

Natural resource management: A systematic literature review

Muhammad Asif^{1a}, Khalid Zaman^{*2} and Khan Burhan Khan^{3b}

¹Department of Business Administration, Air University, Multan Campus, Pakistan

²Department of Economics, University of Haripur, Khyber Pakhtunkhwa, Haripur 22620, Pakistan

³Department of International Business and Marketing (IB&M), NUST Business School, National University of Sciences and Technology (NUST), 44000 Islamabad, Pakistan

(Received November 19, 2019, Revised December 18, 2020, Accepted December 23, 2020)

Abstract. The earlier literature widely documented the role of natural resources in economic development and confined their findings either in support of resource blessing growth or resource curse hypothesis. The ample research on the stated theme has available in the relevant databases, supported with empirical data, while a few studies used a case study or mixed-method approach. The study identified plenty of room on a given topic by conducting a systematic literature review and synthesizing the literature in more meaningful inferences. After a thorough investigation of the literature review through systematic intervention, the study concludes that natural resource management is imperative for a country's sustained growth. Simultaneously, it is desirable to reduce resource conflicts, improve institutional performance, decrease corruption, and stabilize the political environment to get maximum natural resource management potential globally.

Keywords: natural resource management; economic growth; resource curse hypothesis; systematic literature review

1. Introduction

Natural reserves such as water, mineral, forest and power significantly impact its economic stability. The availability of natural resources is required not only for financial growth but also for optimal utilization to sustain economic and social development. Consequently, a festive relationship exhibit between natural reserves' availability and a country's economic and social development (Gylfason and Zoega 2006). Natural resources are considered the most significant source of national wealth for any country. The abundance of resources is neither essential nor enough in favor of cost-effective development, prosperity and society's progress. For instance, the natural resource does not engage in recreation any strong character in the economy of the world's wealthiest states such as Hong Kong, Switzerland, Singapore, Japan and many other countries with natural resources' paucity. In developing countries, natural resources are pretty dominant, which could be the justification for their underdevelopment. However, some prominent examples of

*Corresponding author, Assistant Professor, E-mail: khalid_zaman786@yahoo.com

^aResearch Associate, E-mail: asifbua@gmail.com

^bPh.D. Scholar, E-mail: akloomd@gmail.com

wealthy nations in native assets have not maintained economic development (Iorhemen *et al.* 2016). For instance, take Botswana and Sierra Leone, mutually; they produce diamonds for export at a large scale. Botswana has accomplished the returns by exploring its central natural reserve, which contributes to financial growth, and subsequently, they received sovereignty in 1966. In this case, GNP's growth has been very high worldwide during the period 1965 to 1998, even if it reduced down after that period of 1990. In the meantime, Sierra Leone was baffled with incompetency, the schism within warlord fighting for the annexation of the diamond reserves which lead to a catastrophic situation and eventually Sierra Leone was declared the world's poorest country (World Bank 2000). Ironically, the wealthy supply of diamonds became a source of national trouble that has led the country to chaos, which resultantly damages the public institutions and infrastructure, which are an essential prerequisite for economic and financial growth.

Natural assets can be beneficial and disastrous depending upon their utility (Harish *et al.* 2018). For instance, Norway is the biggest oil exporter after Saudi Arabia and has not shown Dutch disease. It is the second biggest oil-exporting country; however, Norway has not shown any firm indications of the Dutch disease. Further, maybe a still proportion of exports to GDP, albeit at a relatively high level, or about forty percent of GDP, subsequently earlier the oil innovations, that Norway's oil exports have crowded out non-oil trades krone for krone relative to profits. In addition to that, Norway has received much attention, which gradually supports the influx of gross foreign direct investment, which corresponds to eight percent of GDP in 1998 - given in the World Bank report published in 2000. Many studies are in line with Sachs and Warner (1995) results that natural resources can be hazardous, for instance, Sachs and Warner (2001), Haber and Menaldo (2011), Sala-i-Martin and Subramanian (2013). However, studies postulated that natural resources could boom the country's economic growth (Cavalcanti *et al.* 2011, Sachs and Warner 1999, Weber 2012). Many hypothetical and intangible models help to elucidate the broadcast channels of the natural assets as a curse. These channels are Dutch disease, rental fee, overlooking asset in learning or person capital, dropping asset and falling the organization's worth (for instance, Goldemberg *et al.* (2014), Mbanmbaane (2015) and Allcott and Keniston (2017)).

The adverse link involving financial improvement and an abundance of natural resources has established an association between resource abundance and growth in recent decades, indeed poses a real puzzle. As assets enhance the purchasing power of imports of a country, natural resources are considering to increase the investment and growth rates. Several oil-based resource-rich countries have focused on utilizing their oil revenue to support the diversified investments and a "high push" in manufacturing growth; for instance, Venezuelans refer it to "sowing the seeds of oil revenues." Furthermore, there is a high cost for the transport of natural resources, and then physical presence inside the economy may be necessary for promoting the upcoming technology or industry (Ahmadi *et al.* 2016). Venables (2016), Tietenberg and Lewis (2016), Clark *et al.* (2016), and many more scholars have devoted themselves to the failure of resources-based development. For instance, Ross (2001) has shown that the best policy for developing countries would be to exclude the export-oriented industry entirely and focus on the sustainable development of their agriculture and manufacturing sectors. In addition to that, Sachs and Warner (2001) have found that it is not merely comprehended through other variables or by substitute ways to amount reserve abundance. Its study's gist is to see whether a connection between the natural reserves abundance and financial development exists when real information of energy and minerals assets use for analysis. Statistics show that the findings are vigorous to variations in counting the abundance of natural resources from trade-flows production. In reality, natural

reserves do not appear to have a substantial stimulus on economic growth rates. Since one of the oil surprises in 1973, Iran's complete cost-effective development is associating with the wealth obtained from natural resources. The economy of Iran has passed through lower per capita GDP and greater income inequality. It may behold the theory that ingress assets look to be more curse than a blessing in Iran's case. The study of many scholars has reinforced the view that countries with inadequate natural reserves usually perform well compared to resource-rich countries (Frankel 2010, Torvik 2009).

The institutional dimensions of economic growth have been ignored during policy formulation and research to improve the economy. However, in recent years, it has been examined that current organizational arrangements like financial, legal, and economic guidelines have shown positive outcomes for emerging economies (Rupasingha *et al.* 2002, Bruton *et al.* 2008). Beck *et al.* (2000) revealed that financial development, comprising the stock market's development, is connected with current and upcoming economic development, capital accumulation and productivity advances. Banks were among the initial financial organizations that stimulate policy but "principally to promote economic development" and not "mainly to make incomes" (Levine 1999, Fry 1997, Arestis *et al.* 2002). Nevertheless, the financial systems based on banks are better to improve risk control and information dissemination. The bank-based organizations are also high quality at risk, in order revelation, shared sectors and capital allocation (Song and Thakor 2013 Houston *et al.* 2011). Guisan and Neira (2006) have considered several variables: The increase of human and social capital, new trends in demographic growth, industrial growth and foreign trade, connected with economic growth. However, Demirgüç-Kunt *et al.* (2011) had a more critical observation that the economy's growth corresponds to the less sensitive banking development level and more financial market development changes. It recommends that the services given financial markets are more significant as the country develops.

