. In addition to the nation’s

share, this fish might be exported. Fish exports have been quite profitable for Pakistan (Yasmeen et al., 2021). However, some 200 unique fish kinds are smuggled daily due to poor administration and oversight. Despite this, Baluchistan have fish farms. As was previously said, Pakistan has enormous resources in various coastal areas, but poor management and care have caused it to collapse (Samad & Abbasi, 2022). Pakistan's fish and seafood exports are now only worth \$450 million, but they might reach \$2 to 2.5 billion with the right proper-sea fishing regulations. Fish is acquired in Pakistan at a meager price of \$2.27 to \$2.50 per kg but costs \$7 per kg in other areas due to a lack of facilities, a poor transportation infrastructure, and low export quality (Sarwar & Iqbal, 2022).

The fishing industry employs about 1% of the country's labor force, making up 1% of the nation's GDP (Pirasteh-Anosheh, Parnian, Spasiano, Race, & Ashraf, 2021). In three of the four provinces of the nation, freshwater carp farming is the primary kind of aquaculture (Punjab, Sindh, and Pakhtunkhwa). Although trout farming has significant potential in Pakistan's northern highlands, there is currently relatively little done there due to the cooler climate (W. Khan et al., 2021). In Pakistan, fisheries are primarily the concern of the "Fisheries Development Commissioner" (FDC), which reports to the "Ministry of Food, Agriculture, and Livestock" (MINFAL). Aquaculture is mostly a local duty. The FDC headquarters oversees all policy-making, planning, and collaboration with regional fisheries administrations and other international and national organizations (Sarwar & Iqbal, 2022).

The main research organization in the nation, Pakistan Agricultural Research Council (PARC), answers to MINFAL. Basic fisheries research is also being conducted at a few national institutions. Aquaculture is a relatively new industry in Pakistan, and in many regions of the nation, it is still poorly managed, with regional variations in cultural customs (J. Shafi, K. N. Waheed, Z. S. Mirza, & M. Zafarullah, 2021). The institutional structure has been strengthened thanks to two projects supported by the "Asian Development Bank" (ADB), which have aided in the development of infrastructure, including the establishment of the aquaculture industry and young production, model farms, technological transfer, the improvement of extension services, and human resource development (J. Shafi, K. Waheed, Z. Mirza, & M. Zafarullah, 2021). Government funding for aquaculture has been significant throughout the years. Infrastructure in place can serve as the foundation for a significant increase in aquaculture output. Almost all aquaculture in Pakistan is a pond culture of numerous fish species, excluding trout in Pakhtunkhwa and the northern area (M Bilal et al., 2021). Despite the 1100 km of coastline of Pakistan, coastal aquaculture activities still need to be started there. The primary obstacles to starting shrimp farming along the Sindh coast were the absence of hatchery-produced seed and a lack of knowledge. Previous attempts to do so failed (Sughra et al., 2022).

Seabed Extractive Activities

We have recently seen the Pakistani government's desire to drill and obtain oil from the seabed to strengthen Pakistan's economy. A few precautions should be taken to prevent damaging the marine ecosystem, which might lead to losing our fisheries resources (Sujadmiko & Meidiantama, 2022). According to several scientific studies, seismic surveys, drilling, the positioning of petroleum platforms, and continuing oil and gas operations at sea affect the local fisheries. Some of the effects of oil and gas marine operations on fish have been recognized, per the FAO's Seabed mining, fisheries, oil, gas, and integrated ocean management (Lepage, Capderrey, Elliott, & Meire, 2022).

The sea floor will be disturbed by deep-sea mining, and many people are worried about how the ecosystems will need to recover. However, technology solutions are being developed expressly to guarantee little impact. One of the main goals of the laws is to guarantee that a base environmental study is carried out so that license holders may be examined for their effects during and after the project's decommissioning phase. Commercial deep-sea mining is becoming a reality (Selwyn, 2022). After extensive debate and stakeholder feedback, the International Seabed Authority is almost ready to release its final exploitation regulations. These are long overdue and will allow several businesses and nations to begin industrial production from the seabed (Iqbal et al., 2022).

