

## **INTEGRATION OF CHARACTER VALUES IN THE RAIN PHENOMENON BY SCIENCE AND AI-QURAN**

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### **ABSTRAK**

Salah satu dari tujuan pendidikan Nasional Indonesia adalah mengembangkan potensi peserta didik agar menjadi manusia yang beriman dan bertaqwa kepada Tuhan Yang Maha Esa. Tujuan tersebut dapat dibentuk melalui pendidikan karakter dengan menyisipkan nilai-nilai religius dalam pembelajaran. Salah satunya dalam pembelajaran sains yang diintegrasikan dengan ayat-ayat suci Al-quran. Sains adalah mata pelajaran di sekolah yang membahas tentang fenomena hujan. Penelitian ini merupakan penelitian kepustakaan. Data yang dikumpulkan dalam penelitian ini terdiri dari data primer yang diperoleh dari kitab suci Al-quran dan data sekunder berupa data-data yang diperoleh dari artikel hasil penelitian. Data yang dikumpulkan dalam penelitian ini dianalisis menjadi sebuah informasi. Data dalam penelitian berupa ayat-ayat Al-quran yang membahas tentang fenomena hujan yang dikaji pembuktian ilmiahnya, sehingga terlihat hubungan antara sains dan Al-quran. Melalui integrasi antara sains dan Al-Quraan ini diperoleh nilai-nilai karakter yang dapat dipetik dari peristiwa hujan. Berdasarkan hasil penelitian diperoleh bahwa hujan adalah siklus hidrologi. Air yang ada di bumi menguap dan naik ke atmosfer dalam bentuk uap air yang kemudian mengembun pada ketinggian tertentu membentuk awan. Awan tersebut akan bergerak karena angin sehingga terkumpul pada suatu tempat dan akhirnya terkondensasi menjadi hujan dalam wujud, cair, salju, atau kristal es yang pada akhirnya turun kembali ke bumi. Air hujan yang turun ke bumi memberikan banyak manfaat terhadap kelangsungan hidup manusia, tumbuhan, dan hewan. Adapun nilai karakter yang dapat dipetik dari peristiwa hujan antara lain mengakui keesaan dan keagungan Tuhan, bersyukur nikmat, dan mendoakan kebaikan di setiap turun hujan agar mendapatkan berkah.

**Kata Kunci:** Nilai Nilai Karakter, Fenomena Hujan, Integrasi Nilai Karakter

## ABSTRACT

One of the goals of Indonesian National Education is to develop the potential of students to become human beings who believe and are devoted to God Almighty. These goals can be formed through character education by inserting religious values in learning. One of them is in learning science which is integrated with the holy verses of the Koran. Science is a subject in school that discusses the phenomenon of rain. This research is a library research. The data collected in this study consisted of primary data obtained from the holy book of the Koran and secondary data in the form of data obtained from research articles. The data collected in this study were analyzed into information. The data in the study are in the form of verses from the Koran that discuss the phenomenon of rain which is studied for scientific evidence, so that the relationship between science and the Koran can be seen. Through this integration between science and the Koran, character values can be learned from the rain event. Based on the results of the study, it was found that rain is a hydrological cycle. Water on earth evaporates and rises to the atmosphere in the form of water vapor which then condenses at a certain height to form clouds. These clouds will move because of the wind so that they collect in one place and eventually condense into rain in the form of liquid, snow, or ice crystals which eventually fall back to earth. Rainwater that falls to the earth provides many benefits for the survival of humans, plants, and animals. The character values that can be learned from the rain event include acknowledging the oneness and majesty of God, being grateful for favors, and praying for goodness every time it rains to get blessings.

**Keywords:** Character Values, Rain Phenomenon, Integration of Character Values

### A. INTRODUCTION

One of the goals of national education is to develop the potential of students to become human beings who believe and are devoted to God Almighty (Pasaribu, 2017). To realize this, in the learning process there must be spiritual values that are able to grow the character of students so that they can believe in their Creator and obey all His prohibitions and orders. This can be inserted in every learning process in all fields of study, including science learning (Romlah, & Latief, 2021).

