

# GLOBAL WARMING IN THE QUR'ĀN:

*“Thematic Studies of the Qur’anic Verses with Muhammad Shahrūr Hermeneutic Approach”*

‘SKRIPSI’

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## AGGREEMENT LETTER

Dear Sir,  
Dean of Faculty of Ushūluddīn  
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(IAIN) Walisongo Semarang

Assalāmu’alaikum Wr.Wb.

After correcting it to whatever extent necessary, we state that this paper belongs to a student as below:

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“Thematic Studies of the Qur’anic Verses with Muhammad  
Shahrūr Hermeneutic Approach”.

Is ready to be submitted in joining last examination.

Wassalāmu’alaikum Wr.Wb.

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## LEGALIZATION

The Paper of Muhammad Ali Mustofa Kamal (NIM: 044211017) was examined by board of thesis examiner of Faculty of Ushūluddin State Institute of Islamic Studies (IAIN) Walisongo Semarang and passed on: **January 13<sup>th</sup>, 2009**

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## MOTTO

وَمَنْ يَتَّقِ اللَّهَ يَجْعَلْ لَهُ مَخْرَجًا ﴿٢﴾ وَيَرْزُقْهُ مِنْ حَيْثُ لَا يَحْتَسِبُ  
وَمَنْ يَتَوَكَّلْ عَلَى اللَّهِ فَهُوَ حَسْبُهُ إِنَّ اللَّهَ بَالِغُ أَمْرِهِ قَدْ جَعَلَ  
اللَّهُ لِكُلِّ شَيْءٍ قَدْرًا ﴿٣﴾ ﴿الطلاق : ٢-٣﴾

- ❖ “...And for those who fear Allah, He (ever) prepares a way out.﴿2﴾  
And He provides for him from (sources) he never could imagine. And  
if anyone puts his trust in Allah, sufficient is (Allah) for him. For Allah  
will surely accomplish His purpose: verily, for all things has Allah  
appointed a due proportion.﴿3﴾”  
﴿QS.al-Talāq [65]: 2-3﴾
- ❖ “*With art life becomes beautiful, with science life becomes easy,  
with religion life becomes directed*” (Muhammad Ali Mustofa  
Kamal)
- ❖ “ Ganbatte Kudasai ”

## DEDICATION

*Losing to the process of writing this paper can be finished  
With storm and stress.*

*I would extend my deep appreciation and thanks awfully.*

*Praise is to Allāh*

*Alhamdulillahillāhirabbil'ālamīn.*

- ❖ *I dedicated this paper to my love “Lathifah” as a wedding gift.*
- ❖ *This paper was dedicated to my parents, my teachers, my friends and my students anywhere.*
- ❖ *I dedicated this paper to my friends “KKJN posko Cinta”; Succes to you all; don't forget to say”ganbatte kudasai”.*
- ❖ *To all peoples who concerned with al-Qur'ān and Hadīth, I have given you a master work; Please do read!*

∞∞∞

**DECLARATION**

I declared to the Faculty that this paper was made admittedly, and didn't imitate from another people's work except some data with apposition of foot notes and quotation information that was scientifically accountable. The Quotation of all Qur'anic verses and its translation in English refers to al-Qur'ān Software by Sakhr, version 6.5 (1991-1997). The Quotation of Hadīth text refers to Software of Mausū'ah Kutub al-Tis'ah, Isdār al-Thāni by Global Islamic Software Company (1991-1997) and its translation refers to my own translation.

*Regards,*

Muhammad Ali Mustofa Kamal

**TRANSLITERATION SYSTEM**

## ENGLISH TRANSLITERATION SYSTEM CONSONANTS<sup>1</sup>

Column Headings: A = Arabic, P = Persian,

OT = Ottoman Turkish, MT = Modern Turkish

A	ء	A	؟	A	ك
b	ب	-	؟	-	ك
-	؟	s	س	l	ل
t	ت	sh	ش	m	م
th	ث	s	ص	n	ن
j	ج	d	ض	h	هـ
-	؟	t	ط	w	و
h	ح	z	ظ	y	ي
kh	خ	‘	ع	-a <sup>1</sup>	ة
d	د	gh	غ	2	ال
dh	ذ	f	ف	1 (-at in construct state )	
r	ر	q	ق	2 ( article ) al- and ‘l-	
z	ز	k	ك	3 ( when not final )	

## VOWELS

Long or	؟	ā
	و	ū
	ي	ī
Doubled	ءِ	iyy (final form i)
	وِ	uww (final form u), etc.
Diphthongs	وِ	au or aw
	يِ	ai or ay
Short	---	a
	---	u
	---	i

For Ottoman Turkish, authors may either transliterate use the modern Turkish orthography.

## ABSTRACT

<sup>1</sup> This English transliteration system refers to L.C (Library of Congress) model. Look : Revision team, *Pedoman Penulisan Skripsi Fakultas Ushuluddin IAIN Walisongo Semarang*, (Semarang: Fakultas Ushuluddin IAIN Walisongo, 2007), edition.1, p.120-121

This paper tried to give different explanation about global warming phenomena with thematic studies of the Qur'anic verses. The writer saw that global warming is contextual problem. Global warming is widely discussed in the news today and Scientists in many fields are concerned about it. The increase in the made emission of *greenhouse gases* was the cause for global warming. Global warming was the observed and projected increases in the average temperature of Earth's atmosphere and oceans. The problem of global warming is regarded as one of the most serious environmental problems of our time. We could not find anything about global warming problem with textual comprehension in the Qur'anic verses or Sunnah tradition, but with contextual comprehension these problems were actually explained.

Many statements in the Holy Qur'ān invite us to try to see the important events that already passed that can be used as lessons for this generation or that in the future. In the light of Muhammad Shahrūr with his background as scientific figure used the science logic and modern linguistic to approach for interpreting al-Qur'ān. His assumption was nothing contradiction between reality, mind and "al-wahyu". He explained that his approach to understand of Holy Qur'ān was benefit in the science development. Muhammad Shahrūr has interpreted al-Qur'ān with hermeneutic approach, clarified that al-Qur'ān as divine revelation "al-wahyu" for mankind was sent down to be known and understood for all. Allāh exalted is He, has given guidance for human to open the secret message of Allāh. I tried to read and interpret al-Qur'ān with the *intertextuality* to explain the global warming problems. I merged the combination between thematic method of al-Qur'ān and intertextuality as a Shahrūr method to describe the global warming concept in the Qur'an in the light of Muhammad Shahrūr hermeneutic approach.

Al-Qur'ān has described the natural problem in the heaven and earth. The Order to read and recite al-Qur'ān for application was very important, besides about the phenomena in the cosmos. The signal of global warming was clarified and described by the Qur'anic verses like: global warming phenomena {QS.al-Rūm [30]: 41-42}, greenhouse effect and ozone depletion {Sabā'[34]: 9; QS.al-Mulk [67]: 16-18}, mischief and any damage, natural disasters such as tornadoes, hurricanes, floods, and droughts, tsunami, oceans suffered to burst forth, {QS.al-Infītār [82]: 1-19, QS.al-Mulk [67]: 16-18}, and another verses. The act of god currently a like disaster, damage, mischief on the earth and heaven and global warming which all of them have been resulted by human factor or only process of natural occurrence. Global warming disaster is sunnatullāh and also caused by human hands as catalyzer. The negative effects of Global warming can be resolved by changing the attitudes and actions of mankind for an environmentally safe world.

**Keyword:** *global warming, greenhouse gases, intertextuality, mischief*

## P R E F A C E

## *Her&*

Praise is to Allāh, Who hath guided me to finish this paper: never could I have found guidance, had it not been for the guidance of Allāh. Most verily Allāh and His Angels send blessings on the Prophet: O ye that believe! Send you blessings and salute on Prophet Muhammad (peace and blessings of Allāh be upon him), Messenger of Allāh, with all respect. I gave title on this paper: “GLOBAL WARMING IN THE QUR’ĀN: Thematic Studies of the Qur’anic Verses with Muhammad Shahrūr Hermeneutic Approach,” for submitted to the Faculty of Ushūluddin in partial fulfillment of the requirements for the degree of Islamic Theology in Tafsīr-Hadīth Department.

The Process of writing this paper would not finish without support and helpful effort from a lot of parties both material and spiritual. I would like to extend my deep appreciation and thanks awfully to all those who have assisted me during my graduates studies at State Institute of Islamic Studies (IAIN) Walisongo Semarang, especially Faculty of Ushūluddin.

Thanksfulness and grateful to Allāh and I would like to express my special thanks to honourable:

- 1) Prof. DR. H.Abdul Jamil, M.A; Rector of State Institute of Islamic Studies (IAIN) Walisongo Semarang, a figure and paragon for us.
- 2) DR. H.Abdul Muhayya, M.A; Dean of Faculty of Ushūluddin, State Institute of Islamic Studies (IAIN) Walisongo Semarang. You are my paragon for me, I hope to Allāh given special reward forever.
- 3) DR. Muhyar Fanani, M.Ag; as my supervisor who has guided and advised me during process of writing this paper and has spent time and thought on guiding for finishing my paper.
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- 6) All Vice dean, especially Mr. H.Yusuf Suyono, DR, M.A; Mr. Nasihun,M.Ag and Mr.Adnan,M.Ag have supported me to graduate from this studied with good result.
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Writer

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## CHAPTER I INTRODUCTION

### A. Background

Everything in the universe is creature, and only Allāh is the creator. Every creature has their own *sunnatullāh*<sup>1</sup> according to what Allāh has set them up. The rotation of earth, the damage of radio-active materials, the death of living matters were examples of *sunnatullāh* that exist far before the creation of human being and far before al-Qur’ān was descended to man through prophet Muhammad (peace and blessing of Allāh be upon him) as the messenger of Allāh. Man lives in such a world, a world full with creatures and their *sunnatullāh*.

Al-Qur’ān<sup>2</sup> is the “*i’jāz*”<sup>3</sup> of Islām that abide and his miracle always be strengthened by the development of science.<sup>4</sup> Allāh has given to mankind much primacy and excess for pierce all square and incline the elements of natural power and made it as attendant for the purposes of humans.<sup>5</sup> Science can be

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<sup>1</sup> Sunnatullāh was condition in the world which follow the applicable law and certitude in the world. The Sunnatullāh message was described by Qur’ān like: QS.al-Isrā[17]:77; Fātir[35]:43; Ghāfir[40]:85; al-Fath[48]:23; al-Ahzab[33]:32,62; al-Kahf[18]:55; al-Hijr[15]:13; al-Anfāl[8]:38.

<sup>2</sup> The term Qur’ān, most often translated as “reading” or “recital,” has been linked etymologically to Syriac *qeryānā* (“scripture reading, lection”) and to Hebrew *miqra’* (“recitation, scripture”). Some Muslim commentators have also proposed that it came from the Arabic verb *qarana*, “to put together” or “bind together,” thus giving the approximate translation of “a coherent recital” or “a scripture bound in the form of a book.” As a verbal noun (*masdar*) of the form *fu’lān*, *qur’ān* carries the connotation of a “continuous reading” or “eternal lection” that was recited and heard over and over. In this sense, it was understood both as a spiritual touchstone and a literary archetype. As a title, *al-Qur’ān* refers to the revelation (*tanzīl*) “sent down” (*unzila*) by God to the prophet Muhammad over a period of twenty two years (610–632 C.E.). In its more universal connotation, it is the self expressed umm al-kitāb or paradigm of divine communication. For all Muslims, the Qur’ān was the quintessential scripture of Islām.

<sup>3</sup> I’jāz in this term has meaning establish of weakness, this was refers to prophet Muhammad in show the truth of his prophethood and recognized as a Allāh messenger with show the weakness of arabic’s peoples to be comparable with al-Qur’ān as the abide miracle’s Muhammad (peace and blessing of Allāh be upon him). Look in the explaining of I’jāz in Mannā’ al Qattān, *Mabāhith fi Ulūm al-Qur’ān*, (Mansūrat al-’Asr al-Hadīth, 1973), third edition, p. 258-259

<sup>4</sup> Mannā’ al Qattān, *op.cit*, p. 9

<sup>5</sup> Ibid, p. 257

defined as a well documented *sunnatullāh* found by man through his systematic thinking and works. Science will develop following the progress in human quality of thinking and activities. The growth of science looks similar to a snow ball process, i.e. as science grows, man knows more about his universe which subsequently improves his quality of thinking and works and then makes science is even growing faster.

The ones of consequence from textual thinking method was under sharp to look natural phenomena and environment, cultural and social society that dynamic and develop in a row discourses and global decade especially the history of ideas.<sup>6</sup> Qur'anic messages on environment significance in human life are so clear and prospective. Environment as a system was also indicated by al-Qur'ān. Human responsibility to take care the environment was repeatedly cited. Forbidden of mischief to environment was clearly stated. The role and importance of water in environment was also stressed. The last but not least was the warning that a lot of destruction of environment has happened due to the management of earth neglecting the guidance from Allāh. The following were some of Qur'anic verses that contain the information and warning to man on the importance of environment to their life. Allāh said:

وَالْأَرْضَ مَدَدْنَا هَا وَالْأَفْنَانَ فِيهَا رَوَاسِي وَأَنْبَتْنَا فِيهَا مِنْ كُلِّ شَيْءٍ مَوْزُونٍ (19) وَجَعَلْنَا  
لَكُمْ فِيهَا مَعَايِشَ وَمَنْ لَسْتُمْ لَهُ بِرَازِقِينَ (20)

And the earth we have spread out (like a carpet); set thereon mountains firm and immovable; and produced therein all kinds of things in due balance (19). And We have provided therein means of subsistence, for you and for those for whose sustenance ye are not responsible.(20) ﴿ QS.al-Hijr [15]: 19-20 ﴾.<sup>7</sup>

The Qur'ān was described the natural problem in the heaven and earth. The Order to read and recite Qur'ān for application is very important, besides

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<sup>6</sup> Look: Prof. Dr. Amin Abdullah, *Islāmic Studies di Perguruan Tinggi*, (Yogyakarta: Pustaka Pelajar, 2006), cet.1, p.166

<sup>7</sup> The Quotation of all Qur'anic verses and its translation in English refers from al-Qur'ān software by sakhr, version 6.50,(1991-1997)

about the phenomena in the cosmos. What the act of god currently like: disaster, damage, mischief on the earth and heaven and the actual topic as global warming resulted by human factor or only process of natural occurrence? The problem of these had been explained by Qur'anic verses as lesson and teaching for humans. As we know, the contains of al-Qur'ān is always relevant to every period (*Sālihun Li Kulli Zamān Wa Makān*). Al-Qur'ān was also the guide for all mankind, clear (Signs) guidance and judgment (between right and wrong) for them.

The emphasis in modern times has been placed on the Qur'ān as the fundamental source of guidance, though this has been interpreted in several ways. Some distinguish between the kernel and the husk of Islamic tradition, identifying the Qur'ān as the kernel and denying the normative value of the other religious sciences. Others seek to reassert the primacy of the Qur'ān in the hierarchy of Islamic sciences, pointing out that although theoretically the Qur'ān has always been the most important source of Islām.

Human accountability was epitomized in the Qur'ān by a generic covenant<sup>8</sup> in which preexistent humanity, despite it was creaturely limitations, assumes responsibility for the heavens and the earth. This moral and ecological commitment constitutes another *furqān* by which human actions were assessed also called “God's covenant”<sup>9</sup>, this pact was created to distinguish male and female hypocrites (*munāfiqūn*) and those lost in contingent reality (*mushrikūn*) from the believers (*mu'minūn*) who maintain their trust in the absolute.

The debate some scholars about the interpretation of environment verses especially the topic of global warming, what is had explained by Qur'ān or not yet and additionally the issues and effect the global warming for the continuing of the human life. What is global warming the part of the disaster or torment by

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<sup>8</sup><http://www.oxfordislamicstudies.com/article/book/Islām780192831934?sura=33&astart=72> ; <accessed on October 28<sup>th</sup> 2008>

<sup>9</sup><http://www.oxfordislamicstudies.com/article/book/Islām780192831934?sura=2&astart=27> ; <accessed on October 28<sup>th</sup> 2008>

'*adhāb* of Allāh to all mankind? Prof. DR.Azyumardi Azra said that all the disaster in the earth; principally in Indonesia have correlation with global warming.<sup>10</sup>

We know that global warming is widely discussed in the news today, and scientists in many fields concerned about it.<sup>11</sup> Scientists are asking, is the climate really changing? How much? Where is it changing most? And what will be the effects of global warming on ecosystems, on water resources, on farming, and on our society? These were all important questions, but let's step back and ask more basic question: How do we know the climate is warming in the first place? Are the changes in the atmosphere and oceans really problem? And if so, are they serious enough to be considered crises? The consequences of the greenhouse effect are matters that scientists speculate about, but changes in the environmental are taking place now.<sup>12</sup>

What are some verses in the Qur'ān have inspired about the global warming? As the verse (al-Infītār[82]:1-9), (al-Takwīr[81]: 6), (al-Rūm[30]: 41), (al-Qasas[28]: 77), (Sabā'[34]: 9) and the others about disaster verses will indicate the phenomena of damage that be resulted by global warming, a like oceans are suffered to burst forth where gone under the islands. Besides some Qur'ān verses about economical principle can also indicate global warming issues as verse (Alī-Imran[3]:190-191), (al-An'ām[6]:141), (al-Rūm[30]:8), (al-Ahqāf [46]:3), Perhaps some scholars said that's between these some verses only explain about condition in the day of resurrection. But if we read again that verses might indicate about damage or message by global warming.

The Qur'ān pin down to us for re-thinking, re-contemplating of cosmos phenomena that's have been referred by sign of Qur'ān. The any other way to

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<sup>10</sup> Look at <http://azyumardiazra.com/index.php>; <accessed on August 1<sup>st</sup> 2008>.

<sup>11</sup> William P. Cunningham, Mary Ann Cunningham, *Principles of Environmental Science Inquiry and Applications*, ( Boston : McGraw Hill, 2002 ), p.192

<sup>12</sup> John L. Allen (ed), *Annual edition environmental 00/01*, (Guilford: McGraw-Hill, 2000), p.11; or see in website [www.dushkin.com/online](http://www.dushkin.com/online).

understand the sign of Qur'ān was do with hermeneutic. It's one of method to interpret the sign of Qur'anic verses. Global warming was current affairs might be explained by Qur'ān hermeneutic. As text, Qur'ān was opening corpus that potential to receive some exploitation a-like reading, translating, interpretation, and take it for reference.<sup>13</sup> The attending of Qur'ān text among Muslim community have brought into the world of Islamic discourse never stopped and made post inspiration for humans to interpret and develop of meaning for the Qur'anic verses.<sup>14</sup> So it could be said that Qur'ān till now still became core text in Islamic civilization.<sup>15</sup>

The Islamic scholar Ibnu Taimiyah said: "Who would not read Qur'ān, it's meant avoid these and Who would read Qur'ān but nor comprehend fully the meaning so mean that avoid these, and Who would read Qur'ān too along with comprehend fully the meaning but no action the contents so mean that avoid too" <sup>16</sup>. Al-Qur'ān explained in surah al-Furqān verse 30:

وَقَالَ الرَّسُولُ يَا رَبِّ إِنَّ قَوْمِي اتَّخَذُوا هَذَا الْقُرْآنَ مَهْجُورًا (30)

Then the Messenger will say: "O my Lord! Truly my people took this Qur'ān for just foolish nonsense." ﴿ QS.al-Furqān[25]: 30 ﴾

Furthermore, many statements in the Holy Qur'ān invite us to try to see the important events that already passed that can be used as lessons for the generation in the future. Examples like the destruction of Banī 'Ād, Thamūd, Aikah, lūt, Fir'aun, and so on were ordered by the al-Qur'ān to be studied and also many others become examples of goodness and badness that was ever on the face of this earth; al-Qur'ān said :

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<sup>13</sup> M. Nur Ichwan, *Hermeunetika al-Qur'ān: Analisis Peta Perkembangan Metodologi Tafsir al-Qur'ān Kontemporer*, skripsi, Fak.Ushūluddīn UIN Sunan Kalijaga, Yogyakarta, 1995, p. 2

<sup>14</sup> Komarudin Hidayat, *Memahami Bahasa Agama : Sebuah Kajian Hermeunetik* (Jakarta: Paramadina, 1996), p.15

<sup>15</sup> Nasr Hamid Abu Zaid, *Maḥām an-Nāss: Dirāsah fī Ulūm al-Qur'ān*, (Beirut: al-Markaz as-Saqafī al-Arabi, 1994), p. 9

<sup>16</sup> Muhammad Alī al-Sābuni, *al-Tibyān fī Ulūm al-Qur'ān*, (Beirut: 'Alim al Kutub, tt), published 1, p.10

أَفَلَمْ يَسِيرُوا فِي الْأَرْضِ فَيَنْظُرُوا كَيْفَ كَانَ عَاقِبَةُ الَّذِينَ مِنْ قَبْلِهِمْ دَمَّرَ اللَّهُ عَلَيْهِمْ  
وَالْكَافِرِينَ أَمَثَلَهَا (10)

Do they not travel through the earth, and see what was the end of those before them (who did evil)? Allāh brought utter destruction on them, and similar (fates await) those who reject Allāh ﴿ QS.Muhammad[47]: 10 ﴾.