1.1 Objectives of the study

Based on a subsequent discussion on a given topic, the study has the following objectives:

- i) To identify studies related to natural resource management across different economic and environmental settings.
- ii) To assign different classifications and codes for screening the relevant literature to resource management.
- iii) To critically evaluate the primary research agenda of the available literature, and
- iv) To provide a research agenda on natural resource management over a time horizon.

1.2 Research questions

The main research question is to critically analyze earlier literature on natural resource management from two different perspectives; first, natural resources increase a country's economic growth to support the 'natural resource abundance' hypothesis, and secondly, natural resources decrease a country's economic growth to substantiate the 'resource curse' hypothesis. In a given scenario, the study searches the answers to the following research questions through an extensive review of literature, i.e.,

- What causes of the natural resource curse on the economic agenda?
- Which factors mediate the process of natural resources and growth - specific factors across countries? and

- To what extent global resource conservation policies would help to achieve the environmental sustainability agenda.

These questions required a comprehensive literature survey to generalize the findings.

2. Research methodology

This study focused on a systematic literature review on natural resource management to understand the causal mechanism between natural resource management and economic growth across countries. The systematic and integration of earlier literature would be helpful to deduce policy inferences. The study used the following steps to conduct a systematic literature review, i.e.,

Step - 1: Search relevant databases to identify and collect the earlier literature.

Step - 2: Screening the studies relevant to the stated topic and assign codes alphabetically.

Step - 3: Results should generate according to the assigned codes, and

Step - 4: Discussion about the specific theme with factual findings.

The systematic literature review encompassed mainly the inclusion and exclusion criteria during searching relevant literature. The study searched more than 100 studies, selected the relevant studies based on a given study theme, and excluded all those studies that did not link it with the study theme. Thus, the inclusion and exclusion criteria give a reasonable amount of relevant literature to deduce policy inferences.

- Step - 1: Searching the relevant databases

The study searched the earlier literature on Google scholar, JSTORE and Science Direct with the following key terms and themes, i.e., ‘natural resources’, ‘natural resource management’, ‘resource curse hypothesis’, ‘resource abundance hypothesis’, ‘natural resource rents’, ‘Dutch disease’, ‘natural resource rents and corruption’, ‘natural resource rents and institution failure’ and ‘natural resource and economic growth’.

- Step - 2: Screening the selected literature and assigned codes

After screening the selected literature, we classified the literature based on ‘context’, ‘focus’, and ‘methods’. Table 1 shows the classification of the studies for ready reference.

3. Literature review and discussion

Based on screening the literature, we found the body of literature on resource richness and economic development in the various economic settings. However, a very few studies explored the dynamic linkages between the available natural reserve and economic growth in the developing countries, which analyzed in this current study to fill the literature gap, i.e., Cavalcanti *et al.* (2011) investigated the relationship of the natural reserve as a blessing in disguise for a state or a curse. A model of consistent econometric theory reveals that there is a long-term linkage among the actual revenue, the investment rate, and the real value of oil yield. Secondly, there are short and long-run effects of natural resource wealth on native productivity. Furthermore, a considerable cross-sectional reliance and cross-country heterogeneity in sampling spread over 53 oil-exporting and importing countries. The results show that natural resource abundance in the form of oil production is a blessing for the economy via a positive effect on income-generating effect. It is evident that oil-producing countries attained a maximum benefit from their natural reserves; hence, their policies are more welfare-oriented to conserve natural capital. Law and Moradbeigi (2017)

Table 1 Classification framework

Classification	Meaning	Codes
1	Contextual	A - Asian countries E - European countries C - Heterogeneous panel of countries
2	Focus	A - Resource curse hypothesis B - Resource abundance hypothesis C - Resource conflict
3	Methods	A - Case studies B - Empirical studies C - Mixed method

discovered that economic development has the adverse effect of oil reserves abundance on financial growth due to considerable cross-sectional reliance. The samples for analysis were collected from the 63 oil-producing countries from 1980 to 2010. The observed results disclose that oil reserve abundance touches the production reliant's progress rate on the degree of growth in economic markets. Further, the developed economic markets route the returns from oil into more fruitful actions and thus counterpoise the opposing belongings of the richness of oil resource on financial growth. Therefore, improved financial growth can back resource or enhance resource consecration is oil-rich. Badeeb and Lean (2017) aimed to investigate the rationality of the inquiry of whether oil reliance has an adverse influence on the association between economic development and economic growth in Yemen. The significant conclusion is the adverse sign of communication in terms of economic progress and oil reliance, which suggests that the optimistic effect of a country's economic advancement reduces by the growing oil requirement. Further, the Granger causality method discovered unidirectional causality running from financial growth to economic development. Khan *et al.* (2019a) investigated the long-run relationship between financial development and Pakistan's natural resource market using annual time series data from 1970-2018. The results show that a broad money supply decreases a country's natural resource rents; thus, it does not seem like the country could benefit from financial development to conserve natural resources. The country needs a mixture of growth-enhancing activities to improve its natural resource rents and generate sufficient income through financial base activities. Batool *et al.* (2019) concluded that green ICTs infrastructure would deem desirable to reap economic benefits through mitigating carbon emissions; thus, advanced cleaner technologies are imperative for achieving a "green is clean" agenda.

The fundamental relationship between profitable development and renewable energy consumption in the BRICS countries has been investigated by Sebri and Ben-Salha (2014) from 1971 through 2010 within a multivariate outline. The initial outcomes show long-run equilibrium relations among the competing variables evaluated based on the ARDL model. The results render that two-way granger causality happens between economic growth and consumption of renewable energy. This study suggests a feedback hypothesis, which defines the crucial role of renewable energy in promoting economic growth in BRICS countries. Khan *et al.* (2017) examined the relationship between energy utilization, financial development, greenhouse gas emissions, trade, and income in 34 upper-middle-income nations of Asia, Africa, Europe and America. This study was conducted from 2001-2004 by using the panel data analysis scheme, which provides a guideline to policymakers to rebuild the connections among energy consumption and financial

system usage for a clean environment at the country and regional levels. Alper and Oguz (2016) has investigated the connection between economic growth, energy and labor force for new EU allies countries for the duration of 1990-2009. The initial outcome revealed that renewable energy intake has an advanced effect on entire republics' pecuniary growth for study. However, for Bulgaria, Estonia, Poland and Slovenia, there is a statistically significant financial growth effect. Moreover, the neutrality hypothesis for Cyprus and Estonia was also verified. There is a fundamental relationship running from monetary growth to renewable energy ingesting, and the progression hypothesis is sustained for Bulgaria, suggesting to destiny from energy feeding to cost-effective growth. Kahia *et al.* (2017) have analyzed the dependence of energy intake and cost-effective growth. For this study, they divided the energy into two sectors, namely renewable and non-renewable energy resources. For sampling, they have considered 11 MENA Oil importing countries from 1980 to 2012. The initial findings suggested a lasting equilibrium connection between renewable and nonrenewable energy consumption, real GDP, labor force and gross fixed capital formation. The observed results show bidirectional causation amid renewable energy and economic development, and between non-renewable energy use and fiscal growth. Qureshi *et al.* (2019a) analyzed the dynamic linkages between natural disasters and economic losses in the Malaysian context by using annual time series data between 1965 and 2016. The results show that natural disaster exhausts economic and natural resources, which needed disaster management cell to protect human losses while green resource policies are imperative for protecting the natural environment. Hishan *et al.* (2019) concluded that African countries are severely vulnerable to attain the fundamental rights of access to food, energy, finance and the latest technologies. Thus, for resource conservation, green technologies could play a vital role in increasing food grains and decrease wood fuel, while it helps to access the financial market through small and medium enterprises.