Science and religion are two things that are interrelated to complement each other because they cannot stand alone. In science learning there is an integration between science and religion which is categorized in three contexts, including: 1) *Bayani* which

means that science is integrated with the text of the Qur'an; 2) *Burhani* which means that science is integrated in the context of social life, culture, and natural reality; 3) *Irfani*, namely science is integrated with benefits in everyday life. Thus, the existence of these three contexts is expected to make science learning more meaningful (Marvavilha & Suparlan, 2018).

Al-Quran is not an encyclopedia that presents scientific theories or explanations about the secrets of the universe. Broadly speaking, the Qur'an contains natural phenomena that can be traced by scientific research from several reasons. Scientific proof of the Qur'an with the command to think and contemplate (Qorib, Zailani, Pasaribu, & Harfiani, 2022). Because the Qur'an provides instructions for humans to think, reflect, live, and everything that Allah

has created. Al-Quran explains globally as a guide and theory, while knowledge as a practitioner to reveal the truth (Afifah, 2020).

The integration between science and the Koran in learning is a step that can foster religious character so that it is able to bring students closer to its creator. As for some indicators of religious character (Islamy et al., 2022; , among others: always praying before and after doing something, always giving thanks for God's favors, giving greetings before and after expressing opinions, expressing admiration for the majesty of God, and proving the existence of God through science (Mukaromah & Rahman, 2018).

Science or known as IPA is one of the subjects taught in schools from elementary to high school. The characteristic of science learning is learning about the universe and all the symptoms in it (Novitasari, Agustina, Sukesti, Nazri, & Handhika, 2017). Science studies about events related to natural phenomena from the beginning of the formation of the universe to all the contents in it. The creation of nature can not only be scientifically proven by scientists according to modern science, but long before it was written in the Koran. One of the natural phenomena that is the power of God and explained in the Koran long before scientists managed to reveal it is the rain event (Maslan, Muzakki, Duhita, & Hafsana, 2021).

There are many things that can be learned from the process of rain according to scientific studies or the Koran. At school, students study rain as a water cycle process that undergoes several changes in the form of substances based on science and in the

Qur'an it is also explained how rain can be formed through changes in the form of substances that can be proven scientifically. From these two there is no conflict between science and the Koran. That is, science and the Koran are two things that are interrelated. Even further, it is written in the Qur'an that rain is a blessing for life on earth and its contents. This is because rainwater is a source of life for all living things (Soliyah, 2020).

This study will explain how the rain phenomenon written in the Qur'an can be explained according to the science studied by students at school. Therefore, it is necessary to collect information from various verses that complement each other and are contained in several letters of the Qur'an about rain so that it can show the majesty of God in creating and maintaining the universe and its contents.

## **B. METHOD**

This research belongs to the type of library research, namely research that relies on data and information from various written documents collected through literature such as interpretation books, manuscripts, magazines, historical records, or other documents. This research is descriptive analysis, namely research that describes a situation, phenomenon or symptom in detail and sharply.

The source of data used in this study is the primary data source in the form of the Koran. While secondary data obtained from literature such as research results and books that discuss the phenomenon of rain.

The presence of researchers in this study is to collect research materials from various literatures to be processed into a study.

The data collected in this study will be analyzed into information. The data in this study are in the form of verses from the Qur'an which discuss the phenomenon of rain which will be studied for scientific proof with a scientific approach so that the relationship between science and the Qur'an can be seen. This will show the relationship between science and the Koran, that everything was created by Allah SWT that students can believe in. By introducing the holy verses of the Qur'an in science learning, it is expected to be able to get closer to the Creator of the universe.

### C. RESULTS AND DISCUSSION

Rain is a hydrological cycle, namely the movement and changes of water in the hydrosphere which process occurs repeatedly. In the event of rain there are three changes in the state of matter, namely liquid, solid, and gas. Changes in the state of these substances are caused by exposure to sunlight or changes in seasons. Based on data obtained from previous research, there are 32 verses of the Koran from various letters related to rain (Maslan et al., 2021).

The hydrological cycle is contained in the letter At-Tariq verse 11 that rain is the process of returning water from the earth so that the composition of water on earth remains.

رَّجَعِ السَّمَاءِ اتِ الرَّجْعِ

Translation:

By the sky that contains rain, (Ministry of Religion of the Republic of Indonesia, 2013).

According to Sheikh Muhammad bin Salih al-Uthaymin (in Nurafipah & Fakhruddin, 2021) that, "Raj'i means to return. is called raj'i in this verse, because rain comes from steam that rises from the earth into the air, then descends to the earth, then returns to the top, and from above it returns to the earth and so on.

Al-Quran surat Ar-rum ayat 40 berikut:

اللَّهُ الَّذِي يُرْسِلُ الرِّيحَ فَتَنفِثُ سَحَابًا فَيَبْسُطُهُ فِي السَّمَاءِ كَيْفَ يَشَاءُ وَيَجْعَلُهُ كِسْفًا فَنَرَى الْوَدْقَ يَخْرُجُ مِنْ خِلَالِهِ فَإِذَا أَصَابَ مَاءً مِنْ يَشَاءُ مِنْ عِبَادَةٍ إِذَا هُمْ يَسْتَبْسِرُونَ

:

Allah-lah yang mengirimkan angin, lalu the wind moves the clouds and Allah spreads them in the sky as He wills, and makes them lumpy, then you see rain coming out of their cracks, so when He sends it down to His servants as He wills they will suddenly rejoice. Religion of the Republic of Indonesia, 2013).

Based on the letter Ar-Rum verse 40, it is explained that the stages of the occurrence of rain start from Allah sending the wind to move the clouds and spread them in the sky as He wills then the clouds become lumpy. In this case the cloud is formed due to the gathering of many clouds carried by the wind. If the clouds have collected in the form of clumps then rain will come out of the cracks. The rain is

absolute power from Allah which will only be sent down to His desired servants so that their hearts rejoice. From this verse can be obtained character values about the greatness of God towards His creation.

The Qur'an also writes explaining that the form of rain is not only liquid or in the form of rain water, rain can also be in solid form, namely ice, this is written in the Qur'an Surah An-Nur verse 43 as follows:

أَلَمْ أَنْزَلِ اللَّهُ سَحَابًا يُؤَلِّفُ بَيْنَهُمْ أَمَّْا الْوَدْقَ مِنْ لَدُنِ السَّمَاءِ  
جِبَالًا يَبْرِدُ بِهِ مِنْ أَيْ وَبَصْرُهُ عَنْ آئِ أَدَا

Translation:

Do you not see that Allah then parades the clouds, then gathers them between overlap, then you see the rain coming out of the gaps and Allah (also) sends down (grains) of ice from the sky, (ie) from (lumps of clouds like) mountains, then He throws them (plumes of clouds) the ice to whom He wills and He turns away from whom He wills. The flash of the cloud almost eliminates vision (Ministry of Religion of the Republic of Indonesia, 2013).

Surah An-Nur verse 43 in addition to explaining how rain can occur as in Surah Ar-rum verse 43, also explains other forms of rain. The verse explains that the form of rain is not only water but also ice, but by His power Allah only sends down hail to whoever he wants and avoids it from whoever he wants. It is proven that hail does not occur in all places on this earth, but only occurs in certain places according to the permission and power of Allah. Furthermore, Allah also created a flash of lightning from the cloud. Scientifically, lightning is static electricity or jumps due to

the instantaneous separation of electric charges due to cloud movement. The release of the electric charge is accompanied by the emission of light and radiation from other electromagnetic waves (Emeraldi & Hazmi, 2017). That's why lightning can produce flashes that dazzle the eye.

While the hydrological cycle according to science is described by Baumgartner and Reichel (1975) as shown in Figure 1.

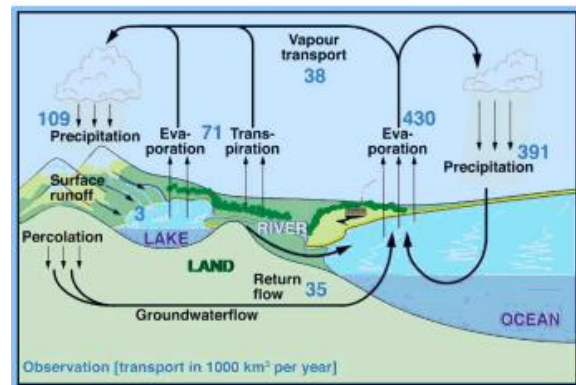


Figure 1. The global water cycle follows Baumgartner and Reichel (Maslan et al., 2021)

Figure 1 explains that water on earth such as lakes, rivers, and oceans undergoes evaporation, while plants release water during the process of respiration and photosynthesis. The evaporated water has a light density so that it rises upwards and is carried into the Earth's atmosphere to produce clouds. At a certain height, these clouds will condense in a cooler atmosphere, releasing water back in the form of rain.