وَمَا أَرْسَلْنَا مِنْ قَبْلِكَ إِلَّا رَجَالًا نُوحِي إِلَيْهِمْ مِنْ أَهْلِ الْقُرَى أَفَلَمْ يَسِيرُوا فِي الْأَرْضِ  
فَيَنْظُرُوا كَيْفَ كَانَ عَاقِبَةُ الَّذِينَ مِنْ قَبْلِهِمْ وَلَدَارُ الْآخِرَةِ خَيْرٌ لِلَّذِينَ اتَّقَوْا أَفَلَا  
تَعْقِلُونَ (109)

Nor did We send before thee (as Messengers) any but men, whom We did inspire, (men) living in human habitations. Do they not travel through the earth, and see what was the end of those before them? But the home of the Hereafter is best, for those who do right. Will ye not then understand? ﴿ QS.Yūsuf[12]: 109 ﴾

Muhammad Shahrūr has interpreted al-Qur'ān with hermeneutic approach, clarified that Qur'ān as divine revelation (*al-wahyu*) for mankind was sent down to be known and understood for all. Allāh exalted is He, has given guidance for human to open the secret message of Allāh, by Muhammad Shahrūr's method identified with the *intertextuality*.<sup>17</sup> Muhammad Shahrūr's approach for reading the Qur'ān was different to another scholar's approach, especially on verses related to nature.

Muhammad Shahrūr differentiated the meaning al-Qur'ān and al-Kitāb. Al-Qur'ān in general term was divided by three parts: (1) Umm al-Kitāb (*Muhkamāt verse*), (2) al-Qur'ān and al-Sab' al-Mathāni (*Mutashābihāt verse*), (3) Tafsīl al-Kitāb.<sup>18</sup> Umm al-Kitāb who was sent down by Allāh to prophet Muhammad (peace and blessings of Allāh be upon him) for 23 years in form

<sup>17</sup> Term: **Intertextuality** meant correlation between a text with another text. In the context of Qur'ān tafsīr, the unit of text has some meaning verses (ayah). This like a concept: *al-Qur'ān yufassiru ba'duhu ba'dan* (a portion of verse interpret a part of another). Look: Dr.Ir. Muhammad Shahrūr, *al-Kitāb wa al-Qur'ān: Qirā'ah Mu'āsirah*, (translate). Sahiron Syamsuddin, M.A (ed), *Prinsip dan Dasar Hermeneutika al-Qur'ān*, (Yogyakarta: Elsaq, 2004), p. xxi

<sup>18</sup> Look detail at Ushūluddīn library in software digital library: Muhammad Shahrūr, *al-Kitāb wa al-Qur'ān: Qirā'ah Mu'āsirah*, (Damascus: Dar al-Ahāli, 1990), p.51-61.

*al-Inzāl* and *al-Tanzīl* as a part of indivisible,<sup>19</sup> which loading the verses that correlation with *al-Suluk al-Insān* in law and morals and always open for *Ijtihād* (not in pure worshipping) accord with situation and condition of a society.<sup>20</sup> Umm al-Kitāb has character elastic and subjective.<sup>21</sup> The elasticity of understanding and application umm al-Kitāb was also called law consistency, there was *al-Hadd al-Adnā* (minimal limit) and *al-Hadd al-A'lā* (maximal limit). The subjective of understanding in umm al-Kitāb depended on man choise (*Ikhtiyār*). All concept in these be related to *al-Risālah* (attribute of a messenger of God) the prophet Muhammad (peace and blessings of Allāh be upon him).

Muhammad Shahrūr, a Syrian civil engineer and self taught scholar of Islām, has written extensively on Islām and the Qur'ān. He argued that contemporary Muslims need to reconsider and question the meaning and relevance of Islām's foundation texts. Essential to Muhammad Shahrūr's thought was his differentiation between the divine and the human understanding of the divine reality. He argued that owing for development in knowledge; contemporary scholars were much better placed than those in the past to understand the 'divine will'. Muhammad Shahrūr sought to create a new framework and methodology for understanding the Qur'ān and to this end has created his own categories for approaching the Qur'ān<sup>22</sup>. He questioned the established patterns of reading the Qur'ān. Muhammad Shahrūr wanted the readers to understand the Qur'ān like the Prophet Muhammad (peace and blessings of Allāh be upon him) has just died and informed us of this book', thus approaching the Qur'ān like reading it for the first time. The Qur'ān has to be approached in a manner relevant to contemporary concerns and needs of Muslims today.

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<sup>19</sup> Ibid, p. 157-166

<sup>20</sup> Ibid, p. 37

<sup>21</sup> Ibid, p. 445-451

<sup>22</sup> Look at: Andreas Christmann, 'The form is permanent, but the content moves': the Qur'ānic text and its interpretation(s) in Muhammad Shahrūr, *al-Kitāb wal-Qur'ān*. In *Modern Muslim Intellectuals and the Qur'ān*, edited by Suha Taji Farouki, (Oxford: Oxford University Press, 2004), p. 267–269

Link to al-Qur'ān in Muhammad Shahrūr specific understanding, a part from *al-Mutashābihat* was revealed on two forms: *al-Inzāl* and *al-Tanzīl* as separation from *al-Lauh al-Mahfuz* and from *Imām al-Mubīn*<sup>23</sup> have two content. The first part was permanent form and never changes (*al-Juz al-Thābit*). This has general norm that arrange all universe from the first creation till the Day Resurrection (*Qiyāmah*). The second part was the form of change (*al-Juz al-Mutaghayyir*), depended on the objective of naturally factor that influence, such as: specific of natural phenomena i.e: climate exchange, gender, earthquake, tsunami etc and historical phenomena (*al-Qasas*).<sup>24</sup> The verses belonging to these criteria opened to interpret appropriate for development of science or science premises (*al-Arādiyyah al-'Ilmiyyah*).<sup>25</sup> The global warming topic was including the category of discourse *al-Juz al-Mutaghayyir* (the form of change).

A part from the approaches to the Qur'ān referred to above, the late twentieth century has seen the flourishing of a variety of new ideas in the area of Qur'ānic interpretation. One of the broad trends associated with such ideas was what we might refer to as 'contextual' (as opposed to 'textual'). The 'textual' trend remains the most widely adopted approach by the interpreters of the Qur'ān to this day. Textual relied on a referential theory of meaning to determine the meaning of the Qur'ān, drawing mainly on linguistic rather than social or historical analysis. Scholars who follow this trend often believed that the language of the Qur'ān has concreted, unchanging references, and therefore the meaning and relevance that a Qur'ānic text had upon its revelation still hold for the contemporary context.

The contextual trend, broadly speaking, adopts the view that the textual study of the Qur'ān must be accompanied by knowledge of the social, cultural

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<sup>23</sup> Ibid, p. 155-157

<sup>24</sup> Ibid, p.74-81

<sup>25</sup> Ibid, p. 37

and political conditions of the time of revelation. Contextual engage didn't only in linguistic analysis, but also adopted some approaches from alternative fields such as hermeneutic and literary theory. Generally, the scholarship of contextual often associated with a form of Islamic reformism. To meaning contextual was dependent upon the socio-historical, cultural, and linguistic context of the text. Further contextual argued that subjective factors would always intervene in our understanding, which was the interpreter could not approach the text without certain experiences, values, beliefs, and presuppositions influencing their understanding<sup>26</sup>. This approach appeared to be more relevant in relation to the interpretation of the ethical-legal texts of the Qur'ān. We would look Muhammad Shahrūr briefly who could be considered part of such a trend (although he might not use the label 'contextual' to refer to his work).

Finally, al-Kitāb (al-Qur'ān) was object of interpretation. Al-Qur'an was sources of law and inspiration to context with reality in the nature. In this context, global warming as a contextual topic was needed to be approached with Muhammad Shahrūr hermeneutic method.

## **B. Formulation Of The Problems**

The research problems were therefore defined as follows:

1. What is the global warming concept in the Qur'ān in the light of Muhammad Shahrūr hermeneutic approach?
2. What is the Qur'anic suggestion to solve the global warming disaster?

## **C. Aim And Significance Of The Study**

I formulated the aim and significance of the study of global warming in the light of Muhammad Shahrūr hermeneutic approach that was defined as follows:

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<sup>26</sup> Esack provides an alternative view of the Qur'ān in relation to modern concepts of liberalism and pluralism. Looks at: Esack, Farid, *Qur'ān, Liberalism and Pluralism: An Islāmic Perspective of Interreligious Solidarity Against Oppression*, (Oxford: Oneworld, 1997), p.73-77

1. The global warming is the contextual topic now. It's the big problem threaten the viability of humans and environment in the earth, but Qur'ān doesn't yet explain detail in the verses, so any other way by hermeneutic approach to know and interpret it from Qur'ān. In this method, writer tried to explain with Muhammad Shahrūr hermeneutic approach.
2. To know how to interpret the contextual topic in order that al-Qur'ān is able to solve global warming problem.
3. To study the kinds of methodological approach in *tafsīr* especially thematic studies (*mau'dūi*) that I express in my paper as partial fulfillment of the requirements for the degree of Islamic theology in the faculty of Ushūluddīn in Tafsīr Hadīth Department.

#### **D. Study Of The Books Literature**

Based on my review, almost certainly that studies of global warming only around the science and environment perspective. The discussion about global warming from Qur'anic perspective is seldom met in the any literature. This study arose out of a concern with the question of the global warming phenomena. Therefore, I met some books literatures and sources which explained the global warming study and its relation as follow:

- *Principles of Environmental Science Inquiry and Applications* by William P. Cunningham, Mary Ann Cunningham. This book explained about understanding of environment which drags in global warming topic as effect from environment damage, but framework of approach in science only. Whereas, this paper in chapter one analyzed the global warming, terminology and definition related with Principles of Environmental Science.
- *Annual Edition: Environment 2000/2001* by John L Allen (Duskin / McGraw Hill, 2000). This book also explained about the global challenge around an environment. Nevertheless, imbalance in environment gave occasion to global warming issues. Whereas, this paper analyzed the global warming related with global challenge and environment.

- Sahiron Syamsuddin, *Metode Intertekstualitas Muhammad Shahrūr dalam penafsiran al-Qur'ān*, in Abdul Mustaqim and Sahiron Syamsuddin (ed), *Studi al-Qur'ān Kontemporer*, (Yogyakarta: Tiara Wacana, 2002). In this book explained some ways of working the intertextuality method by Muhammad Shahrūr. Whereas, I used the intertextuality method in this paper to develop in the thematic studies of the Qur'anic verses about global warming in the light of Muhammad Shahrūr hermeneutic approach.
- Ahmad Zaki Mubarak, *Pendekatan Strukturalisme Linguistik dalam Tafsir al-Qur'an Kontemporer "ala" M. Syahrur*, (Yogyakarta: eLSAQ Press, 2007). This book explained Muhammad Shahrūr methodology as his book *Qirā'ah Mu'asirah* with linguistic framework. This book only analysis Muhammad Shahrūr's methodology of hermeneutic with linguistic framework. Whereas, this paper I used the result of Ahmad Zaki Mubarak work to explain the global warming themes as contextual topic that unclear or not explicit in the al-Qur'anic text, where were related ecology, science and environment factors in light of Muhammad Shahrūr hermeneutic approach.
- Muhammad Shahrūr, *al-Kitāb wa al-Qur'ān: Qirā'ah Mu'asirah*, (Damascus: Dar al-Ahāli, 1990). This book explained about the Qur'anic hermeneutic. Muhammad Shahrūr sought to create a new framework and methodology for understanding the Qur'ān and to this end has created his own categories for approaching the Qur'ān. He made many reader to understand the Qur'ān 'as if the Prophet Muhammad has just died and informed us of this book', thus approaching the Qur'ān as if reading for the first time. Chapter two from this book has translated by M.Firdaus, *Dialektika Kosmos & Manusia Dasar-Dasar Epistemologi Qurani*, Bandung: Nuansa, 2004; explained the basics of Qur'anic epistemology, and discussed about cosmos dialectic and human being. Furthermore, the global warming problems were important of big themes that could be collaborated with Muhammad Shahrūr's frame work. Whereas, this paper tried to continue the topic discuss in chapter two of *Qirā'ah Mu'asirah* to global

warming topic used Muhammad Shahrūr's frame work.

- The collection articles: International Seminar on Miracle of al-Qur'ān and al-Sunnah on Science and Technology, organized by Muslim Intellectual Society of Indonesia (ICMI), 1994. These articles could be accessed in library of Ushūluddīn State Institute of Islamic Studies (IAIN) Walisongo Semarang. In these articles explained the topics in cosmos has correlated science and technology both by al-Qur'ān and al-Sunnah. Whereas, this paper tried the Qur'anic approximation to develop of another science themes as like global warming have been not yet discussed by Qur'anic approach.
- Abu Fatiah al-Adnani, *Global Warming sebuah isyarat dekatnya akhir zaman dan kehancuran dunia*, (Surakarta: Granada Mediatama, 2008), cet.1. This book explained the global warming phenomena from prophethood relation with *Qiyāmah*. This approach in this book more confirms to *Qiyāmah* issues and used description method only and nothing tafsīr approach. Whereas, this paper explained the global warming in the light of tafsīr approach.
- The environmentalist *fatwa* from the “Majelis Ulama Indonesia” (MUI), the Central Kalimantan branch of the “Majelis Ulama Indonesia” (MUI) (*Keputusan fatwa MUI wilayah IV Kalimantan no: 128/MUI-KS/XII/2006*) that issued a decree, or *fatwa* about the burning down of forests or any area of land, thereby making unauthorised deforestation *a haram*, sinful matter for Muslims, or for those which accept the MUI's authority at any rate. This edict (*fatwa*) contents the rule to halt the haze of the burning forest, illegal logging and mining, for reduce the environmental degradation by changing the perceptions and the behavioral change of the community. Whereas, this paper more feature the global warming problems and analyze from Qur'anic verses.
- Prof. DR.Mujiono Abdillah, M.A, *Agama Ramah Lingkungan* (Jakarta: Paramadina, 2001), edition 1 and *Fikih Lingkungan*, (Yogyakarta: UPP AMP YKPN, 2005), edition 1. This book discussed about the environmental issues. The first book “Agama Ramah Lingkungan“discussed about concept

of theology of environment which this concept tried to explain the environmental insight with basic of theology (*'aqidah*) i.e faith and belief of Islamic spirituality. The second book “Fikih Lingkungan” discussed about *ijtihad*, discourse the rule of environmental behaviour. The explanation from this book used the *fiqih* approach and development from thematic studies from Qur’anic verses about environment. Whereas, this paper more focus in global warming problem as environment issues, and also the thematic studies from Qur’anic verses used the hermeneutic approach, so producing the different of point of view.

All of these books and literatures were not finish in the global warming discussing only in the Qur’anic perspective. This paper tried to continue the global warming discussing coupled with Islām, science, environment to know the global warming concept in the Qur’ān. I used the Muhammad Shahrūr hermeneutic approach to explain it.

## E. Methodology

Based on the formulation of the problem above, so the process of writing this paper was library research. The data have correlation on this paper collected from literary study. Therefore, to create these data or information needed systematic as follow:

### a) Data Source :

#### 1. Primary data

It was the information which is acquired in direct from research subject as source information searchable.<sup>27</sup> The primary data in this paper was the Qur’ān and supported by the books of tafsīr or literatures that got down the cases about theme of global warming by Muhammad Shahrūr hermeneutic approach, concerning the Qur’anic verses having correlation the actual problem and cases needed.

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<sup>27</sup> DR. Rianto Adi, *Metodologi Penelitian Sosial dan Hukum*, (Jakarta: Granit, 2004), first edition, p.57.

## 2. Secondary data

Secondary data was information which advocates and supports this research.<sup>28</sup> These were the books on occasion of the formulation of problems like internet sources or much information direct that contributed to topic.

### b) Collecting Data

This study was library research which supplied data or matter from books, website, journal, paper, seminar etc, which supported and helped to answer and solve the problem discussion.<sup>29</sup> The collecting of data which related this research have done from library research, because this research on occasion of understanding of Qur'anic verses which explained and described the global warming phenomena. Therefore, this research as methodology could be categorized to explorative research.<sup>30</sup> By Muhammad Shahrūr hermeneutic approach would be looked for the meaning from verse which accorded with the spirit contextual from the topic. The sources had been needed from the tafsīr books of classic and modern; *Ulūm al-Qur'ān*, *Ulūm al-Hadīth*. The tafsīr books such as: *Jauhar fi al-Tafsīr al-Qur'ān* by Shaikh Tantōwī Jauharī, *al-Kashāf* by al-Zamakhsharī, *tafsīr Ibnu Kathīr*, *Mannā' al-Qattān*, *Tafsīr wa al-Mufassirūn fi al-Asr al-Hadīth* by Muhammad Husain al-Dhahabī, *al-Mu'jam al-Mufahras li Alfāz al-Qur'ān al-Karīm* by Muhammad Fuad Abdul Baqi, *al-Tibyān fi 'Ulūm al-Qur'ān* by 'Alī al-Sābūnī, *al-Mu'jam al-Wasīt*, *Lisān al-'Arāb*, and etc.

To support these, I used *Maktabah al-Shāmilah Software: Isdār al-Thāni* (<http://www.waqfeya.net/shamela>), *Holy Qur'ān* by Sakhr Software version 6.5 (1991-1997), *Software of Mausū'ah Hadīth al-Sharif Kutub al-Tis'ah: Isdar al-Thāni* by Global Islamic Software Company (1991-1997), *Software*

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<sup>28</sup> Moh Nazir, *Metode Penelitian*, (Jakarta: Graha Indonesia, 1998), p. 235

<sup>29</sup> Hadari Nawawi, *Metodologi Penelitian bidang siasal*, (Yogyakarta: Gajah Mada Press, 1991), p. 30

<sup>30</sup> Suharsini Arikunto, *Prosedur, Penelitian; Suatu Pendekatan Teori dan Praktek*, (Jakarta: Rineka Cipta, 2002), p.126.

of English Dictionary: SatuVISI Indict freeware Edition v.2.0 version 2.0.1(Build 40), Software of Pocket Oxford Dictionary by Oxford University (March 1994), sources of colloquium and seminar about global warming, etc.

### c) Method Of Data Analysis

The analysis of data from the collecting data above was divided into three phases as follows:

#### 1. Inductive method

Inductive method was the mind method from specifically of theorem to generally of theorem as the conclusion.<sup>31</sup>

#### 2. Deductive method

Deductive method was the mind methods get started from generally of theorem, and then take it for specifically of theorem from these.<sup>32</sup>

#### 3. Thematic Method

This thematic method was getting down the cases from Qur'anic verses that have correlation with the topic. All of the verses wich have relation the topic be collected then analyzed them from any approach as commentary from *Mufasssīr*, *Asbāb al-Nuzūl* (if they were present), grammar, argumentation from sunnah tradition (*Hadīth*), linguistic, and scientific to explain it, belonging our argument who rational that accountable as scientific.<sup>33</sup> There explained away while being supported from al-Qur'ān and Hadīth theorem, along with fact finding which is scientifically accountable.

Besides, the methodology of Qur'āniah was also used to explain the meaning of verses. There was historical method, comparative method, prediction method, observation method, clinical method, trigger method,

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<sup>31</sup> Sutrisno Hadi, *Metodologi Research*, (Yogyakarta: Andi Offset, 2001), p. 42.

<sup>32</sup> Ibid, p. 43

<sup>33</sup> Nasiruddin baidan, *Metodologi Penafsiran Al-Qur'ān*, (Yogyakarta: Pustaka Pelajar, 1998), p.151.

behavior method, empirical / induction method<sup>34</sup>: appropriated for the verses who explained the topic ideas, what was about *Asbāb al-Nuzūl* (if they were present) and historical of the verses, opinion by some mufassīr, linguistic approach, *intertextuality* of verses and hermeneutic approach. The conclusion of this method was the final interpreter.

