



Ibn Khaldūn's Epistemology of Natural Science within his Philosophy of History: A Socio-Economic Analysis

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Abstract

Ibn Khaldun, a Muslim who lived in the 14th century and was known as a philosopher and historian, made important contributions to developing social and economic thought, particularly through his famous work, the Muqaddimah. In Ibn Khaldun's view, history is not merely seen as a series of isolated events but as a process influenced by social, economic, and natural factors. One of the main concepts he introduced was 'Natural Science,' which encompasses the study of physical and social factors that influence the development of society. This article

explores how Ibn Khaldun viewed the relationship between 'Natural Science' and social and economic development in the context of the philosophy of history. Through an interdisciplinary approach, this concept reveals the idea of the cycle of progress and decline of civilizations influenced by the physical, social, and economic conditions of society.

Keywords: *Ibn Khaldun, Natural Science, Philosophy of History, Social, Economics*

Abstrak

Ibn Khaldun, seorang Muslim yang hidup pada abad ke-14 dan dikenal sebagai seorang filsuf dan sejarawan, memberikan kontribusi penting bagi pengembangan pemikiran sosial dan ekonomi, khususnya melalui karyanya yang terkenal, *Muqaddimah*. Dalam pandangan Ibnu Khaldun, sejarah tidak hanya dilihat sebagai serangkaian peristiwa yang berdiri sendiri, tetapi sebagai suatu proses yang dipengaruhi oleh faktor-faktor sosial, ekonomi, dan alam. Salah satu konsep utama yang diperkenalkannya adalah 'Ilmu Pengetahuan Alam', yang mencakup studi tentang faktor-faktor fisik dan sosial yang memengaruhi perkembangan masyarakat. Artikel ini membahas bagaimana Ibnu Khaldun memandang hubungan antara 'Ilmu Pengetahuan Alam' dan perkembangan sosial dan ekonomi dalam konteks filsafat sejarah. Melalui pendekatan interdisipliner, konsep ini mengungkap gagasan tentang siklus kemajuan dan kemunduran peradaban yang dipengaruhi oleh kondisi fisik, sosial, dan ekonomi masyarakat.

Kata Kunci: *ibnu khaldun, ilmu pengetahuan alam, filsafat sejarah, sosial, ekonomi*

INTRODUCTION

Ibn Khaldun (1332–1406) was a great thinker known as the "father of sociology" and the "father of economics" in the Islamic world tradition. His most famous work, *Muqaddimah*, deals with various aspects of human life, including history, society, economics, and politics. One of Ibn Khaldun's major contributions was his thoughts on the relationship between social and economic factors and historical development. In this context, the concept of 'Natural Science' that he developed plays an

important role in explaining how physical conditions, such as climate and geography, affect the development of society and the economy.

History is an event that has occurred in human life since long ago, history is one of the clumps of other sciences, history is written and recorded in accordance with the development of human history itself. In the beginning of history, the recording of historical events was done on stone, paper. In the history of the Arabs, history was written down using the method of history and sanad, one of the first books recorded using the sanad and history method was *Siroh Nabawiyah* which was then followed by other Islamic history books. Ibn Khaldun studied the meaning of history and philosophy that was different from previous understanding and began to establish methods and methods in history; according to Ibn Khaldun, history is a science that can be studied, not just a random event that just happened. Ibn Khaldun did not use the term philosophy of history (Philosophy of Tarikh), he called this science the Science of the World/State (*'Ilm 'Imran*) (الأحمد 2008).

Ibn Khaldun viewed history as a natural science, which means that it is influenced by laws that can be studied and understood. The concept of 'Natural Science' in his philosophy of history reveals the close relationship between physical and social aspects in determining the course of human civilization. This distinguishes Ibn Khaldun's view from traditional historiography, which only sees history as a record of events. Thus, it is important to understand how Ibn Khaldun connected natural factors with social and economic phenomena that occurred in historical development.

Ibn Khaldun explained his concept of the science of history in his book *Almukaddimah*, saying: "The art of history is a sublime art of teaching, full of benefits, and noble in its purpose, because it leads us to know the requirements of the history of the previous nations in their morals, the prophets in their morals, and the kings in their lives, countries and politics, so that the benefit of following this is complete for those who seek it in the categories of religion and the world, because it is he who needs the means. History contains a lot of diverse knowledge, good vision, and perseverance that leads its owner to the truth and avoids mistakes and errors. By studying History, Ibn Khaldun aims to learn lessons, benefit from the experience of nations, and know

the mistakes they made so that we can escape the traps of the present and present them to future generations (2008الأحمد).