The rain process according to science is also described in Figure 2 below.

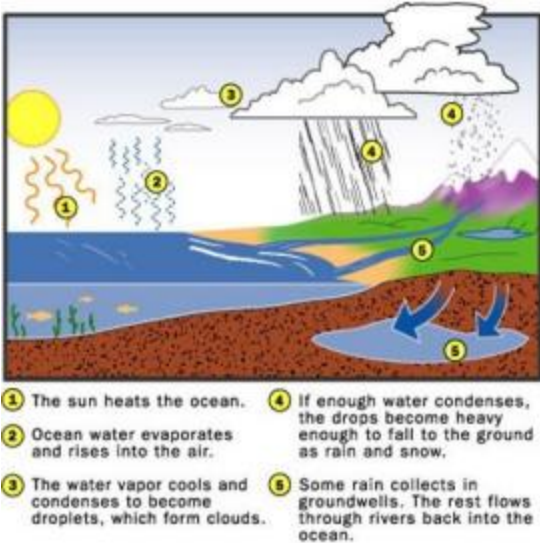


Figure 2. The process of rain (Nurafipah & Fakhruddin, 2021)

According to science, the process of rain occurs through five stages as shown in Figure 2 above. The first stage, when the sun shines on the earth's surface, the water on earth gets heat so that the water temperature increases. Increasing the temperature of the water will cause the water molecules to move faster so that the evaporation will be even greater. The second stage, the water molecules that evaporate have a light density so that they rise to the atmosphere in the form of water vapor. In the third stage, all the water vapor rises into the atmosphere. The higher the water vapor rises, the colder the water vapor will be due to a decrease in temperature. The water molecules then slow down as their speed decreases so they stick together. That's when condensation occurs. The result of condensation will form clouds in the sky. The fourth stage, the water droplets continue to merge in the clouds that move due to the wind. When it has gathered and the water droplets are large and heavy, the food will fall as precipitation.

Precipitation can be in the form of snow, or ice crystals, which all depend on the temperature at which condensation occurs. In the fifth stage, water that falls to earth will flow into lakes, rivers, seas, and some will be absorbed into the ground. While the snow and ice crystals that melt will become glaciers which eventually flow into the sea.

Based on the explanation above, the hydrological cycle in the rain phenomenon involves changes in three states of matter, namely liquid, solid, and gas. Each state of matter changes according to environmental conditions. Water will evaporate when it receives heat, while steam will condense or crystallize because it releases heat. This change in the form of substances in the rain cycle is an event of physical change, because the water molecule does not change into other compounds but remains H<sub>2</sub>O. This repeated water cycle has been described in the Al-Quran Surah At-Tarik verse 11 above.

Water that falls from rain is clean water that has many benefits for life on earth, whether for plants, humans, or animals. Therefore, the rain that falls on the earth is a blessing from Allah, this is written in the Qur'an Surah Al-Furqon verse 48

وَهُوَ الَّذِي أَرْسَلَ الرِّيحَ بُشْرًا بَيْنَ يَدَيْ رَحْمَتِهِ وَأَنْزَلْنَا مِنَ السَّمَاءِ مَاءً طَهُورًا

asas) bearer of glad tidings before the arrival of His mercy (rain); and We send down from the sky very clean water, (Ministry of Religion of the Republic of Indonesia, 2013).

Surah Al-Furqon verse 48 explains that rain is a mercy sent by Allah to the earth in the form of very clean water which has many benefits for life. The clean water can be used for self-purification or for drinking purposes for humans and livestock. Therefore, in order to always get the abundance of God's grace from the rain, it is recommended to read a prayer when it rains (Mohamed Nor, 2016). The prayer is:

اللّٰهُ اِفْعَا

Meaning:

Allah, make this rain beneficial and not harmful.