## F. Structure Of This Study

Writer will explain structure of the book and made up of five chapters as follows:

- Chapter I: discuss the research problems from introduction have been divided into backgrounds, formulation of problems, aim and significance of study, study of the books literature, methodology and structure of this study.
- Chapter II: discuss the basic theorem on the subject of global warming account for terminology and definition, impacts, causes, effects and global warming issues.
- Chapter III: the first part explain Muhammad Shahrūr framework of interpreting the Qur'ān such as Shahrūr background and his method to read al-Qur'ān; the second part discuss the global warming from Qur'anic verses account for hermeneutic approach, the argument and its interpretation from some interpreter (*Mufassīr*). Both by Muhammad Shahrūr hermeneutic approach and thematic method (*Maudūi*) from the verses correlation it with *intertextuality* method, make analysis and to context with the problem will be discussed.
- Chapter IV: review the problem solving around the global warming in the future for the mankind living, result, danger and step in the future to solve the threat of global warming. Then from al-Qur'ān and Islamic law afford to give contribution for solving.
- Chapter V: contain the closing and conclusion in which it is the result of

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<sup>34</sup>Look at: Dr. Ir. Ika-Rochdjatun Sastrahidayat, Agriculture Faculty of Brawijaya University, *International Seminar on Miracle of al-Qur'ān and al-Sunnah on science and Technology by ICMI 1994*, collected by Library of Faculty of Ushūluddīn, page 10-13

this study after employing scrupulous methods, and meticulous academic analysis.

## CHAPTER II

### GLOBAL WARMING IN TERM OF ISSUES

#### A. Global Warming Definition

Global warming<sup>1</sup> is widely discussed in this news period. The question about the definition for global warming or in other words: what is global warming? The term “global warming” refers to the rising temperature of the earth due to an increased amount of greenhouse gases.<sup>2</sup> This was the increase in the average measured temperature of the earth's near-surface air and oceans since the mid-20<sup>th</sup> century, and its projected continuation.<sup>3</sup> Global warming was the observed and projected increases in the average temperature of earth's atmosphere<sup>4</sup> and oceans. The earth's average temperature rose about 0.6° Celsius (1.1° Fahrenheit) in the 20<sup>th</sup> century.<sup>5</sup> Global warming was a term to account for an over impact of the greenhouse effect.<sup>6</sup> The greenhouse effect

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<sup>1</sup> In 1988, James Hansen, director of NASA's Goddard Institute of Space Studies, testified before the Senate that based on computer models and temperature measurements he was "99 percent sure the [human caused] greenhouse effect has been detected and it is changing our climate now." His statement was widely covered by the media and brought the term "global warming" to the general public's attention for the first time. Many of his colleagues thought, and still think, that his announcement was premature at best and rash at worst. But critics received little attention in the rush to publicize this most apocalyptic of all environmental threats. Look at : <http://www.ncpa.org/ba/ba299.html> ). <accessed on October 28<sup>th</sup> 2008>

<sup>2</sup> Greenhouse Gases is any gas that absorbs infra-red radiation in the atmosphere. Greenhouse gases include water vapor, carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), halogenated fluorocarbons (HCFCs), ozone (O<sub>3</sub>), perfluorinated carbons (PFCs), and hydrofluorocarbons (HFCs). Look website: <http://www.globalwarmingissues.wordpress.com/>. <accessed on October 28<sup>th</sup> 2008>

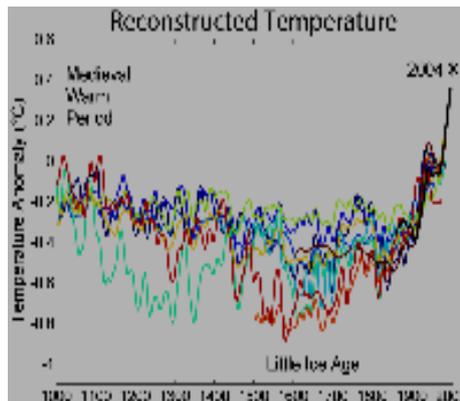
<sup>3</sup> [http://en.wikipedia.org/wiki/global\\_warming](http://en.wikipedia.org/wiki/global_warming). <accessed on October 28<sup>th</sup> 2008>

<sup>4</sup> Atmosphere is the mixture of gases surrounding the Earth. The Earth's atmosphere consists of about 79.1% nitrogen (by volume), 20.9% oxygen, 0.036% carbon dioxide and trace amounts of other gases. The atmosphere can be divided into a number of layers according to its mixing or chemical characteristics, generally determined by temperature. The layer nearest the Earth is the troposphere, which reaches up to an altitude of about 8 km (about 5 miles) in the polar regions and up to 17 km (nearly 11 miles) above the equator. The stratosphere reaches to an altitude of about 50 km (31 miles) and lies above the troposphere. The mesosphere extends up to 80-90 km and is above the stratosphere, and finally, the thermosphere, or ionosphere, gradually diminishes and forms a fuzzy border with outer space. There is very little mixing of gases between layers.

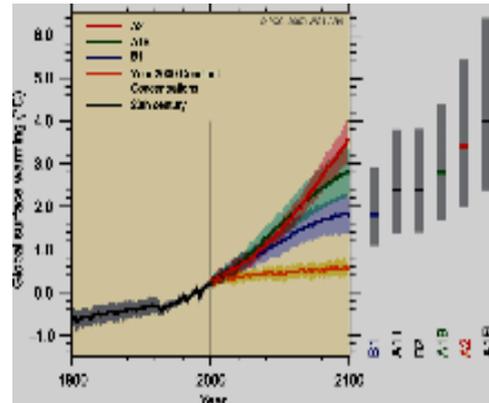
<sup>5</sup> <http://timeorchange.org/definition-for-global-warming-is-global-warming> <accessed on October 28<sup>th</sup> 2008>

<sup>6</sup> The phenomenon is called “greenhouse effect” because the atmosphere, loosely comparable to the glass of a greenhouse, transmits sunlight while trapping heat inside. Greenhouse Effect is the effect produced as greenhouse gases allow incoming solar radiation to

was a natural process that the earth undergoes to maintain a normal temperature range. If this process did not exist then the average temperature of the earth would be 0° F<sup>7</sup> and life would not be sustained on earth but because this process does exist this keeps the average temperature of the earth at an average 52° F.



Picture 2.1: Reconstructed Temperature



Picture 2.2: Global Surface Warming

Global surface temperature<sup>8</sup> increased  $0.74 \pm 0.18 \text{ }^{\circ}\text{C}$  ( $1.33 \pm 0.32 \text{ }^{\circ}\text{F}$ ) during the 100 years ending in 2005. This process was necessary and important to keep the earth at a constant temperature, but the main cause of this overworking of the greenhouse effect lies in the issue of pollution.<sup>9</sup>

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pass through the Earth's atmosphere, but prevent most of the outgoing infrared radiation from the surface and lower atmosphere from escaping into outer space. This process occurs naturally and has kept the Earth's temperature about 60 degrees Fahrenheit warmer than it would otherwise be. Current life on Earth could not be sustained without the natural greenhouse effect. However, too much greenhouse effect, caused by burning of fossil fuels and deforestation, may cause harmful environmental change. See in : William P.Cunningham, Mary Ann Cunningham, *Principles of Environmental Science Inquiry and Applications*, ( Boston : McGraw Hill, 2002 ), p 194

<sup>7</sup> °F means and should be read as De-grees Fahr-en-heit, Units for measuring temperature. Fahrenheit units represent a thermometric scale on which under standard atmospheric pressure the boiling point of water is at 212 degrees above the zero of the scale, the freezing point is at 32 degrees above zero, and the zero point approximates the temperature produced by mixing equal quantities by weight of snow and common salt.

<sup>8</sup> [http://www.globalwarmingart.com/wiki/Image:Instrumental\\_Temperature\\_Record\\_png](http://www.globalwarmingart.com/wiki/Image:Instrumental_Temperature_Record_png)

<sup>9</sup> According The Intergovernmental Panel on Climate Change (IPCC) concludes "most of the observed increase in globally averaged temperatures since the mid-twentieth century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations" via an enhanced greenhouse effect. Natural phenomena such as *solar variation* combined with *volcanoes* probably had a small warming effect from pre-industrial times to 1950 and a small cooling effect from 1950 onward. These basic conclusions have been endorsed by at least 30 scientific societies and academies of science, including all of the national academies of science of the major industrialized countries. While individual scientists have voiced disagreement

Pollution was the introduction of contaminants into an environment<sup>10</sup> that causes instability, disorder, harm or discomfort to the physical systems or living organisms they were in. Pollution could take the form of chemical substances, or energy, such as noise, heat, or light energy. Pollutants, the elements of pollution, can be foreign substances or energies, or naturally occurring; when naturally occurring, they were considered contaminants when they exceeded natural levels. Pollution was often classed as point source or non point source pollution.<sup>11</sup> One of kind's pollution was air pollution. This was equally serious for ecosystem health and for human health. The most important effects of air pollution as follow: human health, plant pathology, and visibility reduction, acid deposition (aquatic effects of acid deposition, forest damage, buildings and monuments).<sup>12</sup>

In the past few years, the world has experienced devastating natural disasters on a level that hasn't been seen for decades. There was much speculation that these especially strong phenomena were due to global climate change, brought on by global warming. The scientific community as a whole has determined through all research that global warming was a problem caused by human influence. The burning of fossil fuels emits greenhouse gases such as

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with these findings, the overwhelming majority of scientists working on climate change agree with the IPCC's main conclusions. Look detail in website: <http://www.rpi.edu/%7Engok/Global%20warming/global.html>. <accessed on October 28<sup>th</sup> 2008>; [http://en.wikipedia.org/wiki/global\\_warming](http://en.wikipedia.org/wiki/global_warming). <accessed on October 28<sup>th</sup> 2008>

<sup>10</sup> Environment ( from the French *environner* : to encircle or surround ) can be defined as (1) the circumstances and conditions that surround an organism or group of organism, or (2) the social and cultural conditions that affect an individual or community. Since humans inhabit the natural world as well as the "built" or technological, social, and cultural world, all constitute important parts of our environment. See in the book : William P.Cunningham, Mary Ann Cunningham, *Principles of Environmental Science Inquiry and Applications*, ( Boston : McGraw Hill, 2002 ), p 4

<sup>11</sup> Sometimes the term pollution is extended to include any substance when it occurs at such unnaturally high concentration within a system that it endangers the stability of that system. For example, water is innocuous and essential for life, and yet at very high concentration, it could be considered a pollutant: if a person were to drink an excessive quantity of water, the physical system could be so overburdened that breakdown and even death could result. Another example is the potential of excessive noise to induce imbalance in a person's mental state, resulting in malfunction and psychosis. Look detail at: <http://en.wikipedia.org/wiki/pollution>. <accessed on October 28<sup>th</sup> 2008>

<sup>12</sup> William P.Cunningham, Mary Ann Cunningham, *Principles of Environmental Science Inquiry and Applications*, ( Boston : McGraw Hill, 2002 ), p 211-214

carbon dioxide into the atmosphere. These gases were be trap the heat from the sun and cause the temperature of our planet to rise. This warming of the globe could potentially alter sea level, crop yield and rain fall, and could increase the intensity and frequency of natural disasters such as tornadoes, hurricanes, floods, and droughts<sup>13</sup>

Global warming, if left unsolved, could result in catastrophic effects that could kill millions of people all because of the negative environment harming impacts of man-made technology and human actions. Even though there were solutions readily available, there was stubbornness in the attitude and actions of mankind that needs to be changed for the greater good of the earth and those that inhabit the land. Therefore now is the time to learn and take action before it is too late.<sup>14</sup>

Basically, global warming means our earth getting hotter and hotter. Our home earth is getting warmed continuously through various sources such as gases in the atmosphere, ultra violet radiations and many more. And thousand of scientists have concluded that global warming might be not possible to control and it was beyond of our hand which was changing our current climate. Only one factor was not associated with the global warming because there were many and due the human activities is the single most major factor which increasing global warming in the atmosphere. Such activities included burning of fossil fuels, oils and many more similar to that.<sup>15</sup>

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<sup>13</sup> <http://www.globalwarmingissues.wordpress.com/>. <accessed on October 28<sup>th</sup> 2008>

<sup>14</sup> <http://www.rpi.edu/%7Engok/Global%20warming/home.html>. <accessed on October 28<sup>th</sup> 2008>

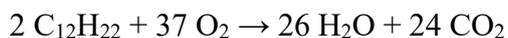
<sup>15</sup> The increase in greenhouse gases during the past two centuries has resulted primarily from industrial processes in which fossil fuels are burned. Thus, a large proportion of the greenhouse gases produced by human activity have resulted from economic development in the industrialized countries (a fact that developing countries are not reluctant to mention when discussing the global warming issues). See in: John L. Allen (ed), *Annual edition environmental 00/01*, (Guilford: McGraw-Hill, 2000), p.9. See too in <http://globalwarming-awareness2007-arshad.com/global-warming-awareness.shtml>. <accessed on October 28<sup>th</sup> 2008>

The best way is to calculate the carbon dioxide emissions based on the fuel consumption. This table<sup>16</sup> below is calculating CO<sub>2</sub> emissions by fuels. For each gallon (UK) of petrol fuel consumed, 10.4 kg carbon dioxide (CO<sub>2</sub>) is emitted:

fuel type	unit	CO2 emitted per unit
Petrol	1 gallon (UK)	10.4 kg
Petrol	1 liter	2.3 kg
Gasoline	1 gallon (US)	8.7 kg
Gasoline	1 liter	2.3 kg
Diesel	1 gallon (UK)	12.2 kg
Diesel	1 gallon (US)	9.95 kg
Diesel	1 liter	2.7 kg
Oil (heating)	1 gallon (UK)	13.6 kg
Oil (heating)	1 gallon (US)	11.26 kg
Oil (heating)	1 liter	3 kg

Table 2.3: CO<sub>2</sub> emissions by fuels.

We can calculate the values with some basic knowledge of chemistry. Let's demonstrate this for diesel fuel. Diesel is a mixture of so-called saturated and aromatic hydrocarbons, the average chemical formula for common diesel fuel is often assumed C<sub>12</sub>H<sub>26</sub>, but its compounds range from about C<sub>10</sub>H<sub>22</sub> to C<sub>15</sub>H<sub>32</sub>. Burning fuel is called an oxidation process. To make it simple, we assume C<sub>12</sub>H<sub>26</sub> as chemical formula for diesel fuel. Then the following chemical reaction takes place:



The above equation says: From 2 moles of C<sub>12</sub>H<sub>22</sub> (= diesel fuel) we get 24 moles of CO<sub>2</sub> (carbon dioxide). The molecular weight of C<sub>12</sub>H<sub>22</sub> is 170 g / mole and for CO<sub>2</sub> it is 44 g / mole. So the above equation also says: When we burn (oxidise) 340 g diesel (2 \* 170) you get 1'056 g CO<sub>2</sub> (24 \* 44). Since diesel has

<sup>16</sup> [http://timeorchange.org/responsibility\\_and\\_carbon\\_footprint](http://timeorchange.org/responsibility_and_carbon_footprint).

a density of about 850 g per liter, burning 1 liter of diesel creates  $850 / 340 * 1'056 \text{ g CO}_2 = 2'640 \text{ g CO}_2$ . In the table above we find the value of 2'700 g CO<sub>2</sub> per liter diesel instead of 2'640 g, the little difference is because for the calculation of the values in the table above I used a more sophisticated assumption for the chemical formula of diesel. For all other fuels, we can also do a similar calculation. As mentioned above, there is no "source" needed, just some knowledge of chemistry is enough.

## B. Impacts Of Global Warming

The scientists have been recognized long-range problems by global warming, concentrating at first on sea-level rise and a threat to food supplies. New items were gradually added to the list, ranging from the degradation of ecosystems to threats to human health. Experts in fields from forestry to economics, even national security experts, pitched in to assess the range of possible consequences. It was impossible to make solid predictions given the complexity of the global system, the differences from one region to another, and the ways human society itself might try to adapt to the changes. But by the start of the 21<sup>st</sup> century, it was clear that climate change would bring serious harm to many regions — some more than others. Indeed many kinds of damage were already beginning to appear.

A large body of scientific studies, exhaustively reviewed, has produced a long list of possibilities. Nobody could say that any of the items on the list were certain to happen. But all the world's climate experts, virtually without dissent, agree that the impacts listed below were *more likely than not* to happen. For some items, the probabilities range up to almost certain. The following were the likely consequences of warming by a few degrees Celsius — that was, what we may expect if humanity managed to begin restraining its emissions soon, so that greenhouse gases did not rise beyond twice the pre-industrial level.<sup>17</sup>

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<sup>17</sup> Industrial is term that Relating to industry; in this case, industrial practices refer how products are made and used.

Without strong action the doubling would come well before the end of this century. By 2007, many of the predicted changes were observed to be actually happening.<sup>18</sup> Reality descended upon the abstract world of impact studies as actual consequences of global warming began to appear. A description of impacts meant little to people unless it was translated into specific human terms.

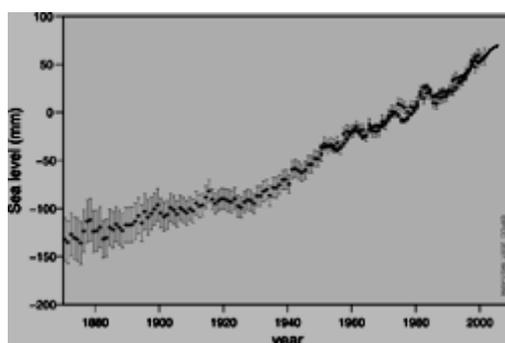
Therefore, up to these point that impacts of global warming defined as follows:<sup>19</sup>

**1. Most places will continue to get warmer, especially at night and in winter.**

The temperature change will benefit some regions while harming others — for example, patterns of tourism will shift. The warmer winters will improve health and agriculture in some areas, but globally, mortality will rise and food supplies will be endangered due to more frequent and extreme summer heat waves and other effects. Regions not directly harmed will suffer indirectly from higher food prices and a press of refugees from afflicted regions.

**2. Sea levels will continue to rise for many centuries.**

The last time the planet was 3°C warmer than now, the sea level was



Picture 2.4: Sea levels

roughly 5 meters higher. That submerged coastlines where many millions of people now live, including cities from New York to Shanghai. The rise<sup>20</sup> will probably be so gradual that later generations can simply abandon their parents' homes;

<sup>18</sup> <http://www.aip.org/history/climate/impacts.htm>. <accessed on October 28<sup>th</sup> 2008>

<sup>19</sup> <http://www.aip.org/history/climate/impacts.htm>. <accessed on October 28<sup>th</sup> 2008>

<sup>20</sup> Look: <http://www.nc.dc.noaa.gov/oa/climate/globalwarming.html>

But a ruinously swift rise cannot be entirely ruled out. Meanwhile storm surges will cause emergencies.

**3. Weather<sup>21</sup> patterns will keep changing toward an intensified water cycle with stronger floods and droughts.**

Most regions now subject to droughts will probably get drier (because of warmth as well as less precipitation)<sup>22</sup>, and most wet regions will get wetter. Extreme weather events will become more frequent and worse. In particular, storms with more intense rainfall are liable to bring worse floods. Mountain glaciers and winter snow pack will shrink, jeopardizing many water supply systems. Each of these things has already begun to happen in some regions.

**4. Ecosystems<sup>23</sup> will be stressed**

Although some management of agricultural and forestry systems will benefit at least in the early decades of warming. Uncounted valuable species, especially in the Arctic, mountain areas, and tropical seas, must shift their ranges. Many that cannot will face extinction. A variety of pests and tropical diseases are expected to spread to warmed regions. Each of these problems has already been observed in numerous places.

**5. Increased carbon dioxide levels will affect biological systems independent of climate change.**

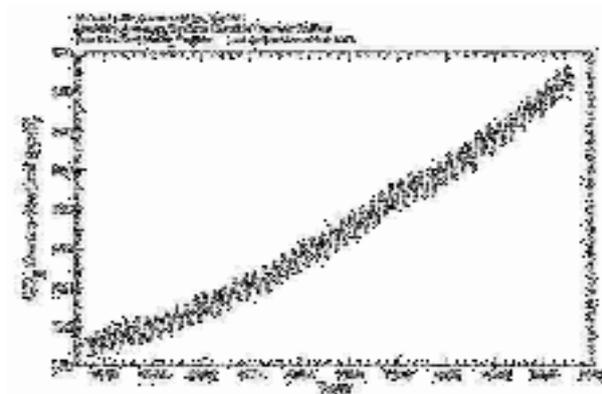
Some crops will be fertilized, as will some invasive weeds (the balance of benefit vs. harm is uncertain). The oceans will continue to become markedly more acidic, gravely endangering coral reefs, and probably harming fisheries and other marine life. Level of CO<sub>2</sub> in the atmosphere,

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<sup>21</sup> Weather is the specific condition of the atmosphere at a particular place and time. It is measured in terms of such things as wind, temperature, humidity, atmospheric pressure, cloudiness, and precipitation. In most places, weather can change from hour-to-hour, day-to-day, and season-to-season. Climate is the average of weather over time and space. A simple way of remembering the difference is that 'climate' is what you expect (e.g., cold winter) and 'weather' is what you get (e.g., a blizzard).

