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NATURAL RESOURCE EXPLOITATION IN SINDH

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Introduction

Sindh has been the main oil and gas producer in Pakistan for almost a century. The first oil well in Sindh was drilled by Burmah Oil Company in 1925, but it did not produce significant levels of output. However, since then, more hydrocarbon reserves were discovered in Sindh, which led to increased exploitation by oil and gas companies. While these companies are making substantial profits and playing a crucial part in developing the Pakistan economy, oil and gas production also creates many damaging impacts on the local communities, especially on the population and the environment.

Oil and Gas Production

According to Pakistan Energy Yearbook 2013¹ Sindh's oil production was 13.87 million barrels, which accounts for 40.63 percent of the total national production. Sindh also produces 1,033,110 million cubic feet of gas, 68.65 percent of the national gas production.

Province	Oil Production (Million Barrels)	Percentage
Sindh	11.37	40.63
Punjab	5.26	18.90
KPK	11.24	40.4
Baluchistan	0.2	0.07
Pakistan	27.84	100

Table 1. Province-wise Oil Production in Pakistan

(Source: Pakistan Energy Yearbook 2013, Ministry of Petroleum and Natural Resources)

Province	Total Gas Production (MMCF)	Percentage
Sindh	1,033,794	68.65
Punjab	69,220	4.6
KPK	126,234	8.38
Baluchistan	276,593	18.37
Pakistan	1,505,841	100

Table 2. Province-wise Annual Gas Production

(Source: Pakistan Energy Yearbook 2013, Ministry of Petroleum and Natural Resources)

Oil and Gas Producing Districts Social Indicators

Having been the largest contributor of the major energy sources, Sindh only consumes 55 percent of its gas output. Punjab, on the other hand, consumes almost 8 times more than its production. "Higher consumption of energy is considered as major indicator of higher development,²" so it can be interpreted that Punjab is where most of the development is taken place.

¹ Pakistan Energy Yearbook 2013, Ministry of Petroleum and Natural Resources

² Naseer Memon, Oil and Gas Resources and Rights of Provinces, A case study of Sindh

Province	Total Gas Produced (MMCF)	Total Gas Consumed (MMCF)	Ratio (Consumption Vs. Production in %)
Sindh	1,033,794	576,519	55
Punjab	69,220	542,185	783
KPK	126,234	65,179	51
Baluchistan	276,593	84,097	30

Table 3. Province-wise Gas Production and Consumption Trend

(Source: Pakistan Energy Yearbook 2013, Ministry of Petroleum and Natural Resources)

On the other hand, Badin, Khairpur and Dadu, three major oil producing districts, ranked among the lowest in net primary enrollment, literacy rate, immunization, and water supply. Other rural provinces in Sindh also follow the same trend, which proves that revenue collected is being unevenly distributed.

District	Indicator-wise Ranking			
	Net Primary Enrolment	Literacy Rate	Immunization	Water Supply
Khairpur	57	37	78	26
Dadu	70	43	53	56
Badin	47	60	60	43

Table 4. MDG Ranking 2005 of oil and gas producing districts (out of 98 Districts)

(Source: Pakistan Millennium Development Goals Report-2006)

In addition, 86 percent of the labor force in the field are consisted of local, or Sindhi people, but only 4-5% of the staff in the oil and gas companies are Sindhi. These companies are located in Sindhi urban provinces whose majority of the population is Sindhi, but instead of hiring locals, they bring workers from other regions such as Punjab. It is extremely unjust that Sindhi students, who have similar education, do not have the same opportunities to learn and practice as Punjab students. Though the Petroleum Exploration and Production Policy 2009 obligated companies to invest in potential national employees, these companies invest in human resources from other regions instead of local Sindhi.

Office	Total Employees	Local Staff
Islamabad	60	2 (3.3%)
Karachi	176	10 (5.6%)
Field	204	175 (85.7%)

Table 5. Statistics of local employment in a company

(Source: Naseer Memon, Oil and gas resources and rights of provinces)

Article XXIX of the Petroleum Concession Agreement (PCA) requires oil and gas companies to share the cost of some social programs in the areas, and the amount to be contributed is linked with their production. However, these funds are often used without consideration of communal needs, and are instead based on self-interest of the authorities. For example, money is spent on sporting events, entertainment, or gala dinners in urban areas, whereas the rural areas

need money to help alleviate poverty by improving the school district and building roads to encourage students to go to school.

Environmental Hazard

It is undeniable that exploitation of resources can directly cause severe deterioration of the environment. Though Objective No. 7 of the Petroleum Exploitation and Production Policy 2009 requires companies to extract oil and gas with regard to sustainable manners³, the regulation has not done justice. Most of the extraction and exploitation take place in the rural area, where many people live below the poverty line. Firstly, it is unavoidable that the extraction process will pollute the environment with the industrial waste. The water can be easily contaminated by chemical and heavy metal, the air by the noise of construction and dirt, and the soil by spillover and piles of waste. When people are confronting the issue of environmental hazards, the money generated from extracting oil and gas cannot compare to the loss of a clean and healthy living environment.

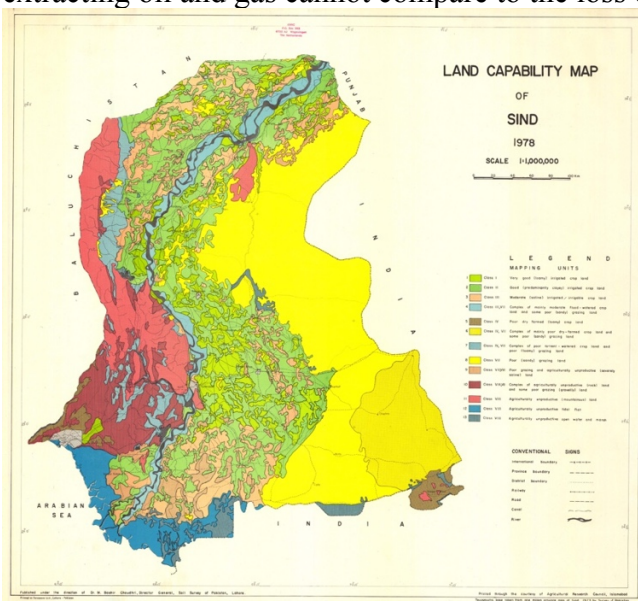


Figure 1. Land capability Map of Sindh 1978
(Source: M. Bashir Choudhri, Agriculture Research Council)

³ Naseer Memon, Oil and Gas Resources and Rights of Provinces, A case study of Sindh

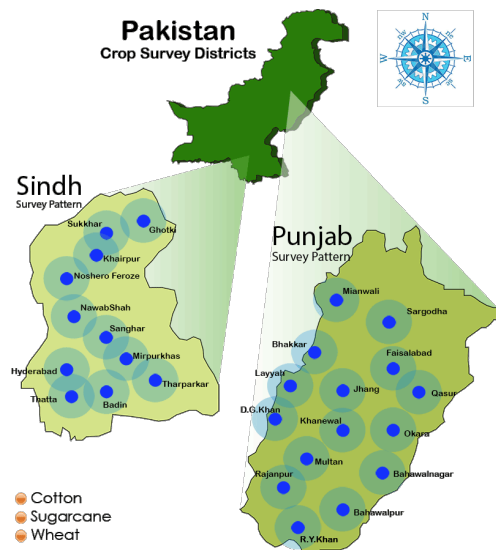


Figure 2. Survey Pattern of Sindh and Punjab
(Source: Crop Survey Districts)

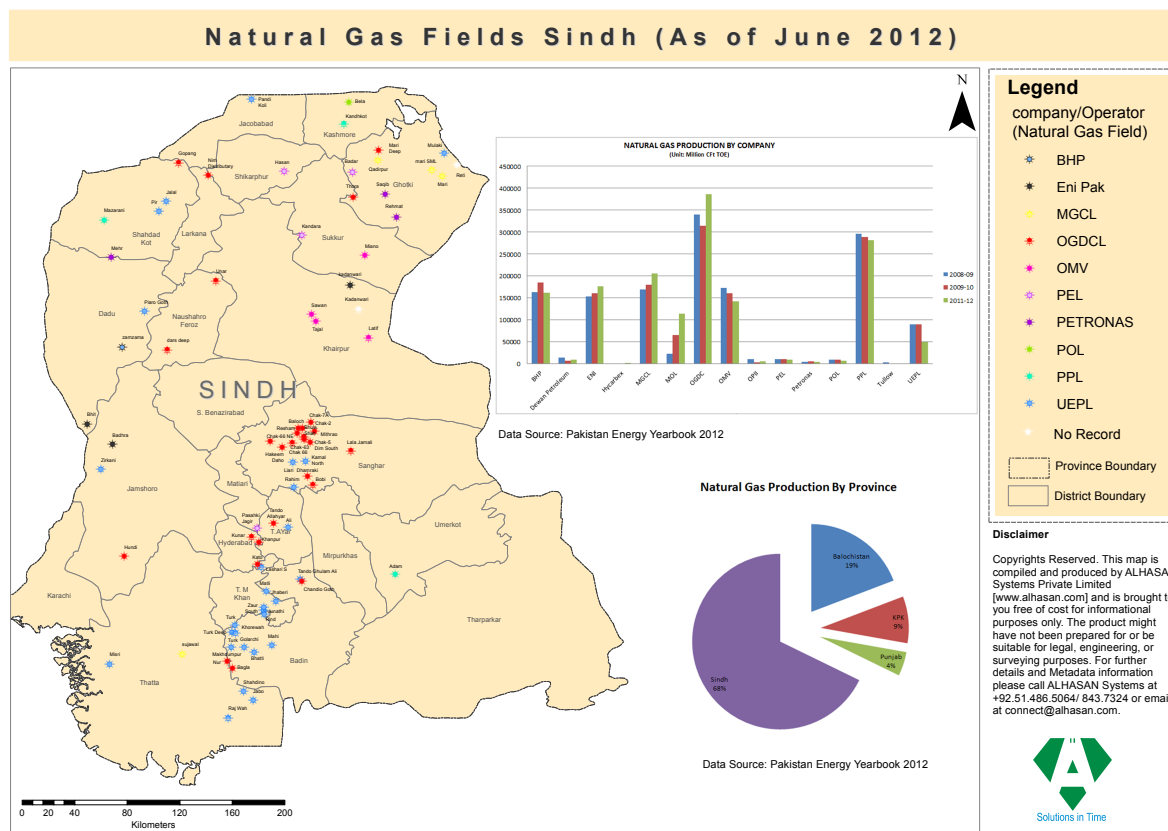


Figure 3. Natural Gas Fields Sindh (As of June 2012)
(Source: Pakistan Energy Yearbook 2012)

According to the maps, the oil and gas fields and crop land lie closely to each other. Therefore, these agricultural land are extremely vulnerable to the chemical waste from the drilling process. Furthermore, the drilling process not only generates industrial waste that can contaminate

the water, but it also consumes a significant amount of water that could have been utilized for irrigation purposes. Though agricultural production in Sindh only contributes 21 percent to Pakistan GDP agriculture sector, it is still important to preserve this land. Not only because this area has significant agricultural potential for Pakistan, but also because protecting agricultural land is an indirect way to protect the natives and their way of life. Many cultural traditions of Sindhis have emerged throughout human cultivation on these precious lands.

In addition, constant exploitation can cause serious damages to the local ecosystem. “This would lead to a loss of wildlife habitat, reduction in plant diversity, potential for increased erosion, and potential for the introduction of invasive or noxious weeds.”⁴ When global warming is one of the major issues occurring in the world, Pakistan and many other developing countries are the first to bear the burden of global warming. The very first step to mitigate the warming effect is to preserve the wildlife, not disturb it.

Humans are also susceptible to pollution. Constant exposure of people to industrial waste as they work and live around the fields can lead to many serious health issues including malnutrition, respiratory diseases, as well as some slow brain development or mental illness among children. “In 2009, more than 40,000 people died prematurely in Sindh, Pakistan because of an illness associated with an environmental health risk. This means that almost one in every five deaths that occurred that year was caused by environmental factors.”⁵

Human Capital Challenges

These fields, on the one hand, provide jobs for native people. On the other hand, they indirectly block locals away from other opportunities. For example, the children will start working on the fields if their parents are struggling to feed the family. As a result, their work prevents them from going to school to get the education that can provide them more economic security in the future. According to the data, 85% of the field workers are native Sindhi people. The question is whether the companies are giving Sindhis a chance to live better lives through providing jobs, or that this is just another method of exploiting human resources.

New Gas Discovery

According to the Asian Development Bank, Pakistan has been experiencing an increasing power demand-supply gap. The current peak shortage is growing as much as 30% of the peak demand, so it is extremely urgent for Pakistan to find other sources of energy to fill this gap.

Fiscal Year	Computed Peak Demand	Corresponding Peak Supply	Shortfall
2006/07	15838	13282	2556
2007/08	17398	12442	4956
2008/09	17852	13637	4215
2009/10	18583	13413	5170
2010/11	20058	14078	5980

Table 6. Demand-supply Gap in Pakistan

(Source: Asian Development Bank, An overview of Energy Cooperation in South Asia, Priyantha Wijayatunga and P.N. Fernando, 2013)

⁴ Oil and Gas Drilling Impacts <http://teeic.indianaffairs.gov/er/oilgas/impact/drilldev/index.htm>

⁵ Ernesto Sanchez-Triana, Sustainability and Poverty Alleviation: Confronting Environmental Threats in Sindh, Pakistan

As a result, many new oil and gas reserves have been explored and exploited. Within 2016, there has been at least 3 natural gas discoveries in Sindh by Oil and Gas Development Company (OGDCL) and Petroleum Exploration Limited (PEL)⁶. These new discoveries are expected to offset some of the shortfall in gas production. However, it is important for the new investors to avoid the mistakes of the previous investors, so unwanted consequences can cease to occur.

Policy recommendation

- 1. Boost trade among regions within the country as well as trade with neighbor countries**
Economists for decades have been disagreeing on many topics, but the one matter they unanimously agree on is trade. Self-sufficiency was proved to limit economic growth⁷, but trade increases jobs and lowers prices. In addition, through trade, Pakistan can acquire more oil and gas instead of intensifying drilling in rural areas. Therefore, Sindh, as well as Pakistan, will experience significant growth if many trade barriers are to be removed.
- 2. Shift some of the natural resource exploitation activities to agricultural production**
Sindhi people are traditionally farmers who grow crops and cattle⁸, and Sindhi land has great potential for agriculture purposes. As a result, focusing on agricultural productivity can yield greater success for the natives, since they have been farmers for generations, and have the essential skills for farming.
- 3. Allow native Sindhis to be a part of the decision-making process of revenue allocation**
Most of the tensions arise when people experience a state of unease and injustice, so it is important to ensure them their civil rights by making them a part of the decision-making process. As a result, the natives not only are ascertained that they have a voice, but also help allocate resources effectively to improve the living standard of the population.
- 4. Encourage youth empowerment in Sindh province by organizing volunteer opportunities for young professionals to come and interact with Sindhi youth**
Many children in the rural areas do not have access to the media, so they do not dare to dream big. Exposing them to young professionals gives them an idea that they can achieve their goals if they work hard for it, which is extremely important and powerful.

Conclusion

It is safe to say that Sindh is suffering from “a resource curse.” According to economists, a “resource curse” is when a country or a region has abundant mineral resources, but their economics and living condition do not seem to increase in parallel with the exploitation activities in the area. Most of the time, market mechanism works effectively and increases people’s living condition and life quality, but in some situations, it is important for the authorities and governors to step in and help solve the problem. Sindhi people, as a small, marginalized population, especially those who are most affected by the exploitation activities, seem to be underrepresented in the governing process. In order to bring these issues forward, it is important for Sindhi advocates to unite and push for further intervention.

⁶ Six new oil, gas discoveries in Sindh, KP <https://www.thenews.com.pk/print/131339-Six-new-oil-gas-discoveries-in-Sindh-KP>

⁷ Greg Mankiw, NYT Op-Ed “Economists Actually Agree on this: The Wisdom of Free Trade”
<http://www.nytimes.com/2015/04/26/upshot/economists-actually-agree-on-this-point-the-wisdom-of-free-trade.html?abt=0002&abg=1>

⁸ People and Ethnic Groups <http://uwf.edu/atcdev/pakistan/web/People/data/EthnicGroups.swf>

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