Belke *et al.* (2011) investigated the long-run connection concerning energy consumption and actual GDP, counting vitality prices for 25 OECD states from 1981 to 2007. The results show the bidirectional causal connection between energy intake and cost-effective growth. The critical empirical result is that only mutual energy utilization and prices and economic growth are integrated. Odhiambo (2009) explored the economic growth trends for Tanzania about energy consumption during 1971-2006. The results confirmed that there is a unidirectional relationship between energy consumption to economic growth. In a nutshell, this study has shown the use of energy that spurs economic growth in Tanzania. Shahbaz *et al.* (2018) studied the importance of natural resource abundance concerning fiscal improvement. This study is conducted in the USA from 1960 to 2016. The outcomes present the existence of cointegration amid natural resources and monetarist development. They have observed an optimistic connection between economic growth and monetary improvement. It is found that capitalization is inversely connected with pecuniary improvement. This study has investigated the connection between natural resource availability and the USA's monetary improvement by considering the crucial character education, capital, and financial growth in finance demand function. Quixina and Almeida (2014) analyzed the association of economic growth with financial development in Angola. The study extended by dividing the economy into the oil and non-oil sectors. They applied the Granger causality among variables: Oil incomes, non-oil growth domestic product and fiscal improvement from 1995 to 2012. The outcome has confirmed that the oil sector is the highest driving power responsible for economic development. They have determined that Granger causality from oil returns to the economic growth and financial development; however, none of any variables Granger cause oil revenues. Bhuiyan *et al.* (2018) considered a heterogeneous panel of countries to evaluate the

resource conservation agenda and found that energy demand, international tourism, financial liberalization and industrial value-added are responsible for resource degradation across countries. The study confirmed the need to include renewable energy sources in the policy mix to improve air quality indicators across countries. Qureshi *et al.* (2019b) discussed the importance of international tourism in resource conservation agendas by utilizing 35 heterogeneous countries for 1995-2016. The results found that international tourism supports a country's growth via a channel of industrialization, while it is influenced by trade liberalization policies, which mediate with tourism to transmit a negative impact on the natural environment. Sustainable policies are needed to protect the natural environment for long-term growth.

Ahmed *et al.* (2016) has narrated Iran's case and checks their source blight hypothesis by considering the current time-series data between 1965 and 2011. The investigation includes the economic development dependence on natural assets, capital, exports and labor in a Cobb-Douglas production function. It is revealed that the essential variables are integrated; however, the results from the long-run investigation certify the reserve obscenity theory with the implication that natural reserve enhances the cost-effective country's growth. Additionally, the causal analysis findings confirm the presence of relation among response outcome, natural reserve richness and cost-effective progression. The results help design the development policy for the case of Iran. Bhattacharyya and Hodler (2014) have analyzed the hypothesis that natural resource returns may depreciate if political institutions' performance is poor. A weak contract implementation guide to poor growth and profits may hamper the financial progress in states with fragile radical foundations; however, republics with relatively improved political foundations have good situations. For empirical backing of this hypothesis, the sample is obtained from one hundred thirty-three states for 1970-2005. The results show that countries with an abundance of natural resources have a greater affinity to be financially underdeveloped. It is likely due to the ruling elite, which has weak political will to implement the development policy as the financial sector prosper without implementing it. Consequently, these findings' main implication is that society's democratization can help to adoptive monetary improvement in the kingdoms having an abundance of natural resources. Brown and Stephen (2017) have studied the outcome of natural reserve abundance on cost-effective progress in Nigeria. They have examined by aiming impact of petroleum production, extraction of natural gas, coal and limestone on the Nigerian economy during a period of 1980-2015. The study suggests that the Nigerian government must move forward to outside unpolished oil and natural air but look inner in for assets in the state to foster growth and financial improvement. Saleem *et al.* (2018a) considered a NEXT-11 countries panel to evaluate the sustainable transportation agenda for 1975-2015. The results confirmed the curvy linear relationship between transportation factors and per capita carbon emissions while air transportation freight increases GHG emissions and damaging natural resource rents across countries. The resource conservation agenda could be attained through initiating green transportation agenda in the global policy mix. Nassani *et al.* (2019) dynamically covered the environmental sustainability agenda through improving water resources, food challenges and energy demand that largely influenced with high mass carbon emissions and fossil fuel energy, which further increases GHG emissions in developing countries like Pakistan. The country needs to mitigate the contamination of carbon emissions in the resource agenda by accessing renewable water resources, green industrialization food production, and biomass production. Anarfo *et al.* (2017) have investigated the character of infrastructural change and abundance of natural properties on Foreign Direct Investment (FDI) influxes in Ghana using time series data from 1975 to 2014. The results show that infrastructural growth and profusion of natural funds are the key

factors, which is the basis of FDI influx in Ghana. Some other variables that meaningfully affect the FDI arrivals in Ghana comprise the offering interest amount, magnitude of the market and GDP growth rate. This study suggests a policy road map for Ghana for improving economic growth and FDI inflows. Balsalobre-Lorente *et al.* (2018) studied the positive connection between economic growth and carbon emissions in the five European countries, i.e., Spain, Italy, France, Germany and the United Kingdom, from 1985 to 2016. The empirical finding approves the presence of an N-shaped association between economic development and CO₂ productions in the EU-five countries. Chang (2015) has investigated the focuses on nonlinear impacts of earnings on power utilization and financial development on a sample of fifty-three states for the duration of 1999 to 2008. The results suggested the need to reduce carbon emissions through sustainable policy instruments across countries. Gokmenoglu and Kaakeh (2018) explored the long-term and causal association between financial development and nuclear energy expenditure in Spain to define strategy consequences from 1968 to 2014. The results confirmed the one-way linkages between nuclear energy and financial development, which leads to important policy implications. Aldakhil *et al.* (2018a) found that BRICS countries' logistics activities largely responsible for exacerbating carbon emissions. Thus, it is necessary to formulate sustainable logistics policies to reduce environmental pressure from the global atmosphere.