<sup>22</sup> Precipitation composed of Rain, hail, mist, sleet, snow or any other moisture that falls to the Earth.

<sup>23</sup> Ecosystem is the complex of a community of organisms and the community's environment functioning as an ecological unit.



Picture 2.5: CO<sub>2</sub> concentration per year

1958-2007; the curve<sup>24</sup> has been climbing exponentially except in the mid 1990s when the economy of Eastern Europe and the Soviet Union collapsed. The amount of gas added to the atmosphere is

doubling every 30-35 years. See latest results from Scripps CO<sub>2</sub> program. During the 1990s, further ice core measurements indicated that during past glacial periods, temperature changes had preceded CO<sub>2</sub> changes by several centuries. Was it necessary to give up the simple hypothesis that had attracted scientists ever since Tyndall in the 19<sup>th</sup> century — that changes in CO<sub>2</sub> were a simple and direct cause of ice ages? Some scientists doubted that dates could be measured so precisely, but most of the evidence pointed to a time lag. This confused many people. If changes in CO<sub>2</sub> lagged behind changes in temperature (and likewise for methane, another greenhouse gas measured in the ice cores), didn't that contradict the greenhouse theory of global warming? But in fact the lag was not good news.

## 6. There will be significant unforeseen impacts.

Most of these will probably be harmful, since human and natural systems are well adapted to the present climate. The climate system<sup>25</sup> and

<sup>24</sup> Looks: <http://www.aip.org/history/climate/co2.htm>. <accessed on 28<sup>th</sup> October 2008>

<sup>25</sup> Climate System is the atmosphere, the oceans, the biosphere, the cryosphere, and the geosphere, together make up the climate system. Scientists have studied global warming with computer models of the climate. These models are based on physical principles of fluid dynamics, radiative transfer, and other processes, with simplifications being necessary because of limitations in computer power and the complexity of the climate system. All modern climate models include an atmospheric model that is coupled to an ocean model and models for ice cover on land and sea. Some models also include treatments of chemical and biological processes. These models project a warmer climate due to increasing levels of greenhouse gases. However, even when the same assumptions of future greenhouse gas levels are used, there still remains a considerable range of climate sensitivity.

ecosystems was complex and only partly understood, so there was a chance that the impacts will not be as bad as predicted. There was a similar chance of impacts grievously worse than predicted. If the CO<sub>2</sub> level keeps rising to well beyond twice the pre-industrial level along with a rise of other greenhouse gases, as must inevitably happen if we do not take strong action soon, the results will certainly be worse — probably including a radical reorganization and impoverishment of many of the ecosystems that sustain our civilization.

### C. Causes Of Global Warming

The increase of greenhouse gas concentration (mainly carbon dioxide) led to a substantial warming of the earth and the sea, called *global warming*. In other words: the increase in the made emission of **greenhouse gases** caused for global warming.

Almost 100% of the observed temperature increase over the last 50 years has been due to the increase in the atmosphere of greenhouse gas concentrations like water vapour, carbon dioxide (CO<sub>2</sub>), methane<sup>26</sup> and ozone. Greenhouse gases<sup>27</sup> are those gases that contribute to the greenhouse effect.<sup>28</sup>

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Look at: [http://en.wikipedia.org/wiki/global\\_warming](http://en.wikipedia.org/wiki/global_warming). <accessed on October 28<sup>th</sup> 2008>

<sup>26</sup> Methane is Colorless, odorless, flammable hydrocarbon (CH<sub>4</sub>) that is a product of decomposition of organic matter and of the carbonization of coal. Methane is one of the greenhouse gas chemical compounds.

<sup>27</sup> The major natural greenhouse gases are water vapor, which causes about 36-70% of the greenhouse effect on Earth (not including clouds); carbon dioxide CO<sub>2</sub>, which causes 9-26%; methane, which causes 4-9%, and ozone, which causes 3-7%. It is not possible to state that a certain gas causes a certain percentage of the greenhouse effect, because the influences of the various gases are not additive. Other greenhouse gases include, but are not limited to, nitrous oxide, sulfur hexafluoride, hydro fluorocarbons, per fluorocarbons and chlorofluorocarbons. Look in website: <http://timeorchange.org/cause-and-effect-for-global-warming>. <accessed on October 28<sup>th</sup> 2008>

<sup>28</sup> The greenhouse effect is the rise in temperature that the Earth experiences because certain gases in the atmosphere (water vapor, carbon dioxide, nitrous oxide, and methane, for example) trap energy from the sun. Without these gases, heat would escape back into space and Earth's average temperature would be about 60°F colder. Because of how they warm our world, these gases are referred to as greenhouse gases. The greenhouse effect was theorized by *Joseph Fourier* in 1824 and was first investigated quantitatively by *Svante Arrhenius* in 1896. It is the process by which absorption and emission of infrared radiation by atmospheric gases warm a planet's lower atmosphere and surface.

Look at: [http://en.wikipedia.org/wiki/global\\_warming](http://en.wikipedia.org/wiki/global_warming). <accessed on October 28<sup>th</sup> 2008>

The largest contributing source of greenhouse gas was the burning of fossil fuels leading to the emission of carbon dioxide. When sunlight reaches earth's surface some was absorbed and warms the earth and most of the rest was radiated back to the atmosphere at a longer wavelength than the sun light. Some of these longer wavelengths are absorbed by greenhouse gases in the atmosphere before they were lost to space. The absorption in this long wave radiant energy warms the atmosphere. These greenhouse gases acted like a mirror and reflected back to the Earth some of the heat energy which would otherwise be lost to space. The reflecting back of heat energy by the atmosphere was called the "greenhouse effect".<sup>29</sup>

The nature of atmospheric gases made our air relatively transparent to visible light that warms the earth's surface and supports photosynthesis. The same gases were trap outgoing energy, keeping the earth warm enough for life as we know it. Excessive "greenhouse gases," though, appeared to be causing global warming, which would have complex effects or impact.<sup>30</sup>

What factors impact a greenhouse? The earth's atmospheric "greenhouse effect" was much more complex, while the earth's temperature was dependent upon the greenhouse-like action of the atmosphere, the amount of heating and cooling are strongly influenced by several factors. The type of surface that

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<sup>29</sup> *Greenhouse Effect* is the effect produced as greenhouse gases allow incoming solar radiation to pass through the Earth's atmosphere, but prevent most of the outgoing infrared radiation from the surface and lower atmosphere from escaping into outer space. This process occurs naturally and has kept the Earth's temperature about 60 degrees Fahrenheit warmer than it would otherwise be. Current life on Earth could not be sustained without the natural greenhouse effect. The Earth's atmosphere is all around us. It is the air that we breathe. *Greenhouse gases* in the atmosphere behave much like the glass panes in a greenhouse. Sunlight enters the Earth's atmosphere, passing through the blanket of greenhouse gases. As it reaches the Earth's surface, land, water, and *biosphere* absorb the sunlight's energy. Once absorbed, this energy is sent back into the atmosphere. Some of the energy passes back into space, but much of it remains trapped in the atmosphere by the greenhouse gases, causing our world to heat up. The greenhouse effect is important. Without the greenhouse effect, the Earth would not be warm enough for humans to live. But if the greenhouse effect becomes stronger, it could make the Earth warmer than usual. Even a little extra warming may cause problems for humans, plants, and animals. Look detail at: <http://epa.gov/climatechange/kids/greenhouse.html>. <accessed on October 28<sup>th</sup> 2008>

<sup>30</sup> William P. Cunningham, Mary Ann Cunningham, *Principles of Environmental Science Inquiry and Applications*, ( Boston : McGraw Hill, 2002 ), p 218

sunlight first encounters was the most important factor. Forests, grasslands, ocean surfaces, ice caps, deserts, and cities all absorb, reflect, and radiate radiation differently. Sunlight falling on a white glacier surface strongly reflects back into space, resulting in minimal heating of the surface and lower atmosphere. Sunlight falling on a dark desert soil was strongly absorbed, on the other hand, and contributes to significant heating of the surface and lower atmosphere. Cloud cover also affected greenhouse warming by both reducing the amount of solar radiation reaching the earth's surface and by reducing the amount of radiation energy emitted into space.<sup>31</sup>

Scientists used the term “albedo” to define the percentage of solar energy<sup>32</sup> were reflected back by a surface. Understanding local, regional, and global albedo effects was critical to predicting global climate change. The following were some of the factors that influence the earth's albedo:<sup>33</sup>

- 1) **Clouds:** On a hot, sunny day, we usually welcome a big fluffy cumulus cloud passing overhead because we feel cooler immediately. That's because the top of the cloud reflects sunlight back into space before it ever reaches earth. Depending on their altitude and optical properties, clouds either cool or warm the earth. Large, thick, relatively low-altitude clouds, such as cumulus and cumulonimbus, reflect incoming solar radiation and thereby reduce warming of the surface. The whitewash on plant greenhouses has the same effect on a smaller scale. High-altitude, thinner clouds, such as cirrus clouds, absorb long wave radiation reflected from the earth's surface, causing increased warming.
- 2) **Surface albedo:** Just as some clouds reflect solar energy into space, so do light-colored land surfaces. This surface albedo<sup>34</sup> effect strongly influences

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<sup>31</sup> [http://www.ucar.edu/learn/1\\_3\\_2\\_13t.htm](http://www.ucar.edu/learn/1_3_2_13t.htm). <accessed on October 28<sup>th</sup> 2008>

<sup>32</sup> Solar Energy, also called solar radiation. Energy from the Sun also referred to as short-wave radiation. Of importance to the climate system (The atmosphere, the oceans, the biosphere, the cryosphere, and the geosphere, together make up the climate system.), solar radiation includes ultraviolet radiation, visible radiation, and infrared radiation.

<sup>33</sup> [http://www.ucar.edu/learn/1\\_3\\_2\\_13t.htm](http://www.ucar.edu/learn/1_3_2_13t.htm). <accessed on October 28<sup>th</sup> 2008>

<sup>34</sup> Some of the energy was reflected by bright surfaces, such as snow, ice, and sand. The rest was absorbed by the earth's surface and by water. Surfaces that reflect energy have a high

the absorption of sunlight. Snow and ice cover are highly reflective, as are light-colored deserts. Large expanses of reflective surfaces can significantly reduce solar warming. Dark-colored land surfaces, in contrast, are strongly absorptive and contribute to warming. If global temperatures increase, snow and ice cover may shrink. The exposed darker surfaces underneath may absorb more solar radiation, causing further warming. The magnitude of the effect is currently a matter of serious scientific study and debate.

- 3) **Oceans:** From space, oceans look much different than adjacent land areas - they often appear darker, suggesting that they should be absorbing far more sunlight. But unlike dry land, water absorbs energy in a dynamic fashion. Some of the solar energy contacting the surface may be carried away by currents, some may go into producing water vapor, and some may penetrate the surface and be mixed meters deep into the water column. These factors combine to make the influence of the ocean surface an extremely complex and difficult phenomenon to predict. Water also has the capacity to store heat and transport large amounts of heat energy. In addition, oceans are an important sink (storage site) for atmospheric: CO<sub>2</sub>, and their ability to absorb CO<sub>2</sub> is strongly related to ocean temperature. Because of their enormous size and depth, oceans are extremely important in determining global climate and the future rate of global temperature change.
- 4) **Forested areas:** Like the oceans, the interaction of forests and sunlight is complex. The amount of solar radiation absorbed by forest vegetation depends upon the type and color. The amount of solar radiation absorbed by forest vegetation depends upon the type and color of vegetation, the time of year, and how well watered and healthy the plants are. In general,

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albedo (reflectivity). Most of these surfaces appear bright to us because they reflect light as well as other forms of radiative energy. Surfaces that absorb energy have a low albedo and generally appear dark. Black soil, asphalt pavement, and dark green vegetation, for example, have low albedo. See detail in: William P. Cunningham, Mary Ann Cunningham, *Principles of Environmental Science Inquiry and Applications*, (Boston: McGraw Hill, 2002), p.193-194

plants provide a dark surface, so you might expect high solar absorption. A significant fraction of the solar radiation was captured by the plants and used to make food through photosynthesis (and thus it didn't re-radiate as heat); some of the energy was dissipated as water evaporates from plant leaves; and some was absorbed and distributed deep within the forest canopy. These complexities made a simple definition of forest influences impossible. To a lesser extent, the same complexities apply to any relatively continuous-cover ecosystem (for example, grasslands and farmlands).

Greenhouses were used extensively by botanists, commercial plant growers, and dedicated gardeners. Particularly in cool climates, greenhouses were useful for growing and propagating plants because they both allow sunlight to enter and prevent heat from escaping. The transparent covering of the greenhouse allowed visible light to enter unhindered, where it warms the interior as it is absorbed by the material within. The transparent covering also prevents the heat from leaving by reflecting the energy back into the interior and preventing outside winds from carrying it away.

Like the greenhouse covering, our atmosphere also serves to retain heat at the surface of the earth. Much of the sun's energy reaches earth as visible light. Of the visible light that enters the atmosphere, about 30% is reflected back out into space by clouds, snow and ice-covered land, sea surfaces, and atmospheric dust. The rest is absorbed by the liquids, solids, and gases that constitute our planet.

The energy absorbed was eventually reemitted, but not as visible light (only very hot objects such as the sun can emit visible light). Instead, it's emitted as longer-wavelength light called *infrared radiation*. This was also called "heat" radiation, because although we could not see in infrared, we could feel its presence as heat. This was what you feel when you put your hand near the surface of a hot skillet. Certain gases in our atmosphere (known as "trace"

gases because they made up only a tiny fraction of the atmosphere) could absorb this outgoing infrared radiation, in effect trapping the heat energy. This trapped heat energy made the earth warmer than it would be without these trace gases.<sup>35</sup>

The ability of certain trace gases to be relatively transparent to incoming visible light from the sun yet opaque to the energy radiated from earth is one of the best-understood processes in atmospheric science. This phenomenon has been called the "greenhouse effect" because the trace gases trap heat similar to the way that a greenhouse's transparent covering traps heat. Without our atmospheric greenhouse effect, earth's surface temperature would be far below freezing. On the other hand, an increase in atmospheric trace gases could result in increased trapped heat and rising global temperatures.<sup>36</sup>

Greenhouse gases in the atmosphere, act like a mirror and reflect back to the earth a part of the heat radiation, which would otherwise be lost to space. The higher the concentration of green house gases like carbon dioxide in the atmosphere, the more heat energy is being reflected back to the earth. The emission of carbon dioxide into the environment<sup>37</sup> mainly from burning of fossil fuels (oil, gas, petrol, kerosene, etc.)<sup>38</sup> has been increased dramatically over the past 50 years.

#### **D. Effects Of Global Warming**

The effects of global warming were all inter-connected and create devastating results in different aspects. These effect influence the environment such as the climate and this would in-effect influence those that inhabit the area

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<sup>35</sup> [http://www.ucar.edu/learn/1\\_3\\_2\\_12t.htm](http://www.ucar.edu/learn/1_3_2_12t.htm). <accessed on October 28<sup>th</sup> 2008>

<sup>36</sup> [http://www.ucar.edu/learn/1\\_3\\_2\\_12t.htm](http://www.ucar.edu/learn/1_3_2_12t.htm). <accessed on October 28<sup>th</sup> 2008>

<sup>37</sup> Environment is the complex of physical, chemical, and biotic factors (as climate, soil, and living things) that act upon an organism (a living thing) or an ecological community (a collection of living things) and ultimately determine its form and survival. The circumstances, objects, and conditions that surround each of us.

<sup>38</sup> Fossil Fuel is a general term for a fuel that is formed in the Earth from plant or animal remains, including coal, oil, natural gas, oil shales, and tar sands.

such as people or animals. These changes from global warming generally impact the environment and its inhabitants negatively. There were two major effects of global warming i.e:

- 1) Increase of temperature on the earth by about 3° to 5° C (34° to 41° Fahrenheit) by the year 2100.
- 2) Rise of sea levels by at least 25 meters (82 feet) by the year 2100.<sup>39</sup>

The following were some of the effects of global warming that influence the earth and living thing:<sup>40</sup>

- 1) **Glacier**<sup>41</sup>

As the rising temperature increases, the melting rates of glaciers were increasing tremendously. Though this may seem that the melting of glaciers was unimportant but if taken to account that all glaciers around the world are melting at an increasing rate the results are devastating. For example if all the ice of Greenland alone was melted then the sea level can rise up to 23 feet, which can submerge major cities like London along with many cities near coast lines especially those that were under the sea level such as Louisiana.

- 2) **Sea Levels**

The rise in temperature of the earth is causing glaciers all over the world to melt rapidly, which affects the sea level. Such results can be the world ending up submerged in the depths of the sea from the melting of the polar ice caps from the rise in temperature. It is projected that by the year 2050 all of the Artic Ocean will be ice free. This may seem impossible but in fact in recent decades the sea level has risen as much as over a hundred feet and is still rising rapidly due to global warming.

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<sup>39</sup> <http://timeorchange.org/cause-and-effect-for-global-warming>. <accessed on October 28<sup>th</sup> 2008>

<sup>40</sup> <http://www.rpi.edu/%7Engok/Global%20warming/effects.html>. <accessed on October 28<sup>th</sup> 2008>

<sup>41</sup> Glacier is a very large body of ice moving slowly down a slope or valley or spreading outward on a land surface.

### 3) **Weather Conditions**

The rises in temperature also affect the climate of all regions of the world resulting in violent and unpredictable weather. For example many areas in the world are experiencing hotter summers and colder winters and more severe weather conditions, more intense heat waves and droughts. There also have been many fluctuations in climate conditions which in turn can affect the ecosystem of a certain region. For example in Yellowstone National Park the warmer climate is allowing the mountain pine beetle to survive longer and kill hundreds of more trees in order to reproduce. The change in climate also affects the migration patterns of animals and even cases of disease of humans.

### 4) **Natural Disasters**

Natural disasters are on the rise and the reason is due to global warming. As the temperature of the earth rises, especially in terms of oceans and the air, this allows for "perfect" conditions for intense and devastating natural disasters to occur at a more frequent rate. For example over the last 30 years there has been twice the amount of category 4 and 5 hurricanes, where category 5 is the highest. The warmer ocean waters allow for more moisture and water to be evaporated so that the rainfall is even greater allowing for more floods to occur around the world. The warmer and humid air creates an environment where tornadoes occur more often and are even stronger than before.

### 5) **Animal Migration**

This change in climate is tremendously affecting the lifecycle of animals especially those that migrate. Migratory animals use the climate and temperature as a signaling of when it is time to migrate to another area though due to the rise in temperature this is creating some confusion. This confusion can result in certain species of animals staying in the same area and losing their migratory routes so that if climate conditions return back to normal then they would end up slowly dying, also some animals use the climate to conditions to trigger when to prepare for the winter so if the climate remains

warm and then immediately changes into winter conditions then that species will end up dying. If one species dies this would destroy the fragile balance of the ecosystem. As a result more than a million species might go extinct by the year 2050.

#### **6) Diseases**

The warming of the earth resulting in humid air is providing the "perfect" conditions for bacteria and diseases to survive longer in the environment. As a result more and more people especially those in third world countries are getting sick often and even more deaths are occurring. If global warming continues then it is possible that deaths will double in only 25 years with up to 300,000 deaths a year. Diseases are even spreading into areas that never had cases of the disease; such areas include high altitude regions.

The only effect of global warming is the increase of the earth's temperature. This may seem like a small change but in fact this is a gigantic change that has creating a rippling effect on many aspects of the world. Some of the most devastating effects of global warming are the melting of glaciers, rise in sea level, and change in weather conditions in certain parts of the world, increase in natural disasters, change in animal migration patterns, and an increase of diseases.

### **E. Global Warming Issues**

Global warming and climate change is looked at in this section of the global issues web site. Introduced are some of the effects of climate change. In addition, this section attempts to provide insights into what governments, companies, international institutions, and other organizations are attempting to do about this issue, as well as the challenges they face. Some of the major conferences in recent years are also discussed.

Who made "the discovery of global warming" — that is to say, the discovery that human activities have very likely begun to make the world

warmer? No one person, but a dozen or so scientific communities. Their achievement was not just to accumulate data and make calculations, but also to link these together. This was patently a social process, the work of many people interacting with one another. The social process was so complex, and so important, that the last stage was visibly institutionalized: the workshops, reviews, and negotiating sessions of the Intergovernmental Panel on Climate Change (IPCC).<sup>42</sup>

Accompanying the concerns of climate change and global warming is the media spin, propaganda, and special interests. For many years in some countries, scientists and environmental groups raising concerns about climate change faced stern opposition, and at one time, ridicule. Initially, many big businesses and countries such as the United States were openly challenging concerns of climate change. Industry coalitions and lobby groups have also been accused of misinforming the public or pressuring media into “false balancing.”<sup>43</sup>

As further reports regarding climate change impacts reveal a bleaker future, there are concerns that there will be accompanying fear-mongering by environmentalists, green washing by some business interests, and spin by governments to show “reductions” in emissions. Some feel global warming is one of the biggest frauds of our era, with some even believing it is designed to harm the US economy and make the UN more powerful. Others feel it is

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<sup>42</sup> <http://www.aip.org/history/climate/reflect.htm>. <accessed on October 28<sup>th</sup> 2008>

<sup>43</sup> In recent years, many large businesses have distanced themselves from those previous positions and some have even openly accepted climate change and global warming concerns, even asking for governments to provide regulation and guidance on the matter. Increasingly, a number of governments such as those from the US, Australia and elsewhere are fearful of greenhouse gas emission reduction targets if large developing countries such as China and India included Indonesia are not subject to them as well. Developing countries correctly note that they were not the ones who pumped most of climate change-inducing greenhouse gases during the last few decades and centuries. Look detail at: <http://www.globalissues.org/article/710/global-warming-spin-and-media>. <accessed on October 28<sup>th</sup> 2008>

simpler than that, and instead, climate scientists are able to make a lot of money by using fear as a tool to earn more research grants.

Such a vast, global conspiracy of scientists, the United Nations and environmental groups/lobbies does seem a bit far-fetched given that far more resourceful, powerful and immensely wealthier corporations and governments (with their access to, and influence on, the media) would surely be able to counter such a tactic (and have indeed been involved in their own spin/propaganda attempts, which, even with their resources, are failing). A lot of time appears to have been wasted, and political spin on issues such as describing a reduced rate of greenhouse emissions as an actual reduction, risks is a false sense of hope and achievement.<sup>44</sup>

The technology and resources for these phenomena are available but the only thing that is not pushing this movement forward is the issues in education, politics, and society, defined as follow:<sup>45</sup>

#### 1) **Education**

The teaching of global warming as an important issue in schools is definitely a positive movement which provides future generations with awareness and to be knowledgeable enough to provide new innovations and changes in this world. Even though more and more people are supporting new solutions to end global warming, there still is that large group or people that don't care enough to do anything at all. Over the past decade there has been a large effort to educate the public on the issue of global warming through the media, schools, documentaries, news, and seminars. These methods of advertising are slowly opening the eyes of the public and changing the views of society slowly.

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<sup>44</sup> <http://www.globalissues.org/article/710/global-warming-spin-and-media>. <accessed on October 28<sup>th</sup> 2008>

<sup>45</sup> <http://www/rpi.edu/%7Engok/Global%Warming/issues.html>. <accessed on October 28<sup>th</sup> 2008>

## 2) **Politics**

In a June 2000 presentation, the World Resource Institute (WRI) asked *what is fair concerning developing countries and climate change*. WRI noted that there has often been a strong push by big business lobbies and related interests when environmental regulation is attempted. The resulting environmental policy strategy tends to have the following steps: deny it, fight it, dilute it, delay it, do it, market it. These steps have also applied to climate change discussions:<sup>46</sup>

### ➤ **Step 1: Deny it**

With this step, we saw a lot of skepticism initially coming from US-based scientists, many accused of reporting for big business interests, such as oil and automobile industries.

### ➤ **Step 2: Fight it**

With step 2, and with climate change, WRI notes that step 2 has become “blame someone else for it”, referring to Bush’s attempts<sup>47</sup> to criticize the Protocol for not imposing reductions on developing countries.

### ➤ **Step 3: Dilute it**

With step 3, it is interesting to note that the climate change negotiations that led to the Kyoto Protocol<sup>48</sup> involved extremely heavy

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<sup>46</sup> <http://www.globalissues.org/article/710/global-warming-spin-and-media>. <accessed on October 28<sup>th</sup> 2008>

<sup>47</sup> Some countries, of which the US is the most influential and powerful, have been accused of being counter-productive during climate change negotiations. When the Kyoto Protocol was written in 1997, it was mainly the US and its business lobby that vehemently opposed the protocol based on economic concerns. While the Clinton Administration signed and ratified the protocol, the Republican majority Congress, was opposed to this. When Bush came to power, he eventually withdrew from the international agreement. President Bush cited a number of concerns, along the following themes: (1) *Economic concerns*; (2) *That the Kyoto protocol was a political document*; (3) *That it is unfair that countries like China and India do not emission reduction targets*. See in <http://www.globalissues.org/article/710/global-warming-spin-and-media>. <accessed on October 28<sup>th</sup> 2008>

<sup>48</sup> In 1997, at the Conference of Parties III (COP3), Kyoto, Japan, the Kyoto conference on climate change took place. There, developed countries agreed to specific targets for cutting their emissions of greenhouse gases. A general framework was defined for this, with specifics to be detailed over the next few years. This became known as the Kyoto Protocol. The US proposed to just stabilize emissions and not cut them at all, while the European Union called for a 15% cut. In the end, there was a trade off, and industrialized countries were committed to an overall reduction of emissions of greenhouse gases to 5.2% below 1990 levels for the period 2008 - 2012. (The Intergovernmental Panel on Climate Change said in its 1990 report that a

concessions on steps and measures to take, in order to get the United States in on the agreement. To criticize later the Kyoto Protocol for being a political document is a cruel irony.

➤ **Step 4: Delay it**

With step 4, many have criticized the US and others of delaying effective action or in other ways attempting to derail effective action.

➤ **Steps 5 and 6: Do it and Market it**

Steps 5 and 6 still have to unfold for the climate change issue. At the same time, while the Bush administration<sup>49</sup> has at least admitted it is not against action on climate change (just that it opposes the Kyoto Protocol), its spending money on research and technology.

In the world of politics most of the concern is about business and money. When problems arise these concerns are more focused on rather than the importance of the issue at hand. For example when global warming solutions were attempted to be implemented through the law there was opposition by the United States government.<sup>50</sup> This solution was called the Kyoto Protocol,<sup>51</sup>

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60% reduction in emissions was needed...) As with the following COP meetings, there was enormous media propaganda by affected big businesses and by countries such as the U.S. who were openly hostile to the treaty. In fact one of the first things George Bush did when he came to power was to oppose the Kyoto Protocol. The UN conference on climate change held in Bali, Indonesia in December 2007 led to a final agreement known as the "Bali Roadmap". The Bali Roadmap outlined a new negotiating process to be concluded by 2009 to feed into a post-Kyoto (i.e. a post-2012) international agreement on climate change. The Roadmap included a decision to launch an Adaptation Fund as well as further decisions on technology transfer and on reducing emissions from deforestation. See in website: <http://www.globalissues.org/issue/178/climate-change-and-global-warming>. <accessed on October 28<sup>th</sup> 2008>

<sup>49</sup> Even into the mid-2000, when climate change and global warming have generally been accepted as real, governments such as the US's Bush Administration has been accused of silencing critics, including leading government climate scientists who warn of consequences from global warming. See in <http://www.globalissues.org/article/710/global-warming-spin-and-media>. <accessed on October 28<sup>th</sup> 2008>

<sup>50</sup> U.S. President George W. Bush contends that the Kyoto Protocol is an unfair and ineffective means of addressing global climate change concerns, claiming it that it "exempts 80 percent of the world, including major population centers such as China and India, from compliance, and would cause serious harm to the U.S. economy." Bush has instead promoted improved energy technology as a means to combat climate change, while various state and city governments within the United States have begun their own initiatives to indicate support and compliance with the Kyoto Protocol on a local basis, such as the Regional Greenhouse Gas

which was proposed to several other countries as an active initiative to reduce chemical emissions that contribute to global warming for the next several years.

The United States government announced that they wouldn't become a part of the protocol due to lack of scientific support that these chemical emissions are in fact a direct correlation with global warming and that if the United States were to abide by this plan then this would negatively affect the economy of the nation. Another issue is that a few countries were omitted from this plan and the Bush administration felt that all countries should follow the plan before the United States does. The actions that the United States legislation followed were not based on the effort to end global warming but rather the personal interests in the economy and status of superiority in the world.<sup>52</sup>

### 3) Society

In most societies especially in the United States everything is fast-paced and as a result most people don't pay attention to certain issues and don't worry about the future as much as they should. When it comes to issues like global warming most people shrug it off and often have the mentality that they are only one person that can't make a difference. But as a matter in fact they can by changing their lifestyle to one that is more environmentally friendly. Even though this is true, the majority of people in society reason that they

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Initiative. The U.S. Climate Change Science Program is a joint program of over 20 U.S. federal agencies working together to investigate climate change.

Look detail in: <http://en.wikipedia.org/wiki/pollution>. <accessed on October 28<sup>th</sup> 2008>

<sup>51</sup> The United Nations is the logical forum for developing commons approaches, but it's potential is yet to be dismissed or ignored in most discussion. Nonetheless, under its aegis a number of attempts are being made. These include the Kyoto protocol on climate change and convention on long-range transboundary air pollution, which together call for at least a 50 percent reduction in metal emissions and cover basic obligations, cooperative research, reporting, monitoring, compliance, and dispute resolution. See detail in: H.E.Ott, *The Kyoto Protocol : unfinished Business, Environment*, July/August 1998, 17, Economic and social council, "conversion on the long-range Transboundary air pollution of heavy metals", (Aarhus, Denmark: United Nations, 1998); In the book: John L.Allen (ed), *Annual edition environmental 00/01*, (Guilford: McGraw-Hill, 2000), p.13-14.

<sup>52</sup> <http://www/rpi.edu/%7Engok/Global%Warming/issues.html>. <accessed on October 28<sup>th</sup> 2008>

don't have time and that this isn't their problems. This mindset needs to be changed through education about the subject and recognizing that global warming is everyone's problem.<sup>53</sup>

Of course, whatever language we use to describe scientific work, we must take care to avoid speaking of ideas as active entities inhabiting passive minds. The actual effective agents are human beings. Research plans do not forage in the grass or jump at one another like mating insects: it is scientists who ingeniously test them and combine them. Considering the entire process, in a restricted sense one could surely call the eventual understanding of climate change a product of human society.

We should not call it "*nothing but*" a social product. Future climate change in this regard is like electrons, galaxies, and many other things not immediately accessible to our senses. All these concepts emerged from a vigorous struggle of ideas, evolving through encounters with experiments, observations, and rival hypotheses. Eventually most people were persuaded to agree that the risk of global warming was real, regardless of the social process that had led to the conclusion. When people said that the prospect of global warming was "real" (or even "true"), they were implicitly promising some level of reliability.

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<sup>53</sup> Not everyone accept that global warming is a problem. While much of the dissension comes from industry lobbying groups, a number of prominent scientists also argue that dire predictions about climate change are premature. Arguments raised by greenhouse skeptics include: (1) carbon dioxide may be less potent in warming than thought, (2) atmospheric methane may be declining, (3) models fail to account for water vapor, and (4) computer models generally predict that more warming should already have taken place than actually has. See detail in : William P.Cunningham, Mary Ann Cunningham, *Principles of Environmental Science Inquiry and Applications*, (Boston: McGraw Hill, 2002), p. 203

CHAPTER III  
**GLOBAL WARMING IN THE QUR'ANIC VERSES WITH MUHAMMAD  
 SHAHRÜR HERMENEUTIC APPROACH**

**A. Muhammad Shahrūr : A Framework Of Interpreting The Qur'ān**

**1. Muhammad Shahrūr Background**

Muhammad Shahrūr<sup>1</sup> was born in 1938 in Damascus. He is an Emeritus Professor of Civil Engineering at the University of Damascus who writes extensively about Islam. Muhammad Shahrūr was trained as an engineer in Syrian, the former Soviet Union and Ireland.<sup>2</sup> Muhammad Shahrūr said:

I began working with the analysis of the Qur'ān in 1970. For twenty years I worked on the book "al-Kitāb wa al-Qur'ān". In 1982 I found the difference between the kitāb (book) and the Qur'ān. The Qur'ān is not the whole book, but parts of it that deal with prophecy. The shari'a (Islamic law) is the message, which is called "The Mother of the Book". The Qur'ān and "The Mother of the Book", prophecy and message, were put together and this is al-kitāb (the book).<sup>3</sup>

Furthermore, Muhammad Shahrūr (here in after referred to as: Shahrūr) began the understanding to al-Qur'ān<sup>4</sup> where al-Qur'ān difference between al-

<sup>1</sup> Muhammad Shahrūr, *al-Kitāb wa al-Qur'ān: Qirā'ah Mu'āsirah*, (Damascus: al-Ahāli li al-Tiba'ah wa al-Nashr, 1990), pub.1, p.657. Some writers have written the month of Shahrūr's birth on April 11<sup>st</sup>, and another one on March. See such as: the writings by M.Aunul Abied Syah and Hakim Taufiq, "Tafsir ayat-ayat gender dalam al-Qur'ān: Tinjauan terhadap pemikiran Muhammad syahrur dalam bacaan kontemporer" in M.Aunul Abied shah(Ed), *Islam Garda Depan Mosaik Pemikiran Islam Timur Tengah, cet.1* (Bandung: Mizan, 2001), p.237. Look detail about Shahrūr biography in Shahrūr website: <http://www.shahrour.org/index2.htm>. <accessed on November, 4<sup>th</sup> 2008>

Muhammad Shahrūr was a son from a father's name: Deib Ibn Deib Shahrūr, and mother's name: Şiddiqah bint Şalih Filyun. In his personal living, he has a happy family. His Wife's name Azizah. They are having five children and two grandchildren. The children's names are Tariq, Lays, Rima, Basil and Masun. And the grandchild's name is Muhammad and Kinan. Look in detail in gift pages at Shahrūr's creation : Muhammad Shahrūr, *Dirāsāt Islāmīyah Mu'āsirah fi al-Daulāh wa al-Mujtama'*, cet.1, (Damascus, al-Ahāli, 1994); *Al-Islām wa al-Imān; Mandhūmat al-Qiyām*, (Damascus: al-Ahāli, 1996).

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<see this address in <http://www.islamresearchdirectory.org/ide/we/detail.php?id=153>>

<sup>2</sup> Look in [http://en.wikipedia.org/wiki/Muhammad\\_Shahrūr](http://en.wikipedia.org/wiki/Muhammad_Shahrūr). <accessed on November, 4<sup>th</sup> 2008>

<sup>3</sup> <http://www.shahrour.org/a8.htm>. <accessed on November, 4<sup>th</sup> 2008>

<sup>4</sup> The **Qur'ān** (Arabic: القرآن *al-Qur'ān*, literally "the recitation"; also sometimes transliterated as **Qur'ān**, **Koran**, **Alcoran** or **Al-Qur'ān**) is the central religious text of Islam.

Kitāb. According to Shahrūr: al-Qur’ān in the popular meaning or in Shahrūr’s speech is al-Kitāb, have been divided to three part: (1) Umm al-Kitāb (*Muhkamāt verses*), (2) al-Qur’ān and al-Sab’ū al-Mathānī (*Mutashābihāt verses*), (3) Tafsīl al-Kitāb.<sup>5</sup> Umm al-Kitāb who is sent down by Allāh to prophet Muhammad (peace and blessings of Allāh be upon him) for 23 years in form *al-Inzāl* and *al-Tanzīl* as a part of indivisible,<sup>6</sup> which loading the verses that correlation with *al-Suluk al-Insān* in law and morals and always open for *Ijtihād* (not in pure worshipping) accord with situation and condition of a society.<sup>7</sup> For understanding the muhkamāt verses, the mechanism is *ijtihād* with limit theory (*Nadhāriyat al-Hudūd*). Umm al-Kitāb has character elastic and subjective.<sup>8</sup> The elasticity of understanding and application umm al-Kitāb is also called law consistency, there is *al-Hadd al-Adnā* (minimal limit) and *al-Hadd al-A’lā* (maximal limit). The subjective of understanding in umm al-Kitāb depend on man choice (*Ikhtiyār*). All concept in these be related to *al-Risālah* (attribute of a messenger of God) the prophet Muhammad (peace and blessings of Allāh be upon him).

Muhammad Shahrūr was generated some thought and controversial where Muslīm community being in situation of stagnant thought and spread of imitative process (*Taqīd*). The generally of Muslīm condition in the Middle East especially in Syirian (Shahrūr’s place), that they were bound in a dilemma to follow the traditional thought or modern thought where aimed at secularization. Muhammad Shahrūr is a technique figure where his background always affects his method to understand of Islamic religion text. His teacher, coleage and a professional friend is Ja’far Dakk al-Bāb in Damascus University of Syirian.

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Muslims believe the Qur’ān to be the book of divine guidance and direction for mankind, and consider the original Arabic text to be the final revelation of God. Islam holds that the Qur’ān was revealed to Muhammad by the angel Jibrīl (Gabriel) over a period of 23 years

<sup>5</sup> Look detail at Ushulūddin library in software digital library: Muhammad Shahrūr, *al-kitāb wa al-Qur’ān: Qirā’ah Mu’āsirah*, (Damascus Dar al-Ahāli, 1990), p.51-61.

<sup>6</sup> Ibid, p. 157-166

<sup>7</sup> Ibid, p. 37

<sup>8</sup> Ibid, p. 445-451

So far as concerns about intellectual of Shahrūr work in religion discourse was called as *Qirā'ah* Mu'āsirah series and all of them published by Dār al-Ahāli li al-Tibā'ah wa al-Nashr wa al-Tauzī Damascus, Syirian, as follow:

1. Al-Kitāb wa al-Qur'ān: *Qirā'ah* Mu'āsirah;<sup>9</sup>
2. Dirāsat Islāmiyah Mu'āsirah fi al-Daulah wa al-Mujtama';<sup>10</sup>
3. Al-Imān wa al-Islām: Mandūmat al-Qiyām;<sup>11</sup>
4. Nahwa Ushūl al-Jadīdah lil Fiqh al-Islāmi: Fiqh al-Mar'ah.<sup>12</sup>

## 2. The Reading Of Al-Qur'ān By Muhammad Shahrūr.

Shahrūr clarified that his book *Qirā'ah Mu'āsirah* is a reading of contemporary to *al-Dhikr* concept, not tafsīr<sup>13</sup> or *fiqih* book. This book had put the basic of hermeneutic epistemology systematically. But, Shahrūr explained his Qur'anic hermeneutic<sup>14</sup> with terminology: *Qirā'ah* Muāsirah. He has

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<sup>9</sup> Look Muhammad Shahrūr, *al-Kitāb wa al-Qur'ān: Qirā'ah Mu'āsirah*, (Damascus: Dar al-Ahāli, 1990). The first chapter in this book was translated into Indonesian language by Sahiron Syamsuddin and Burhanuddin; with title: *Prinsip dan Dasar Hermeneutika al-Qur'ān Kontemporer*, (Yogyakarta: eLSAQ Press, 2004). And the second chapter in this book was translated too by M.Firdaus; with title: *Dialektika Kosmos dan Manusia*, (Bandung: Nuansa Cendekia, 2003).

<sup>10</sup> This book explained about some social-politic themes has relation with civil and state etc. Look Muhammad Shahrūr, *Dirāsat Islāmiyah Mu'āsirah fi al-Daulah wa al-Mujtama'*, (Damascus: al-Ahāli, 1994). This book was translated into Indonesian language by Badrus Syamsul Fata and Syaifuddin Zuhri Qudsi; with title: *Tirani Islam: Geneologi Masyarakat dan Negara*, (Yogyakarta: LkiS, 2003).

<sup>11</sup> This book explained about deconstruction of classic concept of "rukun Imān" and "rukun Islām" according to al-Qur'ān which aimed at universality of inclusive of Islām in global world. Look: Muhammad Shahrūr, *al-Imān wa al-Islām: Mandūmat al-Qiyām*, (Damascus: al-Ahāli, 1996). This book was translation into Indonesian language by M.Zaid Su'di; with title: *Islam dan Iman aturan-aturan Pokok*, (Yogyakarta: Jendela, 2002).

<sup>12</sup> This book explained again about concept of Qur'anic hermeneutic which has been triggered in al-Kitāb wa al-Qur'ān, especially has related with methodology of Islamic fiqih. Look: Muhammad Shahrūr, *Nahwa Ushūl al-Jadīdah lil Fiqh al-Islāmi: Fiqh al-Mar'ah*, (Damascus: al-Ahāli, 2000). This book was translated into Indonesian language by Sahiron Syamsuddin and Burhanuddin; with title: *Metodologi Fiqih Islam Kontemporer*, (Yogyakarta: eLSAQ Press, 2004)

<sup>13</sup> **Tafsīr** (Arabic: تفسير, *tafsīr*, "interpretation") is the Arabic word for exegesis or commentary, usually of the Qur'ān. It does not include esoteric or mystical interpretation, which are covered by the related word **ta'wīl**. An author of tafsir is a **mufassīr** (Arabic: مفسر, *mufassīr*, plural: مفسرون, *mufassirūn*).

<sup>14</sup> Hermeneutic terminology derived from Greece language hermeneia or hermeneuin, where have three understanding: to say, to explain, and to translate. The first definition of hermeneuin: to express, to assert, to say. The second definition is explanatory and expression for interpretation. The third definition is to translate from unintelligible to intelligible language

argument that *Qirā'ah* activity has different of *tilāwah* activity. The word *Qirā'ah* derived from *qara'a* - *Qirā'ah* where basic meaning is collecting. When it's related with the object, so have meaning "reading". It's be different *tilāwah*, that derived from *talā* – *yatlū* where have meaning "reciting". A different of *Qirā'ah* between *tilāwah*, the first *Qirā'ah*: reading activity is explaining nothing to comprehend the text contents. Whereas the second *tilāwah*: reciting activity to comprehend, explain, and analyze the textual object.<sup>15</sup>

*Qirā'ah* Mu'āsirah book is Shahrūr creation to read and recite the Qur'ān. He uses the contemporary of hermeneutic theory to free from last doctrine to context of al-Qur'ān then be understood that al-Qur'ān just revealed. Shahrūr of basic assumption was dispose between mind, divine revelation, and reality. Furthermore, system approach is combination between philosophy, linguistic, and science. Shahrūr assumption in the reading of Qur'ān as follow:

**a) Assumption of Methodology**

This methodology is not understood as an epistemology, but a series of steps to found of scientific knowledge. Before provide the assumption of methodology, Shahrūr explain the basic of epistemology to formulate any argumentation which these all are a new thought i.e.<sup>16</sup>

1. Relation of awareness and human knowledge with matter configuration.  
The source of human knowledge is natural matter of externality.
2. Cosmos and all contents are materiality and human mind have ability to know the secrets is not limited. The human knowledge has character for continue of development appropriate some level in civilization in human knowledge.

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media could be known. And based on these assumption that hermeneutic is system of rules of interpretation (*nadhariyah ta'wīl al-nushūsh*) or in terminology is theory of interpretation.

<sup>15</sup> Look: Muhammad Shahrūr, *Nahw Usūl Jadīdah li al-Fiqh al-Islāmī*, (Damascus: al-Ahāli, 2000), p.117; See too: Muhammad Shahrūr, *al-Kitāb wa al-Qur'ān*, *Op.cit.*, ...p.194.

<sup>16</sup> Look detail at Ushulūddin library in software digital library: Muhammad Shahrūr, *al-Kitāb wa al-Qur'ān: Qirā'ah Mu'āsirah*, (Damascus: Dar al-Ahāli, 1990), p.42-44

3. Human knowledge is evolutionary, start from sensory of thinking then increase to abstract of object knowledge
4. Neither al-Qur'ān opposite philosophy as the mother of science. The Exegesis (*ta'wīl*) in Qur'ān is effort to give evidence the scientific truth. Though, these all use the linguistic principle in exegesis of al-Qur'ān.

According to assumption above, Shahrūr commit for new reading al-Qur'ān to *al-Dhikr* by virtue of principle as follow:<sup>17</sup>

1. Try best to all potential the character of Arabic linguistic lean on three foundations, i.e.: linguistic method by Abū 'Alī al-Fārisī, linguistic perspective by Ibnu Jinnī and 'Abdul Qāhir al-Jurjānī, ancient of Arabic poetry.
2. Lean on the last product of modern linguistic of science suggest that language anything have not synonym of character and the truth just the opposite. Shahrūr rejected the synonym (*tarādūf*) in Arabic language. He explained that a word in corridor of history will experience two alternative processes; get lost or bring a new meaning except the origin meaning. According Shahrūr, terms of reference to look for semantic keyword is al-Maqāyīs fī al-Lughah dictionary by Ibnu Fāris which rejected the synonym<sup>18</sup> (*tarādūf*).
3. The Sacred have only al-Kitāb, which revealed to Prophet Muhammad (peace and blessings of Allāh be upon him) and Shahrūr gave the effect of the prophet Muhammad just die and he was conveyed to us. The attitude to life as these make the image that Islam is completely relevant in dimension and time zone and contextual in every period.
4. All the verses in the al-Kitāb could be understood by mankind because Allāh sent down al-Kitāb to all mankind as guidance, so all contents in al-Kitāb have been known with mind ability. Al-Kitāb was sent down with

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<sup>17</sup> Ibid, p.44-45

<sup>18</sup> Muhammad Nuruddin al-Munajjad, *al-Tarādūf fī al-Qur'ān al-Karīm bain Nadhariyah wa al-Tatbīq*, (Damascus: Dar al-Fikr, 1997), p.36-37

media of Arabic language, adapted for capacity of human comprehension, so nothing contradiction between language and thought.

5. Allāh heighten the mind position by getting expression in the His saying in the al-Qur'ān. Therefore, Shahrūr has assumption that:
  - 1) Nothing contradiction between the mind and the divine revelation (*al-Wahyu*).
  - 2) Nothing contradiction between the divine revelation (*al-Wahyu*) and reality of truth and the rationality of establishment of law.
6. Allāh was heighten the mind position, so Shahrūr disposed the mind in right position which he more respect to mind than fluctuation emotion.

#### b) Linguistic Approach

The Shahrūr's linguistic approach starts from his discussion with Ja'far Dakk al-Bāb as his teacher.<sup>19</sup> In the preface of his book *al-Kitāb wa al-Qur'ān: Qirā'ah Mu'āsirah*, Ja'far Dakk al-Bāb<sup>20</sup> explained that basic of Shahrūr's linguistic method made reference to view of three figure in Arabic linguistic i.e : Abū Alī al-Fārisi,<sup>21</sup> Ibnu al-Jinnī,<sup>22</sup> and Abdul Qāhir al-Jurjānī.<sup>23</sup>

Ja'far Dakk explained about the linguistic theory as basic method in Shahrūr approach as follow:<sup>24</sup>

1. The uniformity between logic, though, and function of communication in message from the first, growth of human language.

<sup>19</sup> Sahiron Syamsuddin, *Book Review al-Kitāb wa al-Qur'ān*, al-Jamiah Journal of Islamic Studies, No.62/xii/1998, p.195

<sup>20</sup> Ja'far Dakk al-Bāb, *Taqdīm al-Manhaj al-Lughawi fi al-Kitāb*, Preface in Muhammad Shahrūr, *al-Kitāb wa al-Qur'ān*.....,p.20-21

<sup>21</sup> His complet's name: Abū 'Alī al-Hasan bin Ahmad 'Abdul al-Ghaffār al-Fārisi al-Shairāzī. Borne in Fes, Persia in 288 H / 900 M. Look : Karl Brookleeman, *Tarīkh al-Adāb al-Arabi*, (Egypt: Dar al-Ma'ārif, 1968), p.190

<sup>22</sup> His complet's name: Abū al-Fatah Uthmān Ibnu Jinnī al-Mūshilī. Borne in Mushīl in 300 H / 916 M. Look : Karl Brookleeman, *Tarīkh al-Adāb al-Arabi*, (Egypt: Dar al-Ma'ārif, 1968), p.224

<sup>23</sup> His complet's name: al-Imām Majid al-Dīn Abū Bakar 'Abdul Qāhir bin 'Abd al-Rahmān bin Muhammad al-Jurjānī. Look: Karl Brookleeman, *Tarīkh al-Adāb al-Arabi*, (Egypt: Dar al-Ma'ārif, 1968), p.456

<sup>24</sup> Ja'far Dakk al-Bāb, *Taqdīm al-Manhaj al-Lughawi fi al-Kitāb*, Preface in Muhammad Shahrūr, *al-Kitāb wa al-Qur'ān*....,p.21-24

2. Neither the Man thought grow be perfect in one phase, but there is step of development from knowledge to concrete object (*al-Musakkkhash al-Makhshush*) then little by little to perfect with knowledge transformation to abstract factor (*al-Mujarrad*).
3. The rejection to synonym which considered as special treatment of language.
4. The grammar is well constructed as whole according to the level of structure.
5. A grammatical study is needed, because language has relation with history so always proceed.

Shahrūr concluded that language is important media for human to communicate with another human. Shahrūr linguistic approach was applied in al-Qur'ān as follow:<sup>25</sup>

1. The growth of language is directly proportional with the growth of mind.
2. There is science relation between concord of sound with concept or sign.
3. Language has ability in himself to keep the harmonism of grammatical system.
4. The changes of word form always depend on meaning unity.
5. Language has function as identification media and communication.
6. The sign of language is arbitration / as you like.
7. Nothing the attribute meaning in a simple word more than the attribute meaning in a simple word another, although in a language family or different.
8. Message in informative clause can be understood in structural relation between date and fact.
9. The significance between diachronous and synchronous.
10. Language and grammar grew for development keep pace with Man thought.

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<sup>25</sup> Look the result of research by Ahmad Zaki Mubarak; in: Ahmad Zaki mubarak, *Pendekatan Strukturalisme Linguistik dalam Tafsir al-Qur'ān Kontemporer "ala" M.Syahrur*, (Yogyakarta: eLSAQ, 2007), edition 1, p.167

11. Language viewed as system that grew in social phenomena and his structure concerned with function of communication.

### c) Scientific Approach

Shahrūr scientific approach benefited a science perspective which used objective of research method as tool of comprehends of God message in His Holy book. His assumption is nothing contradiction between reality, mind and *al-wahyu*. He explains that his approach to understand of holy Qur'ān benefited the science development. In an interview, he said:

The modern approach appeared of seriously in a quarter of the last century 20<sup>th</sup>. Indeed, we could trace until to Muhammad 'Abduh and Rashīd Rid'ā. But, if compared with work latter, 'Abduh's work isn't too bigger. Our work was revised the basic principles, aqīdah principle, *fiqih* principle and all principle. Then, Shahrūr gave sample: If the God created cosmos, so we have to look in Holy book. It's meant, Holy book was written book that created by God, cosmos open was opened book that created by God too. I have to look that real message was same. If both of holy books were from God, I wanted to (peace and blessings of Allāh be upon him) the God in of them. We could not get an electron in the al-Qur'ān. We had to consider. This was my methodology.<sup>26</sup>

Furthermore, Shahrūr with his background as scientific figure uses the science logic and modern linguistic to approach for interpreting al-Qur'ān. He uses some theory such as mathematic theory; limit theory, integral and differential theory, physic theory, Quantum theory and etc. He formulates limit theory in Qur'ān (*Nadāriyah al-Hudūd*). All Shahrūr approach in fundamentally was effort to contextual between al-Qur'ān and science.

### d) Muhammad Shahrūr's Frame Work In The Reading Al-Qur'ān

Shahrūr formulated his methodology to understand the al-Qur'ān building on his assumption. He reeled as *Qawā'idu al-Ta'wīl*. To comprehend the al-Qur'ān, he explained six step i.e.:<sup>27</sup>

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<sup>26</sup> M.Nur Ichwan, *Interview in Ummat Magazine*, no.4, fourth year, August 3<sup>th</sup> 1998 / 9<sup>th</sup> Rabi'ul Awwal 1419 H : in the book Ahmad Zaki Mubarak; in: Ahmad Zaki mubarak, *Pendekatan Strukturalisme Linguistik dalam Tafsir al-Qur'ān Kontemporer "ala" M.Syahrur*, (Yogyakarta: eLSAQ, 2007), edition 1, p.168

<sup>27</sup> Look the result of research about Shahrūr method in: Ahmad Zaki mubarak, *Pendekatan Strukturalisme Linguistik dalam Tafsir al-Qur'ān Kontemporer "ala" M.Syahrur*, (Yogyakarta: eLSAQ, 2007), edition 1, p.170-174

1. Made the Arabic linguistic as the first reference. This principle has related in five point:
  - Nothing synonym in Arabic language but a word might be has some meaning (polymeaning).
  - Word position as aid to understand the meaning because the substantively in the language is meaning.
  - The pillar of Arabic-speaking is language meaning.
  - Anything of text could be understood both by rational of logic path, received by mind and nothing contradiction with object reality. For the hidden part (*al-Ghaibiyāt*) must be done by science riset (*Istiqrā*) for them.
  - Be guided by authenticity paradigm of Arabic language one other thing has the verb character of antonym, such as: “*abida*” and “*khafa*”; and the verb character of pronunciation, such as: “*alaqa*” and “*qala'a*”, “*kataba*” and “*bataka*”. Therefore, knowledge of Arabic philology is significance.
2. To understand the difference of between *Inzāl* and *Tanzīl*.<sup>28</sup> Both of different is basic in human knowledge theory (epistemology) that is

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<sup>28</sup> In this context, according by Shahrūr, to know the different between these terminologies is important, because these are media to understand the *al-Kitāb* idiom. **Al-tanzīl** is practice of material object transition outside human awareness. Example: al-Tanzīl in Qur'ān QS.al-Nisā: 23; al-Wāqī'ah: 80; al-mannā wa al-salwā: QS. Tāhā: 80; Water: QS. Qāf: 90. **Al-Inzāl** is practice of object transition that be moved outside human awareness from unsense (*ghair qābil li al-idrāk*) to sense (*al-mudrik*). Beside these, there is the al-Ja'al terminology. **Al-Ja'al** is change of these processes could be sense (*'amaliyatu taghyīrin fi al-shairūrah*).

To description these process, Shahrūr uses object of metaphorically, that is television and radio broadcast. What the looking in television or listening in radio, its mean: *inzāl* process; process of picture or sound transition with electro magnetic wave, its mean: **tanzīl** process; and recording process, its mean: **al-ja'al**. In the al-Qur'ān context, these terminologies could be understood as: to accost the God servant, the first effort of God is change the text that unsense by human become the text that sense by human (*inzāl*). Because the object of text is Arabian community, so the text was changed to Arabic language. Process to change the text into Arabic language is *al-Ja'al*. (QS.al-Zukhrūf: 3). In this context: *inzāl* process and *ja'al* process isn't together. So, al-Qur'ān in our hands isn't “originally al-Qur'ān” as like in *lauh al-mahfūd*, but al-Qur'ān where has been proceed from unsense (*ghair qābil li al-idrāk*) to sense (*al-mudrik*) by five senses and to be continue become text with arabic language (*al-ja'al*) and then materially to prophet Muhammad (peace and blessings of Allāh be upon him) pass through the al-wahyu (*tanzīl*). These linguistic format called by Shahrūr as *al-Dhikr*. Look in : Shahrūr, *al-Kitāb wa al-Qur'ān*.....,p.150-152

relation between objective reality (*al-Tanzīl*) and human awareness to these realities (*al-Inzāl*).

3. Put into effect the *al-Tartīl* technique. Shahrūr explained that *al-Tartīl*<sup>29</sup> is merge all verses that getting down the same cases. This method called **intertextuality**. Intertextuality term meant correlation between a text with another text. In the context of Qur’anic tafsīr, the unit of text has same meaning verse (*ayah*). This like a concept: *al-Qur’ān yufassiru ba’duhū ba’dan* (a portion of verse interpret a part of another). Tartīl concept in: *wa rattilil Qur’āna tartīlā* {QS.al-Muzammil [73]: 4} have been understood as arrangement Qur’anic verses which has same theme in a connecting structure so easy to understand the meaning content. *Tartīl* technique could be used in reading for al-Qur’ān verses only, whereas for understanding umm al-Kitāb messages use comparative method (*al-Muqāranah*).<sup>30</sup>
4. Freedom from *al-Ta’diyah*<sup>31</sup> trap. These principles do best to merge the verses of same object themes become series of whole thought (*Fikrāh Mutakāmmilah*) where at last impossible divided. This is important thing to do, because after we arrange the verses of same object themes, so we should include the verses become enable of thought each perfect.
5. To comprehend the secret of “*Mawāqī’ al-Nujūm*”. Its place of a cut / process of sorting verses (*al-Fawāshil Bain al-Āyah*). This is important technique, because this step is gate of Qur’anic hermeneutic, especially to comprehend the Qur’anic messages totality.

<sup>29</sup> Al-Tartīl has justification from al-Muzammil verse 4: (.....ورتل لقرآن ترتيلا) in this verse, Shahrūr give meaning *ra-ta-la* as arrange and regulate.

<sup>30</sup> Shahrūr argumentation explained that al-Qur’ān themes gone the round of mushaf sheet, whereas the umm al-kitāb themes are collected in a series verse so isn’t needed the tartīl technique.

<sup>31</sup> *Al-ta’diyah* has justification from al-Hijr[15] verse 90-91 ﴿ كما أنزلنا على المقتسمين ﴾ (٢٥١)

الذين جعلوا القرآن عضين . Shahrūr explained the meaning of “*idīn*” derived from ‘*adana* that mean thing impossible divided (*qismah mālā yunaqasam*).

6. To do the cross examination. This step be referred in assumption there contradiction in al-Kitāb verses nuance *Ta'līmat* as well as *Tashrīat*. So, have need of cross examination among the verses in al-Kitāb so it would be met comprehensive knowledge.

However, Burhanuddin in his thesis<sup>32</sup> research the Muhammad Shahrūr's exegesis about keyword term where different with another conventional meaning, he concluded the assumptions and steps of method by Muhammad Shahrūr in the interprete of al-Qur'ān as follow:

1. Linguistic assumption of anti-synonym applied on Arabic language generally and al-Qur'ān language specially. The consistent is every word and independent clause must be searchable detail and significance of meaning (*Diqqat al-Ma'nā wa Darūriyatuh*).
2. The meaning of word has been known from relation with another word. Both of syntax or paradigm of relation.
3. Relation on a line between languages, thought, and communicates function.
4. Object study has mapped and understood the character in detail.
5. The contemporary of knowledge is epistemology of background having an effect on model and result of reading.

Therefore, procedure of method of Shahrūr's argumentation can be inferential in mechanism as follow:<sup>33</sup>

1. The confirmation of anti-synonym assumption in the study of concept.
2. The verses election has load the word editorial of study as stepping of first reading.
3. Semantic search to word building on lexical meaning.
4. Phonological study gives sign of meaning relation of different or opposite.

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<sup>32</sup> Burhanuddin, *Kritik Metodologi Muhammad Syahrur dalam buku al-Kitāb wa al-Qur'ān: Qira'ah Mu'āsirah*, thesis of faculty of Ushulūddin, state of Islamic Studies Sunan Kalijaga, Yogyakarta, 2004, p. 152

<sup>33</sup> Ahmad Zaki mubarak, *op.cit*, p.174 -175

5. Making the concept or theory in the science as an analogy, metaphor, and argumentation support.
6. Semiotics study with analyzing the form of particular word and unparticular (*Ma'rifah-Nakirah*), determinant (*Idāfah*), plural (*Jama'*), and singular (*Mufrād*). And the else, concerned about word attribute.
7. Inventorying of verses has load glossaries of study, although not totality (*Tartīl*).
8. Syntax study that analyses another word in the series of verses so known the meaning context.
9. Paradigm study that is comparing a context of meaning verses with other verses, so known the meaning in the series and another meaning apartly.
10. Process of drawing a conclusion or terms of definition in the meaning domain according to deduction pattern.

## **B. The Commentary Of Qur'anic Verses Have Corelation With Global Warming With Any Approach.**

### **1. Global Warming As Implied Assertion In The Qur'anic Verses**

The problem of global warming is regarded as one of the most serious environmental problems of our time, concerning which experts have held many conferences and published many articles about its dire consequences. These experts attribute this rise in temperature to the accumulation of gases in the atmosphere that is caused by factories, power stations and car emissions, which has led to a rise in air temperature and ocean temperature, which threatens to melt the ice-caps and cause flooding of land, which is expected to change the features of some countries completely and to change the climate of vast areas on earth.

The Qur'ān was described the natural problem in the heaven and earth. The Order to read and recite Qur'ān for application was very important, besides about the phenomena in the cosmos. The act of god as currently a like disaster, damage, mischief on the earth and heaven and the actual topic as global warming which were resulted by human factor or only process of natural

occurrence. These problems had been explained by Qur'anic verses as lesson and teaching for humans. As we know, the content of al-Qur'an is always relevant to every period (*Sālihun Li Kulli Zamān Wa Makān*). Allāh said in the Qur'an:

ظَهَرَ الْفَسَادُ فِي الْبَرِّ وَالْبَحْرِ بِمَا كَسَبَتْ أَيْدِي النَّاسِ لِيُذِيقَهُمْ بَعْضَ الَّذِي عَمِلُوا لَعَلَّهُمْ  
يَرْجِعُونَ(41) قُلْ سِيرُوا فِي الْأَرْضِ فَانظُرُوا كَيْفَ كَانَ عَاقِبَةُ الَّذِينَ مِنْ قَبْلُ كَانَ  
أَكْثَرُهُمْ مُشْرِكِينَ(42)

Mischief has appeared on land and sea because of (the deed) that the hands of men have earned. That (Allāh) may give them a taste of some of their deeds: in order that they may turn back (from Evil).(41) Say: "Travel through the earth and see what was the End of those before (you): most of them worshipped others besides Allāh."(42). ﴿ QS.al-Rūm [30]: 41-42﴾<sup>34</sup>

We could not find anything about global warming problem with textual comprehension in the Qur'an and *Sunnah* tradition, but with contextual comprehension these problems were actually explained. Some scholars who were specialized in *shari'ah* and environmental sciences said has to do with this topic, and some of the most prominent specialists in the world agreed with them, which was that the Arabian Peninsula would again become meadows and rivers. They attribute that the complete change in the earth's climate and the melting of the Arctic ice cap due to global warming.<sup>35</sup> What we thought that Arabia becoming meadows<sup>36</sup> and rivers again was something concerning which there was no doubt, but we could not be certain that it would happen because of the melting of the ice cap, because that was known only to Allāh. But we mentioned this view because it was relevant and has been said by some specialists, both Muslims and Kāfirs. The hadīth was:

وَحَدَّثَنَا قُتَيْبَةُ بْنُ سَعِيدٍ حَدَّثَنَا يَعْقُوبُ وَهُوَ ابْنُ عَبْدِ الرَّحْمَنِ الْقَارِي عَنْ سُهَيْلٍ عَنْ  
أَبِيهِ عَنْ أَبِي هُرَيْرَةَ أَنَّ رَسُولَ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ: قَالَ لَا تَقُومُ السَّاعَةُ حَتَّى

<sup>34</sup> The Quotation of all Qur'anic verses and its translation in English refers from al-Qur'an software by sakhr, version 6.50,(1991-1997)

<sup>35</sup> <http://www.eqraa.com/forums/index.php?showtopic=3687> <accessed on November 4<sup>th</sup> 2008>

<sup>36</sup> Meadows refer to spacious land with a great deal of vegetation

يَكْتُرُ الْمَالَ وَيَفِيضَ حَتَّى يَخْرُجَ الرَّجُلُ بِزَكَاةِ مَالِهِ فَلَا يَجِدُ أَحَدًا يَقْبَلُهَا مِنْهُ وَحَتَّى تَعُودَ أَرْضُ الْعَرَبِ مُرُوجًا وَأَنْهَارًا (صحيح مسلم: كتاب الزكاة, رقم: 1681)<sup>37</sup>

Muslim narrated from Qutaibah bin Sa'id, narrated from Ya'qub, He is Ibnu Abdi al-Rahman al-Qariyyu, from Suhail from his father from Abi Hurairah, verily Messenger of Allah (peace and blessings of Allāh be upon him) said: "The Hour will not begin until the most of wealth whom plenitude till the Man haven't given zakah and nothing some one be accepted his wealth; and the Hour will not begin until the land of the Arabs once again becomes meadows and rivers." {Hadith Narrated by Muslim, chapter: Zakah, hadith number: 1681}

Dr. Zaghloul al-Najjaar said: this hadīth was a scientific miracle that describes a natural fact that was not understood by scientists until the late twentieth century, when it was proven by definitive evidence that the Arabian Peninsula was meadows and rivers in ancient times. Climate studies have also indicated that the arid desert is now on its way to becoming meadows and rivers again, because the earth throughout its long history passes through climatic changes that take place gradually over long periods of time, or they may be sudden and swift.<sup>38</sup>

## 2. The Signal Of Global Warming In The Qur'anic Messages

The happened of global warming which coincided with a lot of natural phenomena was informed by Qur'anic signal and *Sunnah* tradition. We have known the contents of al-Qur'ān which are always relevant to every period (*Sālihun Li Kulli Zamān Wa Makān*). Basically, the contents of al-Qur'ān have three points i.e.: law for humans, story of antecedent community, and information the last times. Therefore, the signal of global warming in the Qur'anic messages, as Allāh said:

ظَهَرَ الْفَسَادُ فِي الْبَرِّ وَالْبَحْرِ بِمَا كَسَبَتْ أَيْدِي النَّاسِ لِيُذِيقَهُمْ بَعْضَ الَّذِي عَمِلُوا لَعَلَّهُمْ يَرْجِعُونَ (41) قُلْ سِيرُوا فِي الْأَرْضِ فَانظُرُوا كَيْفَ كَانَ عَاقِبَةُ الَّذِينَ مِنْ قَبْلُ كَانَ أَكْثَرُهُمْ مُشْرِكِينَ (42)

<sup>37</sup> Look in: Sahih Muslim on chapter zakah, hadith number: 1681; accessed with software CD Mausuh Hadith al-Sharif Kutub al-Tis'ah Isdar al-Thani by Global Islamic Software company (1991-1997)

<sup>38</sup> Look detail in: <http://ayaat.wordpress.com/2008/05/21/is-there-anything-in-the-Qur'an-orsunnah-about-global-warming>. <accessed on Nopember 4<sup>th</sup> 2008>

Mischief has appeared on land and sea because of (the meed) that the hands of men have earned. That (Allāh) may give them a taste of some of their deeds: in order that they may turn back (from Evil).(41). Say: "Travel through the earth and see what was the End of those before (you): most of them worshipped others besides Allāh."(42) ﴿ QS.al-Rūm [30]: 41-42 ﴾

With shahrur approach, we knew that term of “*al-fasād*” (فساد) in the Qur’ān derived from *fa-sa-da* has meaning mischief. This term also derived from *fa-da-sa* has meaning bury (*am yadussuhū fit turāb*){QS.al-Nahl[16]:59} or corrupts (*wa qad khāba man dassāhā*) {QS.al-Shams[91]:10}. This word is identical with any damage result by something. Al-Qur’ān mentioned *al-fasād* ± 58 times.<sup>39</sup> All of them review to damage for human society or environment. The damage on this meant: mischief by hands of human like in violation of God’s law and immoral. Some interpreter (mufassirīn) interpreted the mischief on land and sea, as would be al-Imam al-Alusi<sup>40</sup> explained in *Ruh al-Ma’āni* book tafsīr i.e: dry season, disease of epidemy, forest fire and conflagration, flood, erasing of benediction and blessing from anything, decreased of benefit something, and rampant of danger. Ibnu Kathīr also explained this verse i.e: decreased of agriculture product, plants and fruits caused by wickedness (المعاصي) because of no correction action in the earth and heavens.<sup>41</sup> Muhammad Ali al-Sābūni<sup>42</sup> interpreted this verse i.e: danger and disaster in the land (earth) and sea (oceans) caused by wickedness and sin of Man’s. Al-Zamakhshari<sup>43</sup> interpreted this verse i.e: disaster of dryness, less the agriculture product and crop, disaster of death, murder between the humans, disease of epidemy, conflagration, below a

<sup>39</sup> Muhammad Fuad Abdul Baqī, *al-Mu’jam al-Mufahras li alfāz al-Qur’ān al-Karīm*, (Beirut: Dar al-Fikr, 1981), p.518-519

<sup>40</sup> Imam al-Alusi, *Ruh al-Ma’āni, in Maktabah al-Shāmilah* Isdar al-thāni, p.377 surah al-Rūm verse 41.

<sup>41</sup> Al-Imām Abī al-Fidā’ al-Hāfiz Ibnu Kathīr al-Dimshiqī, *Tafsīr al-Qur’ān al-‘Azīm*, (Beirut: Dar al-Fikr, 2005), juz 3, p.1438

<sup>42</sup> Muhammad Alī al-Sābūni, *Ṣofwatu al-Tafāsīr*, (Beirut: Dar al-Kutub al-Ilmiyah, 1999), al-majallad 2, p.861

<sup>43</sup> Abi al-Qāsim Jārullāh Mahmud bin ‘Umar al-Zamakhshari al-Khawārizmi, *al-Kashāf ‘an Haqōiq al-Tanzīl wa ‘Uyun al-Aqōwil fi Wujūhi al-Ta’wīl*, (Beirut: Dar al-Fikr, tt), juz 3, p.224-226

surface, fear, erasing of benediction and blessing from anything, decrease of benefit and increase of harm .

The correlation above with global warming, that hands and action by human caused the disaster in land and sea, the earth and heavens. We have explained in the chapter two that greenhouse effect in normally made benefit for human. The nature of atmospheric gases makes our air relatively transparent to visible light that warms the earth's surface and supports photosynthesis. The same gases trap outgoing energy, keeping the earth warm enough for life as we know it. But, imbalance caused by human in using energy, machine, and technology that friendly to environment result the excessive of greenhouse effect. The increase of greenhouse gas concentration (mainly carbon dioxide) led to a substantial warming of the earth and the sea, called *global warming*. In other words the increases in the man-made emission of greenhouse gases were the cause for global warming. So we could say the global warming according this verse: "Global Warming has appeared on land and sea because of (the meed) that the hands of men have earned. That (Allāh) may give them a taste of some of their deeds: in order that they may turn back (from Evil)".<sup>44</sup>

The term of "fasād" also found in another verse:

وَابْتَغِ فِيمَا آتَاكَ اللَّهُ الدَّارَ الْآخِرَةَ وَلَا تَنْسَ نَصِيبَكَ مِنَ الدُّنْيَا وَأَحْسِنْ كَمَا أَحْسَنَ اللَّهُ إِلَيْكَ وَلَا تَبْغِ الْفُسَادَ فِي الْأَرْضِ إِنَّ اللَّهَ لَا يُحِبُّ الْمُفْسِدِينَ (77)

"But seek, with the (wealth) which Allāh has bestowed on thee, the Home of the Hereafter, nor forget thy portion in this World: but do thou good, as Allāh has been good to thee, and seek not (occasions for) mischief in the land: for Allāh loves not those who do mischief."(77). ﴿ QS.al-Qaṣaṣ [28]: 77 ﴾

وَمِنَ النَّاسِ مَنْ يُعْجِبُكَ قَوْلُهُ فِي الْحَيَاةِ الدُّنْيَا وَيُشْهَدُ اللَّهُ عَلَى مَا فِي قَلْبِهِ وَهُوَ أَلَدُّ الْخِصَامِ (204) وَإِذَا تَوَلَّى سَعَى فِي الْأَرْضِ لِيُفْسِدَ فِيهَا وَيُهْلِكَ الْحَرْثَ وَالنَّسْلَ وَاللَّهُ لَا يُحِبُّ الْفُسَادَ (205) وَإِذَا قِيلَ لَهُ اتَّقِ اللَّهَ أَخَذَتْهُ الْعِزَّةُ بِالْإِثْمِ فَحَسْبُهُ جَهَنَّمُ وَلَيْسَ الْمُهَادُّ (206)

<sup>44</sup> QS.al-Rūm [30]: 41-42

There is the type of man whose speech about this world's life may dazzle thee, and he calls Allāh to witness about what is in his heart; yet is he the most contentious of enemies.(204). When he turns his back, his aim everywhere is to spread mischief through the earth and destroy crops and cattle. But Allāh loveth not mischief.(205) When it is said to him, "Fear Allāh," he is led by arrogance to (more) crime. Enough for him is Hell; an evil bed indeed (to lie on)!(206). ﴿QS.al-Baqarah [2]: 204-206﴾

وَلَوْ اتَّبَعَ الْحَقُّ أَهْوَاءَهُمْ لَفَسَدَتِ السَّمَوَاتُ وَالْأَرْضُ وَمَنْ فِيهِنَّ بَلْ أَتَيْنَاهُمْ بِذِكْرِهِمْ فَهُمْ عَنِ ذِكْرِهِمْ مُعْرِضُونَ (71)

If the Truth had been in accord with their desires, truly the heavens and the earth, and all beings therein would have been in confusion and corruption! Nay, We have sent them their admonition, but they turn away from their admonition. ﴿QS.al-Mu'minūn [23]: 71﴾

وَإِذَا قِيلَ لَهُمْ لَا تُفْسِدُوا فِي الْأَرْضِ قَالُوا إِنَّمَا نَحْنُ مُصْلِحُونَ (11) أَلَا إِنَّهُمْ هُمُ الْمُفْسِدُونَ وَلَكِنْ لَا يَشْعُرُونَ (12)

When it is said to them: "Make not mischief on the earth," they say: "Why, we only want to make peace!"(11) Of a surety, they are the ones who make mischief, but they realise (it) not.(12). ﴿QS.al-Baqarah [2]: 11-12﴾

Al-Qur'ān also defined the terms of keeping environment which relation the good behavior, and Allāh hate human who did mischief in the earth and wasful in using product. Allāh said:

وَهُوَ الَّذِي أَنْشَأَ جَنَّاتٍ مَعْرُوشَاتٍ وَغَيْرَ مَعْرُوشَاتٍ وَالنَّخْلَ وَالزَّرْعَ مُخْتَلِفًا أَكْلُهُ وَالزَّيْتُونَ وَالرُّمَانَ مُتَشَابِهًا وَغَيْرَ مُتَشَابِهٍ كُلُوا مِنْ ثَمَرِهِ إِذَا أَثْمَرَ وَءَاتُوا حَقَّهُ يَوْمَ حَصَادِهِ وَلَا تُسْرِفُوا إِنَّهُ لَا يُحِبُّ الْمُسْرِفِينَ (141)

It is He Who produceth gardens, with trellises and without, and dates, and tilth with produce of all kinds, and olives and pomegranates, similar (in kind) and different (in variety): eat of their fruit in their season, but render the dues that are proper on the day that the harvest is gathered. But waste not by excess: for Allāh loveth not the wasters.(141) ﴿QS.al-An'ām [6]: 141﴾

The behavior pattern that relation with "fasād" has been abhorred by Allāh, all mankind in this universe. This was make annoyance in living series, imbalance of environment. Global warming as result "fasād" behavior happened by imbalance in the nature. Allāh prepared all product in the earth

and heavens for human living, but they were use it wasful and excessive not look the environment balance. Allāh said:

أَوَلَمْ يَتَفَكَّرُوا فِي أَنفُسِهِمْ مَا خَلَقَ اللَّهُ السَّمَوَاتِ وَالْأَرْضَ وَمَا بَيْنَهُمَا إِلَّا بِالْحَقِّ وَأَجَلٍ مُّسَمًّى وَإِنَّ كَثِيرًا مِّنَ النَّاسِ بِلِقَاءِ رَبِّهِمْ لَكَافِرُونَ(8)

Do they not reflect in their own minds? Not but for just ends and for a term appointed, did Allāh create the heavens and the earth, and all between them: yet are there truly many among men who deny their meeting with their Lord (at the Resurrection)!(8) ﴿QS.al-Rūm [30]: 8﴾

مَا خَلَقْنَا السَّمَوَاتِ وَالْأَرْضَ وَمَا بَيْنَهُمَا إِلَّا بِالْحَقِّ وَأَجَلٍ مُّسَمًّى وَالَّذِينَ كَفَرُوا عَمَّا أُنذِرُوا مُعْرِضُونَ(3)

We created not the heavens and the earth and all between them but for just ends, and for a term appointed: but those who reject Faith turn away from that whereof they are warned.(3) ﴿QS.al-Ahqāf [46]: 3﴾

The cosmos was created with big bang theory. Shahrur explained it with relation with law of “*tasbih*”.<sup>45</sup> *Tasbih* was terminology for movement anything where source and forward to Allāh only. The first creating start from the first big bang theory (*al-Fajr*),<sup>46</sup> Allāh said: “By the Break of Day (1); By the Nights twice five (2); By the Even and Odd (contrasted) (2) ;”{QS.al-Fajr[89]: 1-3}. Shahrur made different on the process of cosmos creator:

- 1) [Khalāqas samāwāti wal ard] (“Who created (*khalaqa*) the heavens and the earth, and made the Darkness and the Light”). {QS.al-An’ām[6]: 1 }
- 2) [Badīus samāwāti wal ard] (“To Him is due the primal origin (*badī*) of the heavens and the earth”). {QS.al-Baqarah[2]: 117}
- 3) [Fātiris samāwāti wal ard] (“Who created (out of nothing) (*fātir*) the heavens and the earth”). {QS.Fātir[35]: 1 }

<sup>45</sup>Muhammad Shahrūr, *al-Kitāb wa al-Qur’ān: Qirā’ah Mu’āsirah*, translate. M.Firdaus, *Dialektika Kosmos & Manusia Dasar-dasar Epistemologo Qur’āni*, (Bandung: Nuansa, 2004), cet.1, p.61

<sup>46</sup> *Ibid*, p.60

- 4) [Qulillāhu khāliq kulli shai-in wa huwal Wāhidul Qahhār] (“Say: "Allāh is the Creator of all things: He is the One, the Supreme and Irresistible”).  
{QS.al-Ra’d[13]: 16}

*Khalaq* has meant create, but “create” on this term refers to anything which there before. In the same manner as engineer can create home where it has been created before. So, to explain that creating the heavens and earth not start with a model before, and of course that the first and early creating, Allāh used term “*badī*” (“To Him is due the primal origin (*badī*) of the heavens and the earth”). Whereas the desain and creating heavens and earth not abid (eternal) and both of them united early then one of them separated, Allāh said: *Fātiris Samāwāti wal Ard* (“Who created (out of nothing) (*fātir*) the heavens and the earth”). This separating used big bang theory. In the creating of heavens and earth, Allāh prepared all product and sustenance on limited. Allāh said: “We created not the heavens and the earth and all between them but for just ends, and for a term appointed” {QS.al-Ahqāf[46]: 3}. Therefore, the supply of product, sustenance, and energy in the heavens and earth on limited. Allah said:

وَجَعَلَ فِيهَا رَوَاسِيَ مِنْ فَوْقِهَا وَبَارَكَ فِيهَا وَقَدَّرَ فِيهَا أَقْوَاتَهَا فِي أَرْبَعَةِ أَيَّامٍ سَوَاءً  
لِلسَّائِلِينَ (10)

He set on the (earth). Mountains standing firm, high above it, and bestowed blessings on the earth, and measured therein all things to give them nourishment in due proportion, in four Days, in accordance with (the needs of) those who seek (sustenance). ﴿QS.Fussilat [41]: 10﴾

وَالْأَرْضَ مَدَدْنَا وَأَلْقَيْنَا فِيهَا رَوَاسِيَ وَأَنْبَتْنَا فِيهَا مِنْ كُلِّ شَيْءٍ مَوْزُونٍ (19) وَجَعَلْنَا  
لَكُمْ فِيهَا مَعَايِشَ وَمَنْ لَسْتُمْ لَهُ بِرَازِقِينَ (20)

And the earth we have spread out (like a carpet); set thereon mountains firm and immovable; and produced therein all kinds of things in due balance (19). And We have provided therein means of subsistence, for you and for those for whose sustenance ye are not responsible. (20) ﴿QS.al-Hijr [15]: 19-20﴾

The natural phenomenon in the global warming problem was Sunnatullāh.<sup>47</sup> The support factor was caused by human hands. The first, Allāh created cosmos with balance and justice. This is basic law where heavens and earth build. All product, sustenance and energy in this earth and heavens are limited {QS.al-Rūm [30]:8}, {QS.Fussilat [41]:10}, {QS.al-Hijr [15]:19-20}. The cosmos balance in materialized form which all occupants, humans, animals, plants, mountains, rivers, lands, seas, etc: lived be just and safe without wrong doers and mischief. In fact, damage and disaster was caused by human's irresponsibility. Allāh was describing the balance in the cosmos:

الَّذِي خَلَقَ سَبْعَ سَمَوَاتٍ طِبَاقًا مَا تَرَى فِي خَلْقِ الرَّحْمَنِ مِنْ تَفَؤُتٍ فَارْجِعِ الْبَصَرَ  
هَلْ تَرَى مِنْ فُطُورٍ (3)

He Who created the seven heavens one above another: no want of proportion wilt thou see in the Creation of (Allāh) Most Gracious. So turn thy vision again: seest thou any flaw?(3) ﴿ QS.al-Mulk [67]: 3 ﴾

إِنَّ فِي خَلْقِ السَّمَوَاتِ وَالْأَرْضِ وَاخْتِلَافِ اللَّيْلِ وَالنَّهَارِ لآيَاتٍ لِّأُولِي  
الْأَلْبَابِ (190) الَّذِينَ يَذْكُرُونَ اللَّهَ قِيَامًا وَقُعُودًا وَعَلَىٰ جُنُوبِهِمْ وَيَتَفَكَّرُونَ فِي خَلْقِ  
السَّمَوَاتِ وَالْأَرْضِ رَبَّنَا مَا خَلَقْتَ هَذَا بَاطِلًا سُبْحَانَكَ فَقِنَا عَذَابَ النَّارِ (191)

Behold! in the creation of the heavens and the earth, and the alternation of Night and Day, there are indeed Signs for men of understanding.(190)

Men who celebrate the praises of Allāh, standing, sitting, and lying down on their sides, and contemplate the (wonders of) creation in the heavens and the earth, (with the thought): "Our Lord! not for naught hast thou created (all) this! Glory to Thee! Give us salvation from the Penalty of the Fire.(191). ﴿ QS.Alī 'Imrān [3]: 190-191 ﴾

When the natural was imbalance, so it's the beginning of damage and disaster. Global warming was once of damage that caused from imbalance in ecology and environment, such as: glacier, sea levels, change of weather condition, natural disaster, animal migration, diseases.

### 3. Global Warming As Disaster And Sign Of Damage In Natural And Environment

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<sup>47</sup> Sunnatullāh is condition in the world which follow the applicable law and certitude in world. The causative law is basic factor which the chain living going on sunnatullāh. Look footnote in chapter one page 1.

Global Warming refers to the rising temperature of the earth due to an increased amount of greenhouse gases. The scientific community as a whole has determined through all research that global warming is a problem caused by human influence. The burning of fossil fuels emits greenhouse gases such as carbon dioxide into the atmosphere. These gases trap the heat from the sun and cause the temperature of our planet to rise. This warming of the globe could potentially alter sea level, crop yield and rain fall, and could increase the intensity and frequency of natural disasters such as tornadoes, hurricanes, floods, and droughts, tsunami, oceans suffered to burst forth. Allāh said in the al-Qur’ān surah al- Infitār verse 1-9:

إِذَا السَّمَاءُ انْفَطَرَتْ(1) وَإِذَا الْكَوَاكِبُ انْتَثَرَتْ(2) وَإِذَا الْبِحَارُ فُجِّرَتْ(3) وَإِذَا الْقُبُورُ  
بُعْثِرَتْ(4) عَلِمَتْ نَفْسٌ مَّا قَدَّمَتْ وَأَخَّرَتْ(5) يَا أَيُّهَا الْإِنْسَانُ مَا غَرَّكَ بِرَبِّكَ  
الْكَرِيمِ(6) الَّذِي خَلَقَكَ فَسَوَّاكَ فَعَدَلَكَ(7) فِي أَيِّ صُورَةٍ مَّا شَاءَ رَكَّبَكَ(8) كَلَّا بَلْ  
تُكذِّبُونَ بِالذِّينِ(9)

When the Sky is cleft asunder;(1) When the Stars are scattered;(2) When the Oceans are suffered to burst forth;(3) And when the Graves are turned upside down;(4) (Then) shall each soul know what it hath sent forward and (what it hath) kept back.(5) O man! what has seduced thee from thy Lord Most Beneficent?(6) Him Who created thee, fashioned thee in due proportion, and gave thee a just bias;(7) In whatever form He wills, does He put thee together.(8) Nay! But ye do reject Right and Judgment!(9) ﴿QS.al-Infitār [82]: 1-19﴾

The word “*fujjirat*” in “*wa idhal bihāru fujjirat*” derived from *fa-ja-ra*, has meant: suffered to burst forth. Despitefully, this word usually refers to thing whose result of sin, crime or mischief. This word also has root: big bang theory / fajr (QS.al-Fajr[89]:1), road of rebellious (QS.al-Shams[91]:8), disobedient peoples(QS.al-Mutaffifin[83]:7; al-Infitār[82]:14; ‘Abasa[80]:42;), stream down (QS.al-Insān[76]:6; al-Baqarah[2]:74; Yāsīn[36]:34), wickedness (QS.Sād[38]:28; al-Qiyāmah[75]:5; Nūh[71]:27), earth drained the water sources (QS.al-Isrā’[17]:90; al-Qamar[54]:12). All of them refer to global warming result; the oceans are suffered to burst forth only. The rise in temperature of the earth is causing glaciers all over the world to melt rapidly, which affects the sea level. Such results can be the world ending up submerged

in the depths of the sea from the melting of the polar ice caps from the rise in temperature. It is projected that by the year 2050 all of the Artic Ocean will be ice free. This may seem impossible but in fact in recent decades the sea level has risen as much as over a hundred feet and is still rising rapidly due to Global Warming.<sup>48</sup>

Another mufassīr like Syekh Tantowi al-Jauhari<sup>49</sup> interpreted “*wa idhal bihāru fujjirat*” refers to oceans in union. Ibnu Kathīr<sup>50</sup> explained “*wa idhal bihāru fujjirat*” refers to oceans in self contained condition one and another till the sea level spilled in the land. Muhammad Ali al-Sābūni<sup>51</sup> also explained this verse i.e: the oceans are opened one by one to unite with another, and its have cause with ‘*adhāb*’.

Allāh also explained global warming signal in another verses:

وَإِذَا الْبِحَارُ سُجِّرَتْ (6)

When the oceans boil over with a swell ;(6). ﴿ QS.al-Takwīr [81]: 6 ﴾

وَإِنْ يَرَوْا كِسْفًا مِّنَ السَّمَاءِ سَاقِطًا يَقُولُوا سَحَابٌ مَّرْكُومٌ (44)

Were they to see a piece of the sky falling (on them), they would (only) say: "Clouds gathered in heaps!" ﴿QS.al-Tūr [52]: 54﴾

ءَأَمِنْتُمْ مَّن فِي السَّمَاءِ أَنْ يَخْسِفَ بِكُمْ الْأَرْضَ فَإِذَا هِيَ تَمُورُ (16) أَمْ أَمِنْتُمْ مَّن فِي السَّمَاءِ أَنْ يُرْسِلَ عَلَيْكُمْ حَاصِبًا فَسَتَعْلَمُونَ كَيْفَ نَذِيرِ (17) وَلَقَدْ كَذَّبَ الَّذِينَ مِن قَبْلِهِمْ فَكَيْفَ كَانَ نَكِيرِ (18)

Do ye feel secure that He Who is in Heaven will not cause you to be swallowed up by the earth when it shakes (as in an earthquake)?(16) Or do ye feel secure that He Who is in Heaven will not send against you a violent tornado (with showers of stones), so that ye shall know how (terrible) was My warning?(17) But indeed men before them rejected

<sup>48</sup> <http://www.rpi.edu/%7Engok/Global%20warming/effects.html>. <accessed on October 28<sup>th</sup> 2008>

<sup>49</sup> Syekh Tantowi Jauhari, *al-Jauhār fī Tafṣīr al-Qur’ān*, (Beirut: Dar al-Fikr, tt), jilid 13, p.86

<sup>50</sup> Al-Imām Abī al-Fidā’ al-Hāfiz Ibnu Kathīr al-Dimshiqī, *Tafṣīr al-Qur’ān al-‘Azīm*, (Beirut: Dar al-Fikr, 2005), juz 4, p.2000

<sup>51</sup> Muhammad Alī al-Sābūni, *Ṣofwat al-Tafāsīr*, (Beirut: Dar al-Kutub al-Ilmiyah, 1999), al-Majallad 3, p.1371-1372.

(My warning): then how (terrible) was My rejection (of them)?(18). ﴿QS.al-Mulk [67]: 16-18﴾

Al-Qur’ān also describes the warning of global warming phenomena in surah Sabā’ verse 9:

أَفَلَمْ يَرَوْا إِلَى مَا بَيْنَ أَيْدِيهِمْ وَمَا خَلْفَهُمْ مِنَ السَّمَاءِ وَالْأَرْضِ إِنَّ نَشَأَ نَحْسِفَ بِهِمُ  
الْأَرْضِ أَوْ نَسْقِطُ عَلَيْهِمْ كِسَفًا مِنَ السَّمَاءِ إِنَّ فِي ذَلِكَ لَآيَةً لِكُلِّ عَبْدٍ مُنِيبٍ (9)

See they not what is before them and behind them, of the sky and the earth? If We wished, We could cause the earth to swallow them up, or cause a piece of the sky to fall upon them. Verily in this is a Sign for every devotee that turns to Allāh (in repentance). ﴿QS.Sabā’ [34]: 9﴾

The signal of global warming was given expression in Qur’anic text with: “*In Nasha’ Nakhshif bihimul Arda au Nusqit ‘alaihmin Kisafan minas Samā’*” (We could cause the earth to swallow them up, or cause a piece of the sky to fall upon them). The word *Nakhshif* derived from *kha-sa-fa*, has meant: disappear or sink; correlation with global warming phenomena: disappear of the island or land caused disaster phenomena, might be caused by earthquake, tsunami, flood, molten of glacier. This redaction is described in Qur’ān:

وَحَسَفَ الْقَمَرُ (8)

And the moon is buried in darkness. ﴿QS.al-Qiyāmah [75]: 8﴾

ءَأَمِنْتُمْ مَنْ فِي السَّمَاءِ أَنْ يَخْسِفَ بِكُمْ الْأَرْضَ فَإِذَا هِيَ تَمُورُ (16)

Do ye feel secure that He Who is in Heaven will not cause you to be swallowed up by the earth when it shakes (as in an earthquake)? ﴿QS.al-Mulk [67]: 16﴾

أَفَأَمِنَ الَّذِينَ مَكَرُوا السَّيِّئَاتِ أَنْ يَخْسِفَ اللَّهُ بِهِمُ الْأَرْضَ أَوْ يَأْتِيَهُمُ الْعَذَابُ مِنْ حَيْثُ لَا يَشْعُرُونَ (45)

Do then those who devise evil (plots) feel secure that Allāh will not cause the earth to swallow them up, or that the Wrath will not seize them from directions they little perceive? ﴿QS.al-Nahl [16]: 45﴾

فَكُلًّا أَخَذْنَا بِذَنْبِهِ فَمِنْهُمْ مَنْ أَرْسَلْنَا عَلَيْهِ حَاصِبًا وَمِنْهُمْ مَنْ أَخَذَتْهُ الصَّيْحَةُ وَمِنْهُمْ مَنْ  
حَسَفْنَا بِهِ الْأَرْضَ وَمِنْهُمْ مَنْ أَعْرَفْنَا وَمَا كَانِ اللَّهُ لِيُظْلِمَهُمْ وَلَكِنْ كَانُوا أَنْفُسَهُمْ  
يُظْلِمُونَ (40)

Each one of them We seized for his crime: of them, against some We sent a violent tornado (with showers of stones); some were caught by a (mighty) Blast; some We caused the earth to swallow up; and some We drowned (in the waters): it was not Allāh who injured (or oppressed) them: they injured (and oppressed) their own souls. ﴿QS.al-‘Ankabūt [29]: 40﴾

وَأَصْحَابِ الَّذِينَ تَمَنَّوْا بِمَكَانِهِ بِالْأَمْسِ يَقُولُونَ وَيَكَآئِنَ اللَّهُ يَبْسُطُ الرِّزْقَ لِمَنْ يَشَاءُ مِنْ  
عِبَادِهِ وَيَقْدِرُ لَوْلَا أَنْ مَنَّ اللَّهُ عَلَيْنَا لَخَسَفَ بِنَا وَيَكَآئِنَ لَا يُفْلِحُ الْكَافِرُونَ (82)

And those who had envied his position the day before began to say on the morrow: "Ah! It is indeed Allāh Who enlarges the provision or restricts it, to any of His servants He pleases! Had it not been that Allāh was gracious to us, He could have caused the earth to swallow us up! Ah! Those who reject Allāh will assuredly never prosper." ﴿QS.al-Qasas [28]: 82﴾

Whereas, the word “*Kisafan*” derived from *ka-sa-fa*, has meant: cover up, cut, a piece. This meaning could refer to solar eclipse phenomena, or relation of global warming signal: ozon depletion, where it made greenhouse effect in the heaven. So we could say in Qur’ān: “See they not what is before them and behind them, of the sky and the earth? If We wished, We could cause the earth to swallow them up (by global warming), or cause a piece of the sky (ozon depletion phenomena) to fall upon them. Verily in this is a Sign for every devotee that turns to Allāh (in repentance)”.

The signal of global warming has inspired by al-Qur’ān as punishment and torment part to all mankind. When human couldn’t keep the living environment and his balance, so whenever torment arrival like damage by global warming phenomena, not Allāh make wrong doers to servant, but human as God’s servant have damaged with hands. The punishment this from Allāh as well as *sunnatullāh* (law of nature) will come every time. The believers only didn’t

fear the torment, because Allāh gave torment to disbelievers, who were not keeping the environment balance. Allāh said:

وَلَوْ أَنَّ أَهْلَ الْقُرَىٰ ءَامَنُوا وَاتَّقَوْا لَفَتَحْنَا عَلَيْهِم بَرَكَاتٍ مِّنَ السَّمَاءِ وَالْأَرْضِ وَلَٰكِن كَذَّبُوا فَأَخَذْنَاهُم بِمَا كَانُوا يَكْسِبُونَ (96) أَفَأَمِنَ أَهْلُ الْقُرَىٰ أَن يَأْتِيَهُمْ بَأْسُنَا بَيَاتًا وَهُمْ نَائِمُونَ (97) أَوَأَمِنَ أَهْلُ الْقُرَىٰ أَن يَأْتِيَهُمْ بَأْسُنَا ضُحًى وَهُمْ يُلْعَبُونَ (98) أَفَأَمِنُوا مَكْرَ اللَّهِ فَلَا يَأْمَنُ مَكْرَ اللَّهِ إِلَّا الْقَوْمُ الْخَاسِرُونَ (99)

If the people of the towns had but believed and feared Allāh, We should indeed have opened out to them (all kinds of) blessings from heaven and earth; but they rejected (the truth), and We brought them to book for their misdeeds.(96) Did the people of the towns feel secure against the coming of Our wrath by night while they were asleep?(97) Or else did they feel secure against its coming in broad daylight while they played about (carefree)?(98) Did they then feel secure against the Plan of Allāh? But no one can feel secure from the Plan of Allāh, except those (doomed) to ruin!(99). ﴿QS.al-A'rāf [ 7]: 96-99﴾

فَارْتَقِبْ يَوْمَ تَأْتِي السَّمَاءُ بِدُخَانٍ مُّبِينٍ (10) يَغْشَى النَّاسَ هَذَا عَذَابٌ أَلِيمٌ (11) رَبَّنَا اكشِفْ عَنَّا الْعَذَابَ إِنَّا مُؤْمِنُونَ (12) أَنَّى لَهُمُ الذِّكْرَى وَقَدْ جَاءَهُمْ رَسُولٌ مُّبِينٌ (13) ثُمَّ تَوَلَّوْا عَنْهُ وَقَالُوا مُعَلِّمٌ مَّجْنُونٌ (14) إِنَّا كَاشِفُو الْعَذَابِ قَلِيلًا إِنَّكُمْ عَائِدُونَ (15) يَوْمَ نَبْطِشُ الْبَطْشَةَ الْكُبْرَى إِنَّا مُنْتَقِمُونَ (16)

Then watch thou for the Day that the sky will bring forth a kind of smoke (or mist) plainly visible,(10) Enveloping the people: this will be a Penalty Grievous.(11) (They will say:) "Our Lord! Remove the Penalty from us, for we do really believe!"(12) How shall the Message be (effectual) for them, seeing that a Messenger explaining things clearly has (already) come to them,(13) Yet they turn away from him and say: "Tutored (by others), a man possessed!"(14) We shall indeed remove the Penalty for a while, (but) truly ye will revert (to your ways).(15) One day We shall seize you with a mighty onslaught: We will indeed (then) exact retribution!(16) ﴿QS.al-Dukhān [44]: 10-16﴾

#### 4. What Is Global Warming Have Share In The March Of Events Of Qiyāmah?

Allāh was explaining that arrival of “*Qiyāmah*” suddenly, but Allāh also explained the signal what kept the *Qiyāmah* from Qur’anic verses or Hadīth of Prophet Muhammad (peace and blessings of Allāh be upon him). Of course, the advent of *Qiyāmah* came into effect with *Sunnatullāh*. In Qur’anic verses explained the signal of damage in “*al-Sā’ah*” term. This term was understood

of while as Day of Judgment (al-*Qiyāmah* al-Kubrā).<sup>52</sup>The word *al-Sā'ah* derived from *sa-wa-'a* it's meant: thing of continuity, time passed, also meant: quiet {QS.al-Rūm [30]:55}.The moment “*al-Sā'ah*” relation big bang theory in the cosmos, where those time of *Qiyāmah*. We knew that *Qiyāmah* was big phenomena of destruction and lost of this cosmos. The small destruction was also understood with al-*Qiyāmah al-Sughrā* as like death, destruction of natural ecosystem, ecology, and a small deal of world.<sup>53</sup>

According the explanation in Qur'anic verses above, so global warming was a factor occurre the *Qiyāmah* phenomena. Surah al-Infītār and al-Takwīr described the signal of advent of *Qiyāmah*:

When the Sky is cleft asunder;(1) When the Stars are scattered;(2) When the Oceans are suffered to burst forth;(3) And when the Graves are turned upside down;(4) (Then) shall each soul know what it hath sent forward and (what it hath) kept back.(5) O man! what has seduced thee from thy Lord Most Beneficent?(6) Him Who created thee, fashioned thee in due proportion, and gave thee a just bias;(7) In whatever form He wills, does He put thee together.(8) Nay! But ye do reject Right and Judgment!(9) ﴿QS.al-Infītār [82]: 1-19﴾

When the sun (with its spacious light) is folded up;(1) When the stars fall, losing their lustre;(2) When the mountains vanish (like a mirage);(3) When the she-camels, ten months with young, are left untended;(4) When the wild beasts are herded together (in human habitations);(5) When the oceans boil over with a swell;(6) ﴿QS.al-Takwīr[81]: 1-6﴾

Preference of human in modern and last period made behave of *sunnatullāh*. Additionally there was exploitation of human potential, energy and environment who gave a loose to be controlled. Humans set thinking to actualize the dreams and civilization which one often found deviation of ecology and environment. So, global warming as result of deviation of these because imbalance in this nature. Bad tendency made drage the humans to do

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<sup>52</sup> Look: M.Syahrur, *al-Kitāb wa al-Qur'ān*, (translate) M.Firdaus, *Dialektika Kosmos dan Manusia*, (Bandung: Nuansa Cendekia, 2004), pub.1, p.61-64

<sup>53</sup> Look: QS.al-Hajj [22]: 1-2; Ghāfir[40]: 59; al-Jāthiyah[45]: 27; al-A'rāf[7]:187. Look detail the explanation al-Sā'ah by Muhammad Shahrūr in: M.Syahrur, *al-Kitāb wa al-Qur'ān*, (translate) M.Firdaus, *Dialektika Kosmos dan Manusia*, (Bandung: Nuansa Cendekia, 2004), pub.1, p.59-68

mutilation of nature, environment, animals, plants, and even mankind. All of them happened because giving a loose, cap it all *Qiyāmah* was really occurring and *sunnatullāh* in force. Then, if we adopted the explanation from Prophet Muhammad Messenger of Allāh (peace and blessings of Allāh be upon him), we would find the prophethood (*nubuwwat*) who told the critical condition of last period (*Qiyāmah*). More phenomena have been expounded in some narrative where made any summary that all signal of *Qiyāmah* happening which relates with global warming phenomena. There were some explanations of these in some hadīth narrative as follow:

- 1) About the blood bath would bear down upon to human before *Qiyāmah* coming, hadīth narrative from ‘Auf bin Malik:

حَدَّثَنَا الْحَمِيدِيُّ حَدَّثَنَا الْوَلِيدُ بْنُ مُسْلِمٍ حَدَّثَنَا عَبْدُ اللَّهِ بْنُ الْعَلَاءِ بْنِ زَيْرٍ قَالَ سَمِعْتُ بُسْرَ بْنَ عُبَيْدِ اللَّهِ أَنَّهُ سَمِعَ أَبَا إِدْرِيسَ قَالَ سَمِعْتُ عَوْفَ بْنَ مَالِكٍ قَالَ أَتَيْتