

Geology In The Quran 2: Environmental Impact Of Volcanic Activities / Earthquakes / Tsunamis

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Abstract: Geology in general as found in the Quran was briefly presented during Poster Session B, Annual Geological Conference 2004, Kangar. In this current paper, other verses in the Quran more specifically applicable to volcanic activities, earthquakes and tsunamis are given. Interpretations from a geologist's point of view are made, which are considered more logical compared to previous interpretations by non-geologists. Specific references are made to: 1. The Aceh earthquake and tsunami on 26th December, 2004 (more than a quarter million loss of lives), and 2. The earthquakes in Iran on 22nd February, 2005 (more than 400 loss of lives). It is quite conclusive that the Quranic verses considered are related to geological phenomena involving volcanic activities, earthquakes and tsunamis. There is no doubt that remedial actions will be taken to restore the damages created by the recent tsunamis. More research will be carried out as an effort to find ways to reduce loss of lives and property damage, for example, the tsunami early warning system, but above all, a strong call is made to mankind to pay very serious attention to religious and moral issues.

INTRODUCTION

At the AGC 2004 in Kangar, the writer requested the audience to ponder on the following statement and question (Mokhtar G, 2004):

Geological hazards **not** involving loss of human lives may be considered as natural geological phenomena.

What about those incidents with **loss** of lives?

A year has passed, and since then at least two major incidents shocked the world.

1. The earthquake and tsunami off the western coast of Sumatra on 26th December, 2004 (Fig: 1). It has a devastating effect on the environment, including human lives and property damage, especially in Banda Aceh and the nearby surrounding areas (Fig: 2). Similar effects but to lesser degrees occurred in Malaysia, Thailand, India, Sri Lanka and other areas surrounding the Indian Ocean. Total loss of human lives is estimated to be more than a quarter million, the majority being in the Aceh area, where property damage and environmental effect are phenomenal. (Internet: USGS, 2005).

2. The earthquakes in Iran on 22nd February, 2005 (Figs: 1 & 3). Loss of human lives is reported to be more than 400. Property damage is also significant. (Internet: Earthquake in Iran, 2005).

From a geological point of view, these happenings have been extensively documented on the internet. IGM/GSM/LESTARI has organised a talk on the Aceh tsunami by Professor Emeritus Dr H D Tjia and Professor Dr J K Raj on 29th January, 2005. (H.D.Tjia & L.T.Koay, 2005).

This paper does not intend to explain the geological aspects, but only tries to relate these geological phenomena involving volcanic activities, earthquakes and tsunamis with what have been said in the Quran. There are many related verses given in the Quran, but only a few verses at three places in the Quran are chosen for interpretation, examination, analyses, discussion and conclusions to be made.

CONTENT AND DISCUSSION

The following four Quranic verses, in three different chapters, are considered most relevant to the subject matter:

1. Verses from Chapter 11. Hud. Translation by: Pickthall (1997)

1.1. Verse 11.40.

(Thus it was till), when Our command came to pass and the **oven** gushed forth water, We said

1.2. Verse 11.42.

So the ark floated with them on the **waves (towering) like mountains**, and Noah called out

Alternatively, in Bahasa Malaysia,

1. Ayat-ayat dalam Surah 11. Hud. Terjemahan oleh: Mahmud Yunus (1973)

1.1. Ayat 11.40.

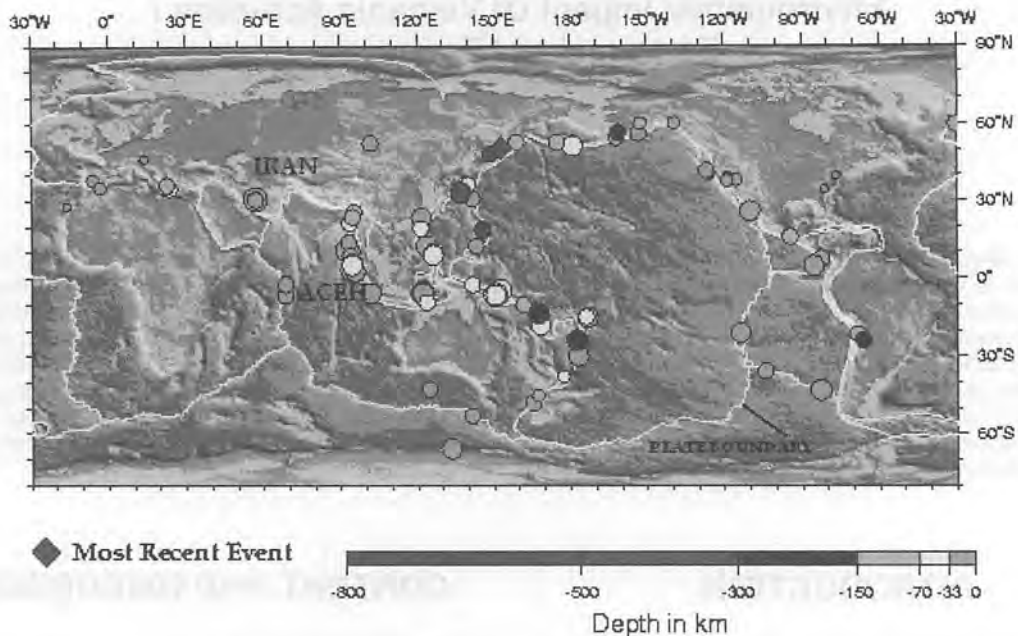
Hatta apabila datang perintah Kami, dan telah terbit air topan dari **tungku**, lalu Kami berfirman