METHODS

The research method used here is historical research, which consists of heuristics, criticism or verification of sources, synthesis, and historiography. This type of historical research is qualitative and utilizes a descriptive-analytical approach. Meanwhile, the data from this research was collected using the literature study method.

DISCUSSION

Biography of Ibn Khaldun

Ibn Khaldun's lifetime was marked by the decline and stagnation of Islam in the intellectual, social, economic, and political fields (Sriyatno 2018). Ibn Khaldun is an important figure in Islamic civilization in the 14th century. In the modern world, he received various titles, ranging from the father of sociology, laying the foundations of the philosophy of history, pioneering economic science, to initiating brilliant political theory (Sujati 2018). Abdurrahman bin Khaldun Al-Hadrami or more popular among intellectuals as Ibn Khaldun was born on May 27, 1332 in Tunisia and came from a family of Hadramaut descent. Generations of Ibn Khaldun's family were devout and pious adherents of Islam and his genealogy reached a companion of the Prophet Muhammad SAW, named Wail bin Hujr from Kabilah Kindah. The name Ibnu Khaldun is attributed to his grandfather Khalid bin Usman, he was the first of his family to go to the land of Andalusia. Khalid bin Usman is known as Khaldun, this is due to the custom of the Andalusian and Maghrib people who add the letters "waw" and "nun" to people's names as a form of respect (2019ابن خلدون).

The form a family that has been Islamic for generations that supports the formation of Ibn Khaldun's personality. His father instilled religious values in Ibn Khaldun since childhood. Forms of early introduction of religious lessons such as recitation of the Qur'an, as well as religious practices such as prayer and fasting. So that as a child, Ibn Khaldun was able to memorize the Qur'an and learn tajweed. He also studied other sciences, such as Tafsir, Hadith, Ushul Fiqh, Tawheed,

and Fiqh Mazhab Maliki. In addition, he also studied the sciences of language, physics, and mathematics (Sarah 2020).

Researchers divide Ibn Khaldun's life into four stages: The first stage is the period of his growth and education 732 H - 751. The second stage is the period of Ibn Khaldun's involvement in political activities in Algeria, Maghrib, and Andalusia 751 H-776 H. The third stage is the period of solitude / Uzlah and writing books in the Salamah fortress in Al-Jazair 776 H-780 H. The fourth stage is the period of teaching and becoming a judge and perfecting his writings, 780 H- 808 H (النصافي 2021). There are two major events that occurred when Ibn Khaldun was still 18 years old, first the occurrence of the Tha'un plague in 739 AH, this plague spread widely in the east and west of Islamic territory, from Samarkand to the Maghrib. It also spread to Europe and Andalusia. This plague can cause death to the sufferer; the recorded number of deaths that occur in a day ranges from 70 -200, even in one city in the Maghrib, up to 1000 who died in a day (ابن خلدون 2019). The second event that occurred was that many of the scholars and literati, in order to avoid the plague, moved from Tunisia to the Maghreb.

The first stages of Ibn Khaldun's life were spent with education; his first teacher was his own father. At that time, the city of Tunis had many scholars and writers; this was due to the prolonged conflict in Andalusia, making scientists move to Tunisia and surrounding areas. Ibn Khaldun studied at the Quba mosque; he studied the Qur'an and Quraah Al-Asyrah, in addition to studying the Shari'i Sciences; Tafsir, Hadith, Fiqh of the Maliki school, Tawheed, Language Science, Sharf, Nahwu, Balaghah, and Adab. Ibnu Khaldun also studied Mantiq, Philosophy, and Natural Sciences Physics, Chemistry, Biology, and Mathematics. His teachers were surprised by his ability and intelligence. Among his teachers were Muhammad bin Saad bin Burra Al-Anshori, Muhammad bin Bahr, Muhammad bin Jabir, Al-Qais, and Muhammad bin Abdullah Al-Jayyani, a High Priest in the Maliki Mazhab. Two of Ibn Khaldun's teachers who had a great impact on him in the knowledge of Sharia, language, and philosophy were Muhammad bin Abd Al-Muhaimin bin Abd Al-Muhaimin Al-Hadrami, who was a great Imam in Hadith and Nahwu in the Maghrib. Ibn Khaldun learned from him the science of Musthalah Al-hadith, Sirah and linguistics. The

second teacher was Abu Abdullah Muhammad bin Ibrahim Al-Abl, from whom Ibn Khaldun learned Wisdom, Philosophy, Mantiq, Biology, Physics, Chemistry, Music and Falak (ابن خلدون 2019).