Saidi *et al.* (2018) have examined the connection among direct foreign investment, ICTs, power utilization and economic growth for thirteen MENA countries in the duration of 1990 to 2012. Econometric analysis shows the two-way connection with energy consumption and profitable augmentation; however, a bidirectional association starts information technology and communication to economic growth for both the small and long run. These outcomes also revealed the presence of unidirectional causality from economic growth to direct foreign investment. These results shed light on the significance of energy intake and information technology and communication in estimating growth indicators. Shahbaz *et al.* (2012) have re-examined the outcome of renewable power expenditure on cost-effective growth in Pakistan. The results revealed that all the parameters are integrated for the long run association. The causality investigation has specified two-way relations between renewable energy resources and economic growth from 1972 Q₁ to 2011 Q₄. This work suggests new guidelines for strategy creators to discover innovative sources of energy for sustained economic progress. Koçak and Şarkgüneşi (2017) have studied the connection between renewable energy consumption and economic progress within constraints of the conventional production function for 1990 to 2012 for the nine Black and Balkan states. This research has revealed a balanced and optimistic long-run link between the intake of renewable energy and economic progress. The heterogeneous panel causality investigation confirms the growth postulates for Macedonia, Bulgaria, Russia, Greece and Ukraine, whereas the feedback postulate for Georgia, Albania and Romania and impartiality postulates for Turkey. According to results obtained from all nine countries are in favor of the feedback hypothesis. From these findings, it was confirmed that there is a substantial effect of renewable energy intake on economic progress for Balkan and Black Sea countries. Aldakhil *et al.* (2018b) considered a selected European panel of countries for a period of 1990-2016 to evaluate healthcare sustainability agenda that is negatively influenced by unsustainable production and consumption. The results verify that high mass consumption of food-beverages-tobacco is unlikely to healthy, negatively affecting human health. Responsible production and consumption are the high-rank global agenda of the United Nations that need practical actions to apply all across countries. Likewise, many researchers such as Shahbaz *et al.* (2018) have tried to find the inspiring character of availability of the natural resource in nexus with financial development in the USA's

case during the 1960 to 2016. In the long-term, they have observed a positive contribution to financial growth by the abundance of natural resources. Similarly, education has a favorable effect on a financial system, whereas capitalization has an adverse connection with financial growth. The causality examination shows a feedback response for an abundance of natural resources and financial progress. The empirical findings have revealed new intuitions for strategy makers utilizing the abundance of natural resources as an economic instrument to recover the financial segment's performance of financial segment by taking into account the function of economic progress and education. Zhang *et al.* (2018) have examined the association between energy utilization and CO₂ emission in Pakistan for a period of 1970 to 2011. The result of this study rights the presence of environmental Kuznets curve assumption in the significance of energy invention in Pakistan's case. It has been perceived that a rise in per capita income decreases carbon discharge in Pakistan. Our study's findings confirmed the ecological Kuznets hypothesis, which gives a new view of the rule creators in the significance of energy manufacture. Bhattacharya *et al.* (2016) have determined the meant to explore the influence of renewable energy intake on the cost-effective progress of leading renewable energy utilizing countries in the thirty-eight highest renewable energy-utilizing republics to illuminate the growing procedure amid during the period 1991 to 2012. Conclusions from long-term output elasticity specify that renewable energy intakes have a substantial positive effect on the economic productivity for fifty-seven percent of the nominating states. The outcomes recommend that international cooperation energy agencies and linked firms follow a cumulative policy for low carbon emission. Zaman (2017) considered a panel of 12 abundant biofuel countries to evaluate the environmental sustainability agenda by conserving biological diversity. The results affirm the curvy linear relationship between biological diversity and per capita income, which confirmed the importance of biodiversity in the country's economic agenda. In this given scenario, biofuel played a vital role in conserving natural assets across countries.

Sebri and Ben-Salha (2014) has studied the interrelationship of consumption of renewable energy with cost-effective growth for BRICS republics from 1971 through 2010. The ARDL approximation showed long-run stability associations in linking the competing variables because it is concerned with VECM findings. There is a bidirectional Granger causality relationship between renewable energy and economic growth by clarifying the crucial role of utilizing renewable power in provocative fiscal enhancement in BRICS states. They have also concluded that trade experiential results reveal significant effects on trade openness and carbon dioxide CO₂ emissions to encourage the use of renewable energy. Shahbaz *et al.* (2015) have examined renewable energy utilization in nexus with financially viable progress. This study has been conducted for Pakistan's case for quarterly received data for the duration of 1972 Q₁-2011 Q₁. The causality analysis has revealed the reaction response involving the use of renewable power consumption and economic growth. Ouedraogo (2013) has studied the effect of the use of energy on economic growth. This investigation has been conducted for fifteen African states from 1980 to 2008. They have examined the causal association between energy, cost/price and economic growth. By approximating these long-run connections and causality test by applying the panel-based error adjustment models, a unidirectional long-run relationship persists whereas short-run causality. The flow of causality is from gross domestic product to use of energy for the short-run and from use of power to gross domestic product for the long run. Additionally, they have observed the unidirectional causality in the direction from electricity use towards GDP in the long-run case. Omri (2013) has explored the economic growth connection with CO₂ emissions and energy intake. This study is conducted for fourteen MENA countries from 1990 to 2011 by employing

simultaneous-equations models with panel data. The outcome of this study confirms the existence of a two-way relation between the use of energy and economic growth. Though these outcomes also support the presence of unidirectional causality directed consumption energy to CO₂ emission, and two-way causal connection exists linking economic development along with CO₂ emissions for the MENA state selected for analysis. It is inferred, due to the increase in production, the countries are using an overwhelming amount of energy, resultantly an increase in the emission of carbon dioxide. Therefore, it is crucial to take some measures on pollution control regarding utilizing power. Mohammadi and Amin (2015) has studied the short and long-run dynamics of usage of electricity and output for seventy-nine countries from 1971 to 2011. Approximations of long-term production elasticity through the energy (electricity) are essential in panels with favorable progress rates. The mutually correlated outcome mean-group approximation of the error-correction model propose (1) long-term two-way causality amid productivity and electricity (energy) in three clusters of states, (2) short-term two-ways causality in production-energy relative for the filled model as well as in the low-progress category; and (3) one-way causality from production to energy in the adverse-growth type. Camarero *et al.* (2015) have investigated in detail to answer whether the utilization of power is an acute dynamic strength for cost-effective growth in the case of the USA during the period from 1949 to 2010. The outcomes confirm the crucial role critical character of public expenditure and power strength in the clarification of enlargement. Begum *et al.* (2015) have explored the dynamic and possible effect of GDP growth, energy and population growth on the intensity of CO₂ emissions in Malaysia's context. The observed outcome of the ARDL bounds testing methodology has revealed that emission of CO₂ per capita reduced by way of growing per income; however, the EKC's supposition does not exist in Malaysia's case. The finding further presented a long-run association for per capita utilizing of energy and per capita GDP in connection with CO₂ emission; however, the population growth rate has no significant influence on per individual emission of CO₂. The study concludes that substantial alteration of depleted carbon technologies like renewable power can minimize carbon emissions and support long-run economic growth. Zaman *et al.* (2017a) confirmed the existence of carbon contamination in water, food and energy resources across Sub-Saharan African countries, a severe point agenda that needs policies to mitigate carbon emissions through sustainable renewable resources across countries.

Ouoba (2016) has researched the influence of assets on economic progress. This analysis is an example of twenty-eight assets of rich states selected for the era of 1985-2010. The outcome has confirmed that resources show a negative and noteworthy influence on growth. Additionally, these results do not validate the reserve nuisance theory due to the optimistic cause of resource reliance on progress. Lastly, the study proves that the disapproving module of the curse is taken into custody by the reserve funds. Araç and Hasanov (2014) has studied the impact of energy shocks in nexus with economic development for Turkey. The results found that those negative energy shocks have shown a huge influence on output growth compared to positive energy shocks. Additionally, they have observed that high negative energy shocks disturb output much more effectively than minor negative energy shocks. Similarly, they have noted that positive output shock has a larger influence on energy consumption; however, negative shocks have almost zero impact on energy consumption. These outcomes have revealed the strong and significant implications for policymakers and energy economists for sustainable development. Apergis and Payne (2010) have determined the fundamental association relating to the usage of power and the emission of CO₂. For eleven Commonwealth independent states, this exploration has been performed from 1992 through 2004. In the long run, power expenditure has an encouraging and statistically valid

influence on carbon emissions through actual production follows an inverted U-structure sample connected with the EKC theory. The short-run changes pointed out the unidirectional causality beginning power utilization and actual yield, correspondingly, to carbon emissions alongside by way of bidirectional causality linking with energy utilization along with actual productivity. In the long run, there appears to be bidirectional causality involving energy spending and carbon dioxide emission. Dergiades *et al.* (2013) have attempted to investigate the linear and non-linear underlying bonds between energy and financial movement utilization. This study is performed for Greece's period from 1960 to 2008 by utilizing the annual time series data. The authors have found the two main features of this study; 1) the consumption of full power has been considered in support of qualitative variances along with its integral mechanism via thermodynamics of energy adaptation, and 2) the analysis of casual linkage cost-effective development and the used to for overall quality expenditure of energy has been carried out within the framework of non-linear background. This conclusion gives the basics to formulate effective and sustainable energy policies for energy consumption and environmental safety. Omri and Kahouli (2014) have examined interdependence among energy consumption, FDI inflows economic development. This study has been carried out by employing a dynamic group data model in synchronized-equations for a worldwide section comprising sixty-five states for the time era of 1990-2011. From the observed results obtained from development theory, the classical model, which comprises effort force, inflation, and capital stock, is connected with FDI and power consumption. In general, they have illustrated diversified outcomes for the interrelationships among the expenditure of energy, FDI and financial development. Gerelmaa and Kotani (2016) have revisited the problems associated with countries that have natural resources by employing the quantile regression on current data. This study shows that powerful resource countries faced lower economic growth in 1970 compared to poorly resourced countries. This study is also in good agreement with Sachs and Warner's results from 1995 to 2001. Although, contrary to the first observation, they have deduced that natural reserve abundance has constructive influences on financial progress for t period of 1990-2010. In General, the findings suggest that from 1970 to 1990, the hypothesis of a natural reserve curse and Dutch virus is valid. Nevertheless, from 1990 to 2010, these hypotheses no longer sustainable due to the establishment of the manufacturing sectors at a huge scale, and economic growth sufficiently grows in resource-rich states. Komal and Abbas (2015) have examined the finance-progress-energy relation on Pakistan's behalf from 1972 to 2012. They have found a positive association between economic growth and urbanization on energy use; however, the impact of energy cost is important except harmful. The monetary improvement absolutely and significantly influences the utilization of energy by the economic growth channel. Their findings are significant policy formulation for effective planning of energy demand and conservation, crucial for sustainable economic development. This study also stimulates to find alternate options for energy sources to cope with increasing energy demand in Pakistan. Zaman *et al.* (2017b) confirmed the positive association of energy demand and natural resource rents while negatively impacting the natural environment to exacerbate carbon emissions. Thus, green energy infrastructure is an optimized solution to protect the natural environment. Amri (2017) has discovered the cost-effective-development-energy expenditure linkage in Algeria from 1980 to 2012. The long-run and short-run results show that only non-renewable energy contains a beneficial impact on stimulating financial augmentation; however, renewable energy has no reasonable impact. Khan *et al.* (2019b) considered China's case study and evaluated the impact of financial development on the energy and commodity market using time series data from 1967-2016. The results show that the market's financialization substantially increases energy prices and

Table 2 Literature review - journal's publication report

S.No.	Journals	Scholarly research papers published	S.No.	Journals	Scholarly research papers published	
1	Resources policy	7	26	Journal of economic perspectives	1	
2	Journal of cleaner production	2	27	Natural hazards	1	
3	Environmental science and pollution research	8	28	International review of economics and finance	1	
4	Review of economic studies	1	29	The economic journal	1	
5	Renewable and sustainable energy reviews	7	30	Strategic planning for energy and the environment	1	
6	African development review	1	31	Applied econometrics and international development	1	
7	Energy policy	6	32	European economic review	2	
8	Energy economics	8	33	Journal of development economics	2	
9	International journal of finance and economics	1	34	Oxford review of economic policy	1	
10	Studies in economics and finance	1	Total journal papers published		70	
11	World bank economic review	1	International reports			
12	Applied energy	1	31	World Bank group	3	
13	World development	1	32	National Bureau of Economic Research (NBER)	1	
14	Energy sources part B	1	33	University library of Munich Germany	1	
15	Global journal of agricultural research	1	International thesis			
16	Entrepreneurship Theory and Practice	1	34	UiT: Universitetet i Tromsø - Norges arktiske universitet	1	
17	The quarterly review of economics and finance	1	Working papers and books			
18	World economy	1	35	University of Porto	1	
19	American political science review	1	36	University of California	1	
20	Journal of financial economics	1	37	Routledge	1	
21	Clean technologies and environmental policy	1	Total publications			
22	Papers in regional science	1				79
23	Journal of the knowledge economy	1				
24	Journal of African economies	1				

Table 2 Continued

25	Environmental progress and sustainable energy	2	Total publications	79
----	---	---	---------------------------	----

commodity prices, which leads to the support resource curse hypothesis in a country. The study suggested that countries need a tight monetary policy to balance the resource market through certain other legislative reforms, which support a country's progress under the subject of financialization for resource management. Shahbaz *et al.* (2019) examined the role of resource abundance and resource dependence in a panel of 35 resource-intensive countries and confirmed the resource curse hypothesis under resource-dependent countries and verified resource blessing growth under abundant resource countries.

Based on a substantial literature review, the importance of the study is amicable in the economic resource agenda to devise sustainable resource-oriented policies for global prosperity. Table 2 shows the search citation index report of given literature for ready reference.

4. Conclusions

The systematic literature review gives ample support to both the conflicting views of the 'resource curse' hypothesis and the 'resource abundance' hypothesis across developed and developing countries. The review of the literature found the transmission channel through which natural resource hampers economic growth, for instance, meager government macroeconomic policies towards net saving and public expenditures, high corruption, low terms of trade adjustment, lenient trade policy, deterioration of national accountability process, appreciation of real exchange rate, private-public consumption, failure of institutional performance and low level of democracy. These potential factors are mainly evident during reviewing of the earlier literature. Thus, there is a potential need to improve institutional performance, accountability, credibility, transparency, human capital effectiveness, financial development, economic policies, adjustment of terms of trade and sustainable trade policies. These factors would help to conserve natural resources and subsequently positively impact on country's economic growth to support the natural resource abundance hypothesis all across the countries.