The benefits of rainwater are mentioned many times in the Qur'an including in the letter An-Nahl 10-11:

هُوَ الَّذِي أَنْزَلَ مِنَ السَّمَاءِ مَاءً لَكُمْ مِنْهُ شَرَابٌ وَمِنْهُ شَجَرٌ فِيهِ تُسِيمُونَ (10)  
يُنْبِتُ لَكُمْ بِهِ الزَّرْعَ وَالزَّيْتُونَ وَالنَّخِيلَ وَالْأَعْنَابَ وَمِنْ كُلِّ الثَّمَرَاتِ إِنَّ فِي ذَلِكَ لَآيَةً لِّقَوْمٍ يَتَفَكَّرُونَ (11)

It is he has sent down water (rain) from the sky for you, some of it as drink and some of it (fertilizing) plants, on which you graze your livestock. With it (rain) He grows for you crops, olives, dates, grapes, and all kinds of fruit. Indeed, in that there really is a sign (the greatness of Allah) for people who think (Ministry of Religion of the Republic of Indonesia, 2013).

Surah An-Nahl verse 10 describes the blessings that Allah has sent down to humans and His other creatures. That Allah created rain water that falls from the sky to the earth so that it can be used by the

inhabitants of the earth. Among them are for drinking, watering plants such as green plants, so that grazing livestock can get food and produce products needed by humans.

The benefits of rainwater are also mentioned in the letter Al-An'am verse 99 which reads

اَخْرَجْنَا مِمَّا يَخْرُجُ الْآبَاءِ الْاَنْزَالَ  
الزَّيْتُونَ وَالْاَعْنَابُ اِنْ لَعِبْنَا بِاللَّيْلِ اَكْبَابًا  
لَكُمْ اِنْ اَنْتُمْ لَدَا اَنْظُرُوا اِلَيْهِ الرَّمَانَ  
لِقَوْمٍ لآيَاتٍ Translation

:  
And it is He Who sends down water from the sky, and then We grow with it all kinds of plants, so We bring out from the plants green plants, We bring out from the green plants many grains; and from the palms of the palms, unravel the overhanging stalks, and the vineyards, and (We also bring out) olives and pomegranates like and dissimilar. Watch the fruit when it bears fruit, and when it ripens. Indeed, in that are signs (of Allah's power) for those who believe.

Surah Al-An'am verse 99 confirms that the oneness and power of Allah has been clearly proven for those who are still reluctant to believe. This verse reaffirms that it is Allah who sends rain water from the sky which is able to grow various types of bodies on earth. Without water, the soil will become barren and dry, making it difficult for plants to grow. Water is the main constituent of cells in plants. Lack of water will affect all aspects of plant growth, such as disruption of physiological, biochemical, anatomical, and morphological processes. Plants that lack water will experience a

decrease in photosynthetic activity so that there is a shortage of food so that the plants have a small size (Song & Banyo, 2011). This is evident when the dry season is difficult for plants to thrive and even many die, but when the rainy season arrives all plants will start to grow from the ground. Allah created rain as a sign of His power for those who believe in Him.

Based on the explanation above, there is no contradiction about the rain phenomenon which is written in the Quran and scientific evidence. Even the benefits of rain for life which are written in the Qur'an can also be explained in terms of biological sciences. The character values obtained from the rain phenomenon based on the explanation above include: 1) recognizing the oneness and power of Allah, only Allah is able to create rain; 2) be grateful for all the blessings of Allah sent down from the rain, because rain brings various benefits to life on earth, 3) Pray for goodness in every rain that falls in order to gain its benefits and avoid its losses, because rain is a blessing sent down by Allah from the sky.

#### D. CONCLUSION

Based on the discussion that has been done, it can be concluded that rain is a hydrological cycle. Rain is the process of evaporation of water that is on earth then rises to the top into clouds that are collected by the wind which is finally condensed into rain which falls back to earth in a clean state in the form of liquid, snow, or ice crystals. Meanwhile, rainwater that falls to the earth has many benefits for the survival of humans, plants, and animals. Therefore, humans as one of Allah's creations must be

grateful for all the blessings that Allah has sent down through the rain, acknowledge the oneness and majesty of God, admire all His creations, always pray for goodness when it rains because rain brings blessings.

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