Marine Biotechnology and Bioprospecting

The application of biotechnology, molecular and cell biology, and bioinformatics in producing products and processes from marine organisms is known as marine biotechnology. Ocean exploration is a field of study that focuses on developing new chemicals, enzymes, medicines, and other products and processes (Pereira, 2022). It addresses a variety of subjects, including the advancement of aquaculture, the safety of seafood, bioremediation, and biofuels. Marine biotechnology may discover new uses for biological molecules and new knowledge. Exploring and using marine resources may lead to discovering brand-new applications outside the maritime environment (Schneider et al., 2022).

Utilizing the potential of the marine environment for human advantage and essential biological advancement requires biotechnological solutions. Aquaculture's challenges could be solved with the help of biotechnology (Pramanik, Das, & Ghosh, 2022). Unfortunately, Pakistan lacks experts and professionals who could utilize this technology and develop a better understanding and application for the growth rate, disease resistance, and reproduction of marine species (Aranganathan, 2022). More research must be done to realize the potential of marine bio-resources, mainly unexplored in Pakistan. These resources might be used to create novel goods and procedures and contribute to resolving the nation's problems with food, energy, and health (A. Khan et al., 2022).

Poverty: Pakistan's Most Significant Challenge

Poverty is one of the critical matters being addressed and argued in industrialized and developing nations, including Pakistan. It prevents economic and other social and economic developments brought on by social, economic, cultural, and other elements (Kousar & Shabbir, 2021). One of the most critical problems with economic growth is the disparity in living standards between nations. Poverty also makes people doubt the benefits of market- and development-oriented policies (Sharma, Gupta, Sharma, & Sharma, 2021).

According to the United Nations Development Program, hunger and a lack of food are caused mainly by poverty. ‘The Food and Agriculture Organization of the United Nations’ estimates that 963 million hungry people are globally, or about 15% of the total population (H. Saleem, Shabbir, Shah, & Shah, 2021). The United Nations Program claims that inequality has risen nationally and internationally. More than 80% of people reside in nations where economic disparities are getting wider (K. Mustafa, Nosheen, & Khan, 2021). Only 5% of the world’s revenue goes to the bottom 40% of the population, while the wealthiest 20% of individuals receive 75% of it. The symptoms of poverty include lack of food, illiteracy, poor health care, limited educational resources, and unemployment (Kousar & Shabbir, 2021).

According to government statistics from September 2021, 22% of the country’s population lives below the national poverty line set at Rest—3030 (about \$13) per month. Preliminary estimates suggest that the national poverty rate may increase by 2.5 to 4 percentage points, placing around 5.8 and 9 million people in poverty without steadfast relief and recovery programs to help people experiencing poverty (K. Mustafa et al., 2021). Fifty-five million Pakistanis, or around 24.3% of the population, were estimated to live below the poverty line, according to a study presented to the “National Assembly of Pakistan” by the “Ministry of Planning and Development.” As of 2020, Pakistan’s Human Development Index (HDI) was 0.557, ranking 154th out of 189 countries. The HDI of Pakistan is among the lowest in Asia, right below Yemen and Afghanistan (Sharma et al., 2021).

Given that Pakistan is still growing and one of its main problems is poverty, it is essential to concentrate on this population group. Pakistan ranks sixth in the world in terms of population. If Pakistan concentrates on making the most use of its large population rather than neglecting it, this population will be a benefit rather than a burden for Pakistan (K. Mustafa et al., 2021).

Causes and Reasons for Poverty

Pakistan is a country in South Asia that shares borders with India to the east and Afghanistan to the west. The Indian subcontinent includes it. The population of Pakistan has not yet wholly profited from the country’s economy’s impressive growth rate. Numerous factors contribute to the high poverty rate and unbalanced income distribution. Here are multiple reasons for poverty in Pakistan to help

one better comprehend the wealth gap and the current state of poverty (Akbar, Naveed, & Syed, 2022).

Feudalism, unregulated inflation, pervasive corruption, a rapidly growing population, a dismal education system, poor natural resources management, the collapse of democracy, and other issues are the leading causes of poverty in Pakistan. Global variables like the global financial crisis, the rise in oil prices, the global food crisis, etc., have fueled the fire in addition to these national reasons (A. Ahmad & Awan, 2021).

“Poverty is like a punishment for a crime you did not commit.” (Eli Khamarov)

The primary reasons for poverty in Pakistan are discussed below:

Population Growth

Pakistan has the world’s most significant population growth rates 1.86%. By 2050, the population will be close to 350 million. Multan, the division commissioner, asserts that the insufficient availability of family management is the main factor contributing to this rapid increase. A large population has exacerbated poverty, lack of jobs, and lawlessness (Chishti, Rehman, & Murshed, 2022).

Largely Illiterate Population

Pakistan’s population is around 50% illiterate, and 7.26 million kids are not attending school because of poverty. Since Pakistan spends the least amount of its GDP on education among South Asian nations, it has the second-highest rate of out-of-school children worldwide, behind only Nigeria, according to research from the Institute of Social and Policy Sciences. According to the research, this lack of expenditure negatively impacts the nation’s educational system (Shahnawaz, 2022). Consequently, Young people need to learn the skills necessary for employment with training and job cognitive domains. The need for mechanisms that address businesses’ required skills hinders societal and economic progress. People who do not have enough education cannot get a job or get out of poverty (Bashir & Idrees, 2021).

Inequitable Taxes

Pakistan’s tax structure provides terrible evidence of governmental corruption. Instead of distinguishing between different economic levels, the system gives the impoverished much attention. 80% of the tax money for items like energy, gas, and mobile communications comes from people with low-income people wealthiest pay less than 5% in taxes while this is happening. Four of every 10 Pakistanis lack access to food, shelter, healthcare, and education. The poor require enough resources in Pakistan to lift themselves out of poverty. Without improved health-care, educational opportunities, and fair taxes for the impoverished, Pakistan’s economic development and mobility cannot rise (K. Ahmad, Ali, Haider, Shahid,

& Naushahi, 2021).

Backwardness in Agriculture

The agricultural sector's backwardness affects approximately 66% of the population, and the low wages in rural regions is the leading cause of poverty in Pakistan. The cultivated land in Pakistan is spread unevenly, according to data from the agriculture census. Poor people lack access to sufficient and affordable fertilizer, pesticides, quality seeds, water, cutting-edge technology, and consulting services. Their income is smaller because they lack the resources to develop their property, and poverty is more prevalent in rural regions (Sikandar et al., 2022).

Inflation

Inflation, the most regressive tax on the fixed-income class, is the fourth cause of poverty. The salaried and fixed-income group is more negatively impacted by inflation than the business class (Rehman, Cismas, & Milin, 2022). Government pay is not adjusted to inflation, yet employees' expenses are rising since things are getting more expensive. Poverty is caused by insufficient income and savings (Suleman, Javed, & Amjad, 2022). Also, the country's manufacturing sector is quite outdated. Less than 20% of the national income goes to this sector, which is relatively low compared to wealthy nations. Because of industrial backwardness, Pakistan exports fewer goods and must import industrial and electrical goods frequently (A. Ahmad & Awan, 2021). The bulk of the foreign currency set aside is spent on industrial imports. The low standard of living and poverty are directly or indirectly linked to the backwardness of this industry (Bukhari, Cheema, & Shah, 2022).

Poor Governance

Poor governance is also one of the causes of poverty. A necessary and significant prerequisite for growth and development is good governance. Nevertheless, this situation is not the same in Pakistan. Fewer people can access the legal system and national decision-making (M. Hassan & Zeb, 2021). The public's confidence is harmed by corruption, political instability, a disrupted law-and-order situation, red tape, terrorism, bomb blasts, and system delays, among other things. As a result, people are less interested in various economic activities—low productivity results in widespread poverty (M. S. Hassan et al., 2021).