Growing up, Ibn Khaldun delved more into religious studies until he became an expert. Various forms of Islamic teachings, such as Islamic law, Islamic society, Hadith, and deepening the discussion of the Qur'an itself did not escape Ibn Khaldun's attention. This learning opportunity was possible due to the period of life of Ibn Khaldun when Islam was experiencing political turmoil, so many of the best teachers from Andalusia fled to Tunisia and taught there; this brought benefits to Ibn Khaldun. Ibn Khaldun diligently studied various religious and scientific issues in Andalusia. Literary and religious studies are subjects that Ibn Khaldun is very fond of. The main teachers of Ibn Khaldun were great writers and poets and scholars from Andalusia.

The second period of Ibn Khaldun's life involved politics and government in Maghrib and Andalusia from 1351-1374 AD or 751-776 H. At age 21, he was appointed Secretary to the Sultan of the Hafs dynasty. His career in politics and government resulted in him often moving from one place to another. In his journey in politics and government, Ibn Khaldun felt bored because the political intrigues that developed were often not in accordance with the soul and mind of Ibn Khaldun, resulting in his decision to resign from politics and government. Since then, he began to retreat to the Qal'at Ibn Salamah area and settled there until 1387 AD. This is where he then switched professions to the world of composing.

The third period in Ibn Khaldun's life was spent in writing activities 1274 - 1382 AD / 776 - 783 H. The world of writing will show who Ibn Khaldun really is. At least from here then gave birth to monumental works in various fields of science, such as Kitab al-'Ibrar wa Dimah al-Mubtada'wa al-Khabar fi'lbrar (general history). This seven-volume book contains historical studies, which are preceded by Muqaddimah, which discusses human social problems (sociology). The book was written when Ibn Khaldun was 45 years old, completed in just five months.

The last phase began when Ibn Khaldun became a teacher at A-Azhar and a judge in Egypt in 1382 - 1406 AD / 784 - 808 H. Ibn

Khaldun left the Maghrib and moved to Egypt because he wanted to distance himself from political activities there. Ibn Khaldun arrived in the city of Iskandariah (Egypt), there he settled before and intended to perform the hajj, but his intention was not carried out, then Ibn Khaldun then moved and settled in Cairo. When he got there, he was amazed by the scientific climate of Cairo under the Mamluk Dynasty. At that time, Cairo became the center of Islamic thought; besides that, the Mamluk Sultan highly valued science and art. Ibn Khaldun's knowledge had reached Egypt, long before he came, when he arrived in Cairo, Ibn Khaldun met with Azhar scholars and experts there, then he began his career in science by opening a halaqah at Al-Azhar to give lectures. Ibn Khaldun taught Fiqh of the Maliki school, social sciences. Among his students were Taqiyyuddin Al-Maqrizy and Ibn Hajar Al-Asqolany (ابن خلدون 2019).

In 1401 AD, Ibn Khaldun was appointed chairman of the royal court until the end of his life. While in Egypt, Ibn Khaldun revised Al-'Ibar and added chapters to Muqaddimah. He included the latest events and scientific findings, such as sociological concepts. Ibn Khaldun died in Cairo on 25 Ramadan 808 AH / March 19, 1406. His important findings are about the conception of history and its sociological concepts which are still the main reference materials for all world historians and sociologists (Sarah 2020).

The Concept of 'Natural Science' in the Philosophy of History: Social and Economic Perspectives

Philosophy of history, according to Ibn Khaldun

Ibn Khaldun is a historical thinker who can be considered a pioneer of the philosophy of history. This was recognized by historian-philosopher Toynbee who said that Ibn Khaldun was not only known as the greatest historian in medieval times, but also the first philosopher of history, paving the way for European thinkers such as Machiavelli, Bodin and Comte (Sarah 2020). According to Ibn Khaldun, history consists of two aspects: the outer and inner aspects. The outer aspect means that history is nothing more than news about events, countries, and happenings in past centuries. While inwardly, history contains the meaning of observation and efforts to seek the truth, in-depth

information about the causes and origins of events as well as understanding and knowledge of the substance, essence, and causes of events. From this inner aspect comes one of the branches of philosophy or wisdom (Fathoni 2016).

According to Ibn Khaldun, the essence of historical science is news about the social life of humans as historical actors on earth and their habits, such as: savagery, fanaticism, and oppression committed by them over others, as well as the causes and consequences of these actions, power, their efforts in achieving it, and making a living for life. It can be concluded that the essence of the science of history is the science of man and everything that surrounds him, further ibn Khaldun argues that history is a science that stands alone, which has a subject matter about humans and community groups and has problems that follow it for its own sake. In addition, historical reporting must pay attention to the truth and validity of the news (محمد 2017). The development of history in totality examines the lives of various societies and empires and seeks to summarize the laws of development and collapse. Thus, culture or what Ibn Khaldun calls al-umran is a science that studies the philosophy of history.