1.2. Ayat 11.42.

Berlayarlah perahu itu bersama mereka dengan **gelombang seperti gunung**, lalu Noah memanggil

The above two verses describe the story of Noah and the Big Flood. One traditional interpretation said the water gushed out from the pot in Noah's house, which means a miracle given by Allah to Noah. (Mahmud Yunus, 1973). From a geological point of view, the word '**oven**' may mean that the water which caused the big flood came from a hot source, possibly a huge volcanic eruption and earthquake under the sea followed by a tsunami possibly many times the size of the Aceh tsunami. '**Waves (towering) like mountains**' is comparable to the recent tsunami. The height of the waves of the Aceh tsunami has been reported to be as high as 40 metres.

Updated as of Thu Feb 24 22:15:46 UTC 2005.



USGS National Earthquake Information Center

Figure: 1

Location Map: Aceh and Iran, and Recent Earthquake Epicenters/depths.

The above volcanic eruption, earthquake and big flood could have originated from the bottom of the Mediterranean Sea or even the Mid-Atlantic Ridge. A tsunami occurred in 1650 BC in ancient Greece (internet-wikipedia, 2005). Earthquakes like those in Iran have been common in the Mediterranean and Middle East region throughout the ages.

Other Quranic verses related to Noah and the Big Flood (not quoted in this paper) indicate that irreligious beliefs and practices of the people during his time were the root cause of the catastrophe.

2. Verses from Chapter 19. Maryam. Translation by Pickthall (1997)

2.1. Verse 19.90.

Whereby almost the heavens are torn, and the earth is split asunder, and the mountains fall in ruins,

Alternatively in Bahasa Malaysia,

2.1. Ayat 19.1. Terjemahan Oleh Mahmud Yunus (1973)

Hampir langit pecah-pecah kerananya dan bumi belah-belah dan gunung-gunung gugur pecah-belah,

'Almost the heavens are torn' may well mean the ozone layer, which is almost punctured.

'Earth is split asunder' clearly means earthquakes.

'Mountains fall in ruins' clearly means landslides and earthquakes.

Similarly, in related Quranic verses, the blame for these geological hazards is put on the irreligious practices of mankind.

3. Verses from Chapter 30. Al-Rom (The Romans). Translation by Pickthall (1997)

3.1. Verse 30.41.

Corruption doth appear on land and sea because of (the evil) which men's hands have done, that He may make them taste a part of that which they have done, in order that they may return.

Alternatively in Bahasa Malaysia,

3.1. Ayat 30.41. Terjemahan Oleh Mahmud Yunus (1973)

Telah lahir lah bencana didarat dan dilaut, kerana usaha tangan manusia, supaya Allah merasakan kepada mereka sebahagian dari (balasan) perbuatan yang mereka perbuat, mudah-mudahan mereka kembali (taubat).

'Corruption' may be interpreted as **catastrophes**, which include devastations on land and disappearance (sinking) of small islands from the sea surface. These geological phenomena can be scientifically explained through the theories of isostasy and plate tectonics. However, this Quranic verse specifically mentions the wrong doings of mankind as the cause for the catastrophes.

SUMMARY

It can be summarised that:

1. Quranic Verses 11.40 & 42 indicate that the Big Flood resulted from the after effects of volcanic eruption and earthquake, followed by a tsunami.



Figure: 2
Devastations in Banda Aceh



Figure: 3
Earthquake in Iran on 22/2/2005



Figure: 4
Off the Coast of Sri Lanka

2. Verse 19.90 seems to indicate the thinning of the ozone layer, but clearly mentions earthquakes and landslides,

3. Verse 30.41 mentions, also very clearly about catastrophes on land and sea.

From a scientific point of view, these hazards have been greatly understood by geologists, with theories of isostasy and plate tectonics, etc. However, the Quran says that the root causes of these catastrophes are primarily attributed to irreligious believes and immoral practices of mankind (Verse 30.41 and many other verses in the Quran).

CONCLUSIONS

It can be safely concluded that the Quranic verses analysed are related to geological phenomena of volcanic activities, earthquakes and tsunamis, and the resulting catastrophic loss of human lives is attributed to irreligious believes and practices.

RECOMMENDATIONS

Although reports indicate that restoration works are being carried out in the affected areas and some forms of tsunami early warning systems have been installed. However, it would be ideal if the earthquakes and tsunamis did not occur at all. It would be tolerable if there were no loss of human lives.

Thus, the following basic recommendations are made:

1. **Mankind is strongly called upon to pay more serious attention to religious and moral issues**, as top priority, to be followed by,

2. More research to be done to find new knowledge in the field of volcanic activities, earthquakes and tsunamis so that catastrophic loss of **human lives** and property damage can be avoided.

CLOSING QUESTION

In Fig: 4, the wave pattern seems to resemble the Arabic word of Allah, which may suggests that the tsunami is an act of God. Since the AGC in Kangar, the writer has pondered over the question of catastrophic loss of human lives through geological hazards, and is convinced with the conclusions made above. Therefore, the closing question is:

SHOULD WE PONDER FOR ANOTHER YEAR?

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