Poverty Alleviation and Economic Growth

Economic growth is the most efficient way to eradicate poverty and raise living standards in developing countries. Both cross-nation researches and regional case studies provide compelling evidence that rapid and sustained growth is necessary to accomplish all of the "Millennium Development Goals," not only the first goal of lowering the proportion of people worldwide living on less than \$1 per day (Asare & Barfi, 2021). Growth may produce good income and opportunity

cycles. With promising development and job opportunities, parents are more inclined to invest in their kids' education by enrolling them in school (Roth, 2022). This might lead to the emergence of a solid and growing group of entrepreneurs, which would raise the stakes for improved governance. Thus, human development promotes rapid economic growth and expansion (Korankye, Wen, Appiah, & Antwi, 2021).

However, depending on the conditions, comparable growth rates can sometimes affect poverty, poor people's work prospects, and more general human development indicators (Megawati, Rahaju, Mahdiannur, & Kurniawan, 2021). The extent that growth reduces poverty depends on how much participation and benefit-sharing people experiencing poverty have in the economy. Therefore, the pace and growth pattern are crucial for reducing poverty (Asare & Barfi, 2021).

Essential elements that promote rapid and sustained economic growth must be included in any strategy for alleviating poverty. Policymakers face a conundrum when attempting to combine policies that promote growth with those that allow low-income people to fully participate in the opportunities offered and contribute to that growth (Jauhari & Periansya, 2021). This includes steps to increase financial inclusion, end gender inequality, and enhance labor market efficiency (Korankye et al., 2021).

Developing nations must resume a vigorous development trajectory. They also have a critical need to lower poverty. Recent findings from the study highlight the significance of average growth in lowering poverty. They also show how pro-poor policies may stimulate economic growth (Zain, Khalid, Nurudin, & Onimisi, 2021). How quickly growth reduces poverty depends on the initial income distribution and its evolution. In countries with more unequal distributions, the same growth rate has a far lesser impact on poverty (Jauhari & Periansya, 2021).

In addition, poverty can hamper economic growth when market imperfections (market breakdowns, incomplete or uncompetitive markets) and strategic complementarities combine (Guo & Liu, 2022). Investment is necessary for both growth and avoiding poverty. The impoverished may need help investing due to the prevalence of indivisible and fixed expenditures since they lack the appropriate financial resources and are usually shut out of lending markets (Jun Zhao, Dong, Dong, & Shahbaz, 2022). Low-income levels are mostly to blame because low-income people cannot gather enough money to finance successful companies. When they seek to borrow money, the poor face yet another challenge: high-interest rates and hefty transaction fees that make borrowing money a losing business. According to a study of several microfinance organizations, nominal interest rates for financially stable institutions range from 30% to 50% (Zain et al., 2021).

In conclusion, economic expansion benefits the poor. Moreover, lowering poverty promotes economic expansion. Pro-growth initiatives and those aimed at

improving the poor's lives sometimes reinforce one another rather than competing routes. Economic progress may lessen poverty more effectively the more this complementarity is utilized. Furthermore, the potential for development and efficiency increases as more nations remove barriers that prevent people with low incomes from participating actively and constructively in society (Yuheng Li, Wu, & Wang, 2021).

Poverty Alleviation and the Blue Economy of Pakistan

Sustainable economic growth is currently encountering significant obstacles worldwide. States are turning to the seas and oceans to support their economic growth and national strength; this phenomenon is called the “Blue Economy” (Tagar et al., 2021). The seas and oceans are acknowledged as the primary forces behind economic growth, with significant room for innovation and expansion under the “blue economy” concept. The Blue Economy is the “sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of the ocean ecosystem” (Gill & Iqbal, 2021).

With more than 1000 km of coastline in the Arabian Sea, 240,000 km² of the exclusive economic zone (EEZ), and 50,000 km² of the continental shelf, Pakistan has a huge maritime exploration space (Muhammad et al., 2021). This includes but is not limited to, the exploration of marine oil, gas, and mineral reserves, seabed, and sub-aerial soil mineral, marine, and coastal tourism, the seafaring community, the coastal economy, the development of port infrastructure to handle the nation's maritime trade, shipping, the shipbuilding and shipbreaking industries, and the fisheries industry (Syed & Safdar, 2021).

However, the sea is not on the national priorities list. A sizable population will live without ever laying eyes on the azure oceans surrounding Pakistan (Yasmeen et al., 2021). This means the nation suffers from a condition called sea blindness. Pakistan must consider how these blue waters can aid in accelerating economic growth and helping it to overcome the difficulties of developing as a maritime nation (Syed & Safdar, 2021).

According to estimates, between 15% and 70% of the household income of the poor originates from the exploitation of the environment, and subsistence income is more than that. Most coastal poor rely on artisanal fishing to provide them with their food, and they make money by selling the extra (Jabeen & Khan, 2022). The most popular fuel source is firewood; which people can conveniently harvest from the neighboring mangrove woods. The poor may receive fewer advantages due to the negative influence of these natural resources, which would leave them even more vulnerable, helpless, and excluded (Shahzad, 2021).

The primary factors that decrease the positive link between ecosystem services and poverty eradication are often overexploitation, pollution, habitat degradation, and a lack of management methods (Jabeen & Khan, 2022). However, there needs to be more information and foundational data to ascertain the link between

ecosystem services and poverty levels in Pakistan and globally. These limits projections of how resilient poverty levels will be to environmental change in the future (Tagar et al., 2021). If a resource cannot be accessed, it has no value. Natural resources become “natural assets” when held in ownership or other secure access methods. Poor people who lack access to natural assets cannot meet their food and other essentials demands and recover from market shocks and disasters (Ağirkaya, 2021). Because access is the foundation of creating sustainable livelihoods based on natural resources, it should be one of the primary resources for people with low incomes (M. W. Islam & Sarker, 2021). Most of the poor also frequently reside in environmentally fragile, low-productivity areas, restricting their access to natural resources. Climate change, caused mainly by human activity, makes marine ecosystems more susceptible, reducing prospects for the coastal poor (Ağirkaya, 2021).

China-Pakistan Economic Corridor (CPEC)

A 3000-kilometer initiative in Pakistan by China to build an infrastructure network is known as the China-Pakistan Economic Corridor (CPEC) (L. Ali et al., 2021). By avoiding the existing route from the Straits of Malacca between Malaysia and Indonesia, which in the event of war could be blocked and hinder the Chinese energy-dependent economic avenues, this sea-and-land-based corridor seeks to secure and reduce the passage for China’s energy imports from the Middle Eastern countries (Maqsoom et al., 2022). A quick way to increase commerce between Europe and China would be to build a deep-water port at Gwadar in the Arabian Sea and a well-built road and rail network from this port to Xinjiang Province in western China (McCartney, 2022). The economic growth of the Xinjiang area is considered to address a national security concern for China by lessening militant influence on local Uyghur’s who are Muslim separatists. The preliminary study on this project, which was completed in 2014 following the proposal from Chinese President Li Keqiang in 2013, acknowledged the hostile environment and challenging geographic conditions but placed a high priority on having a China-run port close to the Gulf of Oman, which is a crucial route for oil tankers (Rehman & Ali, 2021). Once this route is operational, the current 12,000-kilometer oil delivery path to China will only be 2,395 km long. On May 16, 2013, China took over the Gwadar Port’s management. By 2020, the value of CPEC projects had increased to \$62 billion from their initial \$46 billion estimate. Chinese investment in Pakistan reached \$65 billion in 2022 (Wu et al., 2021). China refers to this endeavor as the Silk Road’s resurrection. By building cutting-edge transportation networks, various energy projects, and special economic zones, CPEC aims to quickly update Pakistan’s necessary infrastructure while bolstering its economy (Mahmood, Ali, Menhas, & Sabir, 2022).