Many Western scientists say that Ibn Khaldun is the founder of the philosophy of history because he did something new that he had never read and seen from the works of previous people, both from among Muslims and Greek sources. In the Book of Muqaddimah Ibn Khaldun, he did criticize philosophy, namely philosophy in its position as a metaphysics that stems from pure contemplation, formal logic that has nothing to do with reality. Meanwhile, the philosophy of history developed by Ibn Khaldun strongly adheres to studies based on sensory observation and comparative analysis of objective data.

According to Ibn Khaldun, society is a historical creature that lives and develops according to specific laws, in relation to which these laws can be observed and limited through the study of social phenomena. He believes that ashabiyah is the foundation of a state and the most important factor that causes the development of society. From this opinion, Ibn Khaldun is also commonly called the pioneer of materialism long before Karl Marx. Ibn Khaldun is famous as a pioneer and pioneer of The Culture Cycle Theory of History, which is a theory of historical

philosophy that has received recognition in the Eastern and Western worlds for its maturity. Ibn Khaldun, with his theory, argues that world history is a cycle of every culture and civilization. It experiences a period of birth, a peak period, then a period of decline, and finally, a period of destruction. Khaldun termed the cycle the three stairs of civilization (Fathoni 2016).

Some of the reasons, according to Ibn Khaldun, why he formulated the science of philosophy of history are first to protect historical research from false and weak news, second to build strict rules that can be held to distinguish true and false news related to the phenomenon of society, third to diagnose a news to see the lies in it and find a cure (trustworthy news). Fourthly, to achieve a degree of knowledge that stays and the best place among the sciences. According to him, the reason why people narrate false news in history is because of personal interests related to sectarian and group affiliation. His closeness to the sultan or a person of high position, so there is no need to clarify the news he heard; secondly ignorance of the nature or condition of the local community, even though the phenomenon of the community has been regulated based on local laws. Ignorance of natural sciences, physics, chemistry, astronomy, and the causes of natural phenomena (محمد 2017).

Ibn Khaldun's Theory of Development (natural science)

According to Ibn Khaldun, the development of each type of creature is intertwined with each other at the end of a series of developments. The development of each type of living being leads to a higher type and at the end of its development we get humans who are the development of apes. This theory of development is then also used to look at social phenomena. The conception of motion, according to Ibn Khaldun, is contained in the nature of things; for example, the age of the state is likened to human life. The state continues to develop, because life itself is in motion and continuous developments. Development according to Ibn Khaldun has a dialectical pattern, namely that since its creation, living things have contained the seeds of death and development that cannot be stopped and will lead to certain death (Fathoni 2016).

Ibn Khaldun defined 'Natural Science' as the study of the physical environment that affects human life, including climate, geography, and natural resources. He argued that the natural conditions of a region have a significant impact on the social and economic characteristics of the people living in it. For example, Ibn Khaldun observed that societies living in fertile areas with a favorable climate tend to thrive economically and socially. In contrast, societies living in harsh and unsupportive regions tend to be more limited in their civilizational development.

According to Ibn Khaldun, there are two main factors that affect human social life; first, the environmental and geographical factors of an area, which is influenced by climate, the availability of water as the primary source of life, the availability of air that can affect human morale and temperament, fertility and aridity of an area that affects agricultural yield. The second factor is the internal factor of humans as subjects of society; this includes customs, traditions, food, transportation, and association. Besides, there is tribalism and fanaticism, as well as the religion of a society (محمد 2017). In Ibn Khaldun's view, these factors affect not only the physical aspects of human life but also the mindset, work ethic, and social system formed within a society. These factors illustrate the close relationship between nature and society, where 'Natural Science' explains how the outside world's physical conditions can shape human social and economic structures.

Natural Science and Social Development

Ibn Khaldun argued that society has a life cycle that is influenced by physical and social conditions. Ibn Khaldun built his theory based on the premise that all realities in the universe are interconnected and integrated. This statement implies that the entire universe is formed as an organized totality. The relationship between one reality and another is not static but always changing and dynamic, and this dynamism is Ibn Khaldun's theory of evolution. Therefore, the species only form after going through a long chain of development (Sriyanto 2018).