References

- Ahmadi, H., Namin, M.M. and Kilanehei, F. (2016), "Development a numerical model of flow and contaminant transport in layered soils", *Adv. Environ. Res.*, **5**(4), 263-282. <https://doi.org/10.12989/aer.2016.5.4.263>.
- Ahmed, K., Mahalik, M.K. and Shahbaz, M. (2016), "Dynamics between economic growth, labor, capital and natural resource abundance in Iran: An application of the combined cointegration approach", *Resour. Policy*, **49**, 213-221. <https://doi.org/10.1016/j.resourpol.2016.06.005>.
- Aldakhil, A.M., Nassani, A.A., Awan, U., Abro, M.M.Q. and Zaman, K. (2018a), "Determinants of green logistics in BRICS countries: An integrated supply chain model for green business", *J. Clean. Prod.*, **195**, 861-868. <https://doi.org/10.1016/j.jclepro.2018.05.248>.
- Aldakhil, A.M., Nassani, A.A., Abro, M.M.Q. and Zaman, K. (2018b), "Food-beverage-tobacco consumption, smoking prevalence, and high-technology exports influenced healthcare sustainability

- agenda across the globe”, *Environ. Sci. Pollut. Res.*, **25**(33), 33249-33263.
<https://doi.org/10.1007/s11356-018-3277-3>.
- Allcott, H. and Keniston, D. (2017), “Dutch disease or agglomeration? The local economic effects of natural resource booms in modern America”, *Rev. Econ. Stud.*, **85**(2), 695-731.
<https://doi.org/10.1093/restud/rdx042>.
- Alper, A. and Oguz, O. (2016), “The role of renewable energy consumption in economic growth: Evidence from asymmetric causality”, *Renew. Sust. Energ. Rev.*, **60**, 953-959.
<https://doi.org/10.1016/j.rser.2016.01.123>.
- Amri, F. (2017), “Intercourse across economic growth, trade and renewable energy consumption in developing and developed countries”, *Renew. Sust. Energ. Rev.*, **69**, 527-534.
<https://doi.org/10.1016/j.rser.2016.11.230>.
- Anarfo, E.B., Agoba, A.M. and Abebrese, R. (2017), “Foreign direct investment in Ghana: The role of infrastructural development and natural resources”, *Afr. Dev. Rev.*, **29**(4), 575-588.
<https://doi.org/10.1111/1467-8268.12297>.
- Apergis, N. and Payne, J.E. (2010), “Renewable energy consumption and economic growth: Evidence from a panel of OECD countries”, *Energy Policy*, **38**(1), 656-660. <https://doi.org/10.1016/j.enpol.2009.09.002>.
- Araç, A. and Hasanov, M. (2014), “Asymmetries in the dynamic interrelationship between energy consumption and economic growth: Evidence from Turkey”, *Energy Econ.*, **44**, 259-269.
<https://doi.org/10.1016/j.eneco.2014.04.013>.
- Arestis, P., Demetriades, P., Fattouh, B. and Mouratidis, K. (2002), “The impact of financial liberalization policies on financial development: Evidence from developing economics”, *Int. J. Finance Econ.*, **7**(2), 109-121. <https://doi.org/10.1002/ijfe.181>.
- Badeeb, R.A. and Lean, H.H. (2017), “Financial development, oil dependence and economic growth: Evidence from the Republic of Yemen”, *Stud. Econ. Finance*, **34**(2), 281-298.
<https://doi.org/10.1108/SEF-07-2014-0137>.
- Balsalobre-Lorente, D., Shahbaz, M., Roubaud, D. and Farhani, S. (2018), “How economic growth, renewable electricity and natural resources contribute to CO₂ emissions?”, *Energy Policy*, **113**, 356-367.
<https://doi.org/10.1016/j.enpol.2017.10.050>.
- Batool, R., Sharif, A., Islam, T., Zaman, K., Shoukry, A.M., Sharkawy, M.A., Gani, S., Aamir, A. and Hishan, S.S. (2019), “Green is clean: The role of ICT in resource management”, *Environ. Sci. Pollut. Res.*, **26**(24), 25341-25358. <https://doi.org/10.1007/s11356-019-05748-0>.
- Beck, T., Demirgüç-Kunt, A. and Levine, R. (2000), “A new database on the structure and development of the financial sector”, *World Bank Econ. Rev.*, **14**(3), 597-605. <https://doi.org/10.1093/wber/14.3.597>.
- Begum, R.A., Sohag, K., Abdullah, S.M.S. and Jaafar, M. (2015), “CO₂ emissions, energy consumption, economic and population growth in Malaysia”, *Renew. Sustain. Energy Rev.*, **41**, 594-601.
<https://doi.org/10.1016/j.rser.2014.07.205>.
- Belke, A., Dobnik, F. and Dreger, C. (2011), “Energy consumption and economic growth: New insights into the cointegration relationship”, *Energy Econ.*, **33**(5), 782-789.
<https://doi.org/10.1016/j.eneco.2011.02.005>.
- Bhattacharya, M., Paramati, S.R., Ozturk, I. and Bhattacharya, S. (2016), “The effect of renewable energy consumption on economic growth: Evidence from top 38 countries”, *Appl. Energy*, **162**, 733-741.
<https://doi.org/10.1016/j.apenergy.2015.10.104>.
- Bhattacharyya, S. and Hodler, R. (2014), “Do natural resource revenues hinder financial development? The role of political institutions”, *World Dev.*, **57**, 101-113. <https://doi.org/10.1016/j.worlddev.2013.12.003>.
- Bhuiyan, M.A., Zaman, K., Shoukry, A.M., Gani, S., Sharkawy, M.A., Khan, S.A., Ahmad, A. and Hishan, S.S. (2018), “Energy, tourism, finance, and resource depletion: Panel data analysis”, *Energy Sources Part B Econ. Planning Policy*, **13**(11-12), 463-474. <https://doi.org/10.1080/15567249.2019.1572837>.
- Brown, E.D. and Stephen, K. (2017), “Natural resource abundance and economic growth in Nigeria (1980-2015)”, *Global J. Agr. Res.*, **5**(3), 1-11. <https://doi.org/10.3386/w5398>.
- Bruton, G.D., Ahlstrom, D. and Obloj, K. (2008), “Entrepreneurship in emerging economies: Where are we today and where should the research go in the future”, *Entrepren. Theor. Pract.*, **32**(1), 1-14.

- <https://doi.org/10.1111/j.1540-6520.2007.00213.x>.
- Camarero, M., Forte, A., Garcia-Donato, G., Mendoza, Y. and Ordoñez, J. (2015), "Variable selection in the analysis of energy consumption-growth nexus", *Energy Econ.*, **52**, 207-216.
<https://doi.org/10.1016/j.eneco.2015.10.012>.
- Cavalcanti, T.V.D.V., Mohaddes, K. and Raissi, M. (2011), "Growth, development and natural resources: New evidence using a heterogeneous panel analysis", *Q. Rev. Econ. Finance*, **51**(4), 305-318.
<https://doi.org/10.1016/j.qref.2011.07.007>.
- Chang, S.C. (2015), "Effects of financial developments and income on energy consumption", *Int. Rev. Econ. Finance*, **35**, 28-44. <https://doi.org/10.1016/j.iref.2014.08.011>.
- Clark, W.C., Tomich, T.P., Van Noordwijk, M., Guston, D., Catacutan, D., Dickson, N.M. and McNie, E. (2016), "Boundary work for sustainable development: Natural resource management at the consultative group on international agricultural research (CGIAR)", *Proc. Natl. Acad. Sci.*, **113**(17), 4615-4622.
<https://doi.org/10.1073/pnas.0900231108>.
- Demirgüç-Kunt, A., Córdoba, E.L., Pería, M.S.M. and Woodruff, C. (2011), "Remittances and banking sector breadth and depth: Evidence from Mexico", *J. Dev. Econ.*, **95**(2), 229-241.
<https://doi.org/10.1016/j.jdeveco.2010.04.002>.
- Dergiades, T., Martinopoulos, G. and Tsoulfidis, L. (2013), "Energy consumption and economic growth: Parametric and non-parametric causality testing for the case of Greece", *Energy Econ.*, **36**, 686-697.
<https://doi.org/10.1016/j.eneco.2012.11.017>.
- Frankel, J.A. (2010), *The Natural Resource Curse: A Survey*, No. w15836, National Bureau of Economic Research, California, U.S.A.
- Fry, M.J. (1997), "In favour of financial liberalization", *Econ. J.*, **107**(442), 754-770.
- Gerelmaa, L. and Kotani, K. (2016), "Further investigation of natural resources and economic growth: Do natural resources depress economic growth?", *Resour. Policy*, **50**, 312-321.
<https://doi.org/10.1016/j.resourpol.2016.10.004>.
- Gokmenoglu, K. and Kaakeh, M. (2018), "Causal relationship between nuclear energy consumption and economic growth: Case of Spain", *Strateg. Plan. Energy Environ.*, **37**(3), 58-76.
<https://doi.org/10.1080/10485236.2018.11958660>.
- Goldemberg, J., Schaeffer, R., Szklo, A. and Lucchesi, R. (2014), "Oil and natural gas prospects in South America: Can the petroleum industry pave the way for renewables in Brazil?", *Energy Policy*, **64**, 58-70.
- Guisan, M.C. and Neira, I. (2006), "Direct and indirect effects of human capital on world development, 1960-2004", *Appl. Econ. Int. Dev.*, **6**(1), 17-34.
- Gylfason, T. (2001), "Natural resources, education, and economic development", *Eur. Econ. Rev.*, **45**(4-6), 847-859. [https://doi.org/10.1016/S0014-2921\(01\)00127-1](https://doi.org/10.1016/S0014-2921(01)00127-1).
- Gylfason, T. and Zoega, G. (2006), "Natural resources and economic growth: The role of investment", *World Econ.*, **29**(8), 1091-1115. <https://doi.org/10.1111/j.1467-9701.2006.00807.x>.
- Haber, S. and Menaldo, V. (2011), "Do natural resources fuel authoritarianism? A reappraisal of the resource curse", *Am. Polit. Sci. Rev.*, **105**(1), 1-26.
- Harish, N., Janardhan, P. and Sangami, S. (2018), "Effective adsorption of lead and copper from aqueous solution by samaneasaman and banana stem", *Adv. Environ. Res.*, **7**(3), 225-237.
<https://doi.org/10.12989/aer.2018.7.3.225>.
- Hishan, S.S., Khan, A., Ahmad, J., Hassan, Z.B., Zaman, K. and Qureshi, M.I. (2019), "Access to clean technologies, energy, finance, and food: Environmental sustainability agenda and its implications on Sub-Saharan African countries", *Environ. Sci. Pollut. Res.*, **26**(16), 16503-16518.
<https://doi.org/10.1007/s11356-019-05056-7>.
- Houston, J.F., Lin, C. and Ma, Y. (2011), "Media ownership, concentration and corruption in bank lending", *J. Financ. Econ.*, **100**(2), 326-350. <https://doi.org/10.1016/j.jfineco.2010.12.003>.
- Iorhemen, O.T., Alfa, M.I. and Onoja, S.B. (2016), "The review of municipal solid waste management in Nigeria: the current trends", *Adv. Environ. Res.*, **5**(4), 237-249.
<https://doi.org/10.12989/aer.2016.5.4.237>.
- Kahia, M., Aissa, M.S.B. and Lanouar, C. (2017), "Renewable and non-renewable energy use-economic

- growth nexus: The case of MENA net oil importing countries”, *Renew. Sustain. Energy Rev.*, **71**, 127-140. <https://doi.org/10.1016/j.rser.2017.01.010>.
- Khan, M.T.I., Yaseen, M.R. and Ali, Q. (2017), “Dynamic relationship between financial development, energy consumption, trade and greenhouse gas: Comparison of upper middle income countries from Asia, Europe, Africa and America”, *J. Clean. Prod.*, **161**, 567-580. <https://doi.org/10.1016/j.jclepro.2017.05.129>.
- Khan, H.U.R., Zaman, K., Usman, B., Nassani, A.A., Aldakhil, A.M. and Abro, M.M.Q. (2019a), “Financial management of natural resource market: Long-run and inter-temporal (forecast) relationship”, *Resour. Policy*, **63**, 101452. <https://doi.org/10.1016/j.resourpol.2019.101452>.
- Khan, H.U.R., Islam, T., Yousaf, S.U., Zaman, K., Shoukry, A.M., Sharkawy, M.A., Gani, S., Aamir, A. and Hishan, S.S. (2019b), “The impact of financial development indicators on natural resource markets: Evidence from two-step GMM estimator”, *Resour. Policy*, **62**, 240-255. <https://doi.org/10.1016/j.resourpol.2019.04.002>.
- Koçak, E. and Şarkgüneşi, A. (2017), “The renewable energy and economic growth nexus in Black Sea and Balkan countries”, *Energy Policy*, **100**, 51-57. <https://doi.org/10.1016/j.enpol.2016.10.007>.
- Komal, R. and Abbas, F. (2015), “Linking financial development, economic growth and energy consumption in Pakistan”, *Renew. Sustain. Energy Rev.*, **44**, 211-220. <https://doi.org/10.1016/j.rser.2014.12.015>.
- Law, S.H. and Moradbeigi, M. (2017), “Financial development and oil resource abundance-growth relations: Evidence from panel data”, *Environ. Sci. Pollut. Res.*, **24**(28), 22458-22475. <https://doi.org/10.1007/s11356-017-9871-y>.
- Levine, R. (1999), *Financial Development and Economic Growth: Views and Agenda*, World Bank, U.K.
- Mbanmbaane, J.A. (2015), “Norway the odd country. The fear of Dutch disease, a democratic problem”, M.Sc. Dissertation, UiT Norwegian Arctic University, Tromsø, Norway.
- Mohammadi, H. and Amin, M.D. (2015), “Long-run relation and short-run dynamics in energy consumption-output relationship: International evidence from country panels with different growth rates”, *Energy Econ.*, **52**, 118-126. <https://doi.org/10.1016/j.eneco.2015.09.012>.
- Nassani, A.A., Aldakhil, A.M., Abro, M.M.Q., Zaman, K. and Kabbani, A. (2019), “Resource management for green growth: Ensure environment sustainability agenda for mutual exclusive global gain”, *Environ. Prog. Sustain. Energy*, **38**(4), 13132. <https://doi.org/10.1002/ep.13132>.
- Odhiambo, N.M. (2009), “Energy consumption and economic growth nexus in Tanzania: An ARDL bounds testing approach”, *Energy Policy*, **37**(2), 617-622. <https://doi.org/10.1016/j.enpol.2008.09.077>.
- Omri, A. (2013), “CO₂ emissions, energy consumption and economic growth nexus in MENA countries: Evidence from simultaneous equations models”, *Energy Econ.*, **40**, 657-664. <https://doi.org/10.1016/j.eneco.2013.09.003>.
- Omri, A. and Kahouli, B. (2014), “Causal relationships between energy consumption, foreign direct investment and economic growth: Fresh evidence from dynamic simultaneous-equations models”, *Energy Policy*, **67**, 913-922. <https://doi.org/10.1016/j.enpol.2013.11.067>.
- Ouedraogo, N.S. (2013), “Energy consumption and economic growth: Evidence from the economic community of West African States (ECOWAS)”, *Energy Econ.*, **36**, 637-647. <https://doi.org/10.1016/j.eneco.2012.11.011>.
- Ouoba, Y. (2016), “Natural resources: Funds and economic performance of resource-rich countries”, *Resour. Policy*, **50**, 108-116. <https://doi.org/10.1016/j.resourpol.2016.09.003>.
- Quixina, Y. and Almeida, A. (2014), “Financial development and economic growth in a natural resource based economy: Evidence from Angola”, FEP-UP, University of Porto, Porto, Portugal.
- Qureshi, M.I., Yusoff, R.M., Hishan, S.S., Alam, A.F., Zaman, K. and Rasli, A.M. (2019a), “Natural disasters and Malaysian economic growth: Policy reforms for disasters management”, *Environ. Sci. Pollut. Res.*, **26**(15), 15496-15509. <https://doi.org/10.1007/s11356-019-04866-z>.
- Qureshi, M.I., Elashkar, E.E., Shoukry, A.M., Aamir, A., Mahmood, N.H.N., Rasli, A.M. and Zaman, K. (2019b), “Measuring the ecological footprint of inbound and outbound tourists: Evidence from a panel of 35 countries”, *Clean Technol. Environ. Policy*, **21**(10), 1949-1967.

- <https://doi.org/10.1007/s10098-019-01720-1>.
- Ross, M. (2001), "How does natural resource wealth influence Civil War", University of California at Los Angeles Political Science Department, Los Angeles, California, U.S.A.
- Rupasingha, A., Goetz, S.J. and Freshwater, D. (2002), "Social and institutional factors as determinants of economic growth: Evidence from the United States counties", *Pap. Reg. Sci.*, **81**(2), 139-155. <https://doi.org/10.1111/j.1435-5597.2002.tb01227.x>.
- Sachs, J.D. and Warner, A.M. (1995), "Natural resource abundance and economic growth", No. w5398, National Bureau of Economic Research, Cambridge, Massachusetts, U.S.A.
- Sachs, J.D. and Warner, A.M. (1999), "The big push, natural resource booms and growth", *J. Dev. Econ.*, **59**(1), 43-76. [https://doi.org/10.1016/S0304-3878\(99\)00005-X](https://doi.org/10.1016/S0304-3878(99)00005-X).
- Sachs, J.D. and Warner, A.M. (2001), "The curse of natural resources", *Eur. Econ. Rev.*, **45**(4-6), 827-838. [https://doi.org/10.1016/S0014-2921\(01\)00125-8](https://doi.org/10.1016/S0014-2921(01)00125-8).
- Saidi, K., Mbarek, M.B. and Amamri, M. (2018), "Causal dynamics between energy consumption, ICT, FDI, and economic growth: Case study of 13 MENA countries", *J. Knowl. Econ.*, **9**(1), 228-238. <https://doi.org/10.1007/s13132-015-0337-5>.
- Sala-i-Martin, X. and Subramanian, A. (2013), "Addressing the natural resource curse: An illustration from Nigeria", *J. Afr. Econ.*, **22**(4), 570-615. <https://doi.org/10.1093/jae/ejs033>.
- Saleem, H., Jiandong, W., Zaman, K., Elashkar, E.E. and Shoukry, A.M. (2018), "The impact of air-railways transportation, energy demand, bilateral aid flows, and population density on environmental degradation: Evidence from a panel of next-11 countries", *Transp. Res. D Transp. Environ.*, **62**, 152-168. <https://doi.org/10.1016/j.trd.2018.02.016>.
- Sebri, M. and Ben-Salha, O. (2014), "On the causal dynamics between economic growth, renewable energy consumption, CO2 emissions and trade openness: Fresh evidence from BRICS countries", *Renew. Sust. Energ. Rev.*, **39**, 14-23. <https://doi.org/10.1016/j.rser.2014.07.033>.
- Shahbaz, M., Hye, Q.M. and Zeshan, D. (2012), "Is renewable energy consumption effective to promote economic growth in Pakistan: Evidence from bounds testing and rolling window approach", University Library of Munich, Munich, Germany.
- Shahbaz, M., Loganathan, N., Zeshan, M. and Zaman, K. (2015), "Does renewable energy consumption add in economic growth? An application of auto-regressive distributed lag model in Pakistan", *Renew. Sust. Energ. Rev.*, **44**, 576-585. <https://doi.org/10.1016/j.rser.2015.01.017>.
- Shahbaz, M., Naeem, M., Ahad, M. and Tahir, I. (2018), "Is natural resource abundance a stimulus for financial development in the USA?", *Resour. Policy*, **55**, 223-232. <https://doi.org/10.1016/j.resourpol.2017.12.006>.
- Shahbaz, M., Destek, M.A., Okumus, I. and Sinha, A. (2019), "An empirical note on comparison between resource abundance and resource dependence in resource abundant countries", *Resour. Policy*, **60**, 47-55. <https://doi.org/10.1016/j.resourpol.2018.12.002>.
- Song, F. and Thakor, A. (2013), *Notes on Financial System Development and Political Intervention*, World Bank, U.K.
- Tietenberg, T.H. and Lewis, L. (2016), *Environmental and Natural Resource Economics*, Routledge, New York, U.S.A.
- Torvik, R. (2009), "Why do some resource-abundant countries succeed while others do not?", *Oxford Rev. Econ. Policy*, **25**(2), 241-256. <https://doi.org/10.1093/oxrep/grp015>.
- Venables, A.J. (2016), "Using natural resources for development: Why has it proven so difficult?", *J. Econ. Perspect.*, **30**(1), 161-184. <https://doi.org/10.1257/jep.30.1.161>.
- Weber, J.G. (2012), "The effects of a natural gas boom on employment and income in Colorado, Texas and Wyoming", *Energy Econ.*, **34**(5), 1580-1588. <https://doi.org/10.1016/j.eneco.2011.11.013>.
- World Bank (2000), *The World Bank in Sierra Leone*, World Bank, U.K. <https://www.worldbank.org/en/country/sierraleone>.
- Zaman, K. (2017), "Biofuel consumption, biodiversity, and the environmental Kuznets curve: Trivariate analysis in a panel of biofuel consuming countries", *Environ. Sci. Pollut. Res.*, **24**(31), 24602-24610. <https://doi.org/10.1007/s11356-017-0087-y>.

- Zaman, K., Shamsuddin, S. and Ahmad, M. (2017a), "Energy-water-food nexus under financial constraint environment: good, the bad, and the ugly sustainability reforms in sub-Saharan African countries", *Environ. Sci. Pollut. Res.*, **24**(15), 13358-13372.
<https://doi.org/10.1007/s11356-017-8961-1>.
- Zaman, K., Abdullah, I. and Ali, M. (2017b), "Decomposing the linkages between energy consumption, air pollution, climate change, and natural resource depletion in Pakistan", *Environ. Prog. Sustain. Energy*, **36**(2), 638-648. <https://doi.org/10.1002/ep.12519>.
- Zhang, B., Wang, Z. and Wang, B. (2018), "Energy production, economic growth and CO₂ emission: Evidence from Pakistan", *Nat. Hazards*, **90**(1), 27-50.
<https://doi.org/10.1007/s11069-017-3031-z>.