China and Pakistan inked 20 more agreements totaling \$1.6 billion on August 12, 2015, in Karamay, expanding the size and breadth of the CPEC. The plan’s specifics are unknown; however, it is claimed to primarily concentrate on boosting energy-producing capacity. Pakistan and China have committed to collaborate

in space research as part of the pact (Sarfraz Hussain, Rafiq, Quddus, Ahmad, & Pham, 2021). In November 2016, China announced a further \$8.5 billion investment in Pakistan, of which \$4.5 billion will be used to upgrade the tracks, speed, and signaling on the country's main railway line connecting Karachi and Peshawar, and \$4 billion will go toward an LNG terminal and transmission lines to help Pakistan's energy shortages (Jianting Zhao, Sun, & Webster, 2022). The Egyptian ambassador to Pakistan indicated an interest in working with the CPEC in February 2017. Pervez Khattak, the Chief Minister of Khyber Pukhtunkhwa said in January 2017 that he had promises from Chinese investment firms that they would contribute up to \$20 billion to projects. A contract was inked in March 2017 for the projects, which totaled \$7 billion in hydroelectric projects, a \$1.5 billion oil refinery, a \$2 billion irrigation project, and a \$2 billion road connecting Chitral and DI Khan et al. \$14 billion worth of projects were being built in September 2017. Following the completion of currently under-construction energy projects, Pakistan declared in March 2018 that future CPEC energy projects would focus on hydroelectric projects (Muhammad Bilal et al., 2022).

Federal Minister for Planning, Development, and Special Initiatives, Ahsan Iqbal advocated for the dissolution of the CPEC authority in 2022 and lambasted it for failing to draw in investors. Prime Minister Shehbaz Sharif gave preliminary approval on August 17, 2022, to dissolve the China-Pakistan Economic Corridor (CPEC) Authority, subject to China's approval (Maqsoom et al., 2022).

CPEC and the Blue Economy of Pakistan

Oceans are the future, and there is no doubt that. The maritime industry is more than a sector; it is a parallel economy through which all other sectors pass. Pakistan is endowed with a huge oceanic region, yet uncharted. However, CPEC's launch and the expansion of Gwadar port have made it possible to achieve the ambition of leveraging the nation's blue economy for long-term prosperity (Muhammad et al., 2021).

It is a known truth that Pakistan's economy has struggled for a while. It must restructure the traditional economy while opening up new fronts of development and production to guide it away from the crisis (Khan, 2021). In this situation, CPEC acts as a womb for the development of Pakistan's blue economy and a lifeline for the country's conventional economy. CPEC, a multi-sectorial direct Chinese investment in Pakistan and not simply a single road project, has sparked growth in several economic sectors (H. Y. Malik, 2021). Pakistan's blue economy glows like gold behind these opulent Chinese investments. Exploring and using Pakistan's vast blue economy is made possible by CPEC (Aijaz & Butt, 2021). A strengthened marine connection between China and Pakistan under CPEC can provide sustained economic growth for Pakistan and the region and connectivity in the area. Pakistan has already chosen the route of blue development since it has ratified the Sustainable Development Goals (SDG-14) (Muhammad et al., 2021). However, Pakistan may benefit from China's marine development under

the auspices of CPEC, and it can also change its relationship with China by establishing a “Blue Partnership” with Beijing. With the construction of the Gwadar Port, which is seen as the beginning of China’s Belt and Road Initiative, this partnership has already begun (Yasmeen et al., 2021). This is why Gwadar, a port, is built on contemporary principles and will have all modern conveniences. The only realistic alternative for Pakistan to assist its faltering economy is to look to the seas for sustained economic growth because of its geographic location and extensive maritime sovereignty (Sarfraz Hussain et al., 2021). Fortunately, the current government of Pakistan has proclaimed 2020 the year of the blue economy, aiming to use marine resources for the nation’s development. This shows that the administration is aware of the significance of the blue economy idea. The nation’s vision for 2025 includes this objective as well (Ikram, 2021).

Deep seaports like Gwadar have much potential for business, shipping, offshore exploration, tourism, aqua resorts, and deep-sea fishing (Khalid, 2022). According to Shahzeb Khan Kakar, Director General of the Gwadar Development Authority (CDA), the city of Gwadar will become the Singapore of Pakistan with a GDP of \$30 billion by 2050 and the creation of 1.2 million employment for the people following the implementation of the master plan of the city under CPEC (H. Y. Malik, 2021). Therefore, the expansion of Gwadar and the success of CPEC would significantly boost Pakistan’s blue economy. The expansion of Gwadar will open the door to several ancillary sectors, including tourism, hoteling, shipbuilding, shipbreaking, and shipyard construction.

Role of CPEC and Poverty Alleviation

There are several social, economic, and environmental problems in Pakistan right now. The main problems include poverty, poor education, infrastructure, security risks, and the worst circumstances for unemployment (Wolf, 2021). Officials from both nations claim that if the CPEC plans are successful, Pakistan can resolve its issues. On the other hand, China will increase its might, solidify its position internationally, and safeguard possible trade and energy lines (W. Ullah, Ni, Hussain, & Neelam, 2021). The CPEC is a multifaceted economic project to strengthen regional ties between China and Europe and between China and Pakistan. It includes manufacturing, industries, electricity, manufacturing networks, and other development activities (Shahzad, 2022). Chinese policymakers have focused on growing the economy, establishing new financial objectives, researching new international markets, and looking for investment possibilities. The Chinese government created the One Belt One Road (OBOR) megaprojects to achieve this. The CPEC, which is thought to be a game-changer for Pakistan’s economy, is a part of this project (W. Ullah et al., 2021).

Due to population growth and abundant untapped natural resources, Pakistan’s unemployment rate is dropping daily, contributing to poverty, hunger, and social exclusion. The CPEC may be a blessing in these challenging times for Pakistan and the region’s long-term, inclusive economic prosperity (Nigar & Khetran,

2021). Previous research has shown that the CPEC projects benefit the local community and impact locals' opinions of the project's effectiveness by helping generate income and build local and regional economic zones that promote travel and tourism (I. Ullah, Zhang, Rehman, & Zeeshan, 2022).

The CPEC has expanded investment in various sectors, including oil and gas, transportation infrastructure, and energy challenges, contributing directly and indirectly to regional and local economic growth (Ibrar, Kakepoto, Manzoor, & Khan, 2022). Additionally, the CPEC will increase regional cooperation and commerce between the two nations and other South Asian nations. It is anticipated the people in China and Pakistan are expected to contribute to economic progress and eradicate poverty. CPEC will support growth in rural and urban Pakistan's corporate and non-business sectors. On the other side, enabling launch businesses or obtain employment will aid Pakistan's economic growth and raise public support for these projects. The dynamic shows the wide variety of starting or impacted parties, limits, and conditions that might be involved, as well as the high mobility of social risk in the mining sector (Nigar & Khetran, 2021).

According to previous research, Pakistan's local communities and the public would significantly increase job prospects due to the CPEC. The CPEC is a massive project that will create millions of jobs in various industries, so those who questioned if it would make it easier to find work were accurate (L. Ali et al., 2021). People think job possibilities, like those brought about by the CPEC, will reduce poverty. The CPEC can therefore be a reliable indicator to eradicate poverty (Arshed, Awan, Mirza, Riaz, & Shabeer, 2021). The community expects many employment vacancies, many of which will be well-paying positions that will help locals overcome poverty due to CPEC. In line with our findings, (Wolf, 2021) lists several CPEC advantages, such as job prospects, social assistance, and poverty reduction.

Conclusion

Finally, it may be argued that Pakistan is a maritime nation because God thus desired it to be. Karachi, the state's capital and largest metropolis is located on the seashore. Pakistan's marine potential is vast yet unrealized. We must transition from a brown economy to a "Blue Economy" due to the rise of our population and worldwide tendencies. This vision demands both credibility and knowledge. There are numerous obstacles, but with our combined efforts, we can overcome them. Sustainable growth and development will only be realized when the political elite strongly commit to this sector, even though Pakistan has begun to strive toward a blue economy. Pakistan must commit to financial and intellectual resources. It is necessary to address problems including inadequate infrastructure, excessive red tape, bureaucratic bottlenecks, regional instability, particularly the terrible law and order situation in Baluchistan, and a lack of cooperation and awareness amongst departments and essentials. It is important to implement comprehensive policies and coordinate all efforts, no matter how big or little, around

the idea of the blue economy.

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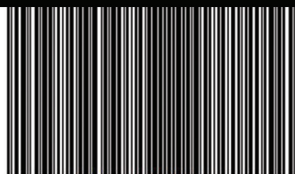
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