In this context, 'Natural Science' refers not only to the physical aspects of the world, but also to the social dynamics that arise in response to these conditions. Societies in favorable natural conditions tend to experience social progress, while those living in less favorable

areas often experience stagnation or regression. One of the key concepts in Ibn Khaldun's thinking is 'asabiyyah' or group solidarity. According to him, 'asabiyyah' becomes a force that encourages society to develop or Ibn Khaldun's conception of humans is different from other creatures, because humans are thinking creatures. Functionally, ashabiyyah refers to socio-cultural ties that can be used to measure the strength of social groups. In addition, ashabiyyah can also be understood as social solidarity, emphasizing group awareness, cohesion and unity (Amin 2018).

In his research on society, Ibn Khaldun emphasized that humans are social creatures, who cannot live apart from others, this mutual gathering is a natural behavior, although it sometimes leads to conflict. *Insan Madani* can be interpreted as a collection of people. According to Ibn Khaldun, the civilization of Insan Kamil society can be achieved after going through 3 stages: the first stage of Al Badawah, the first stage where humans try to meet basic needs aimed at maintaining survival. The second stage of Al- Madinah is human needs that must be met in 3 categories of Economics, Education and Religion. The third stage Ad-Daulah is the last stage which aims to create a conducive community environment (النصافي 2021).

In Ibn Khaldun's various explanations of society, the terms nomadic and sedentary are two concepts that always appear. The first concept is synonymous with backwardness, primitive, and the second is synonymous with the city, civilized, and advanced (city). The two concept models are then classified by Khaldun from the point of view of social control into two types namely; badawah and hadharah. Badawah is the concept of a society with strong ashabiyyah, tends to be primitive, rural and nomadic. The term badawah was actually developed by Khaldun from his observation of the Baduy community which is nomadic, primitive but very strong in solidarity. Meanwhile, the concept of hadrah is a manifestation of a more complex, settled, urban, weak solidarity but civilized society. In badawah society according to Khaldun, blood relations are prioritized so that social control is still quite high. In contrast, in civilized hadharah societies, social control is much lower (Amin 2018).

Therefore, humans are able to give birth to science (knowledge) and technology, where other creatures do not possess such characteristics. From this ability to think, humans not only make their lives, but also pay attention to various things in order to obtain the meaning of life, which ultimately this kind of process will give birth to civilization (Sriyatno 2018).

Societies with strong solidarity can survive and thrive even under unfavorable conditions. On the other hand, as social and economic conditions deteriorate, group solidarity may break down, leading to the decline of civilization.

Natural Sciences and Economics

In the field of economics, Ibn Khaldun also developed thoughts that linked 'Natural Science' with economic development. This refers to the term development and his work is '*umran al-'alam* or prospering the world. This term is formed from three components namely history (*tarikh*), community cooperation (*al-ijtima' al-insani*), and the universe (*al-kawn*). There is also another opinion that divides it into the following three components, namely humans (*insani*), life (*al-hayat*), and nature (*al-kawn*) (Amin 2018). He views that climate and natural resources play an important role in influencing the level of production and distribution of goods in society. Communities living in areas with favorable climates and fertile soil will have greater access to agricultural produce and production. This leads to rapid economic progress and improved community welfare.

Conversely, regions that lack natural resources or have a harsh climate will face difficulties in obtaining optimal production results. In this case, the role of the government or ruler becomes very important in managing natural resources and ensuring their fair distribution to avoid social and economic inequality that can undermine social stability.

Natural Science as a Tool for Understanding History

For Ibn Khaldun, 'Natural Science' was also an important tool for understanding history. He argued that history is not a phenomenon that occurs randomly, but is influenced by natural laws that can be studied. History for Ibn Khaldun is a repeating cycle, in which civilizations will

experience periods of glory, decline, and destruction. This is influenced by physical factors such as climate and natural resources, as well as social factors such as group solidarity.

According to Ibn Khaldun, the development of civilization is influenced by the relationship between people and their natural environment. When people are able to manage natural resources well, they will progress. However, when societies lose awareness of the importance of natural management, they will regress. This idea shows that history is not a story consisting of events but a process that can be explained through the interaction between social and natural factors.

CONCLUSION

The concept of 'Natural Science' in Ibn Khaldun's philosophy of history provides a deep understanding of the relationship between physical, social and economic conditions in shaping the development of civilization. Ibn Khaldun proposed the idea that history is not simply a sequence of events, but is influenced by natural laws that affect patterns of social and economic life. By linking 'Natural Science' with concepts such as 'ashabiyah' and the theory of civilizational cycles, Ibn Khaldun revealed that the progress and decline of a society is not only determined by internal factors but also by their interaction with their natural surroundings.

Ibn Khaldun's view suggests that an understanding of history must involve the study of various dimensions of human life, including physical and social aspects. The concept of 'Natural Science' paves the way for a more holistic understanding of history, which considers both external and internal factors in shaping the dynamics of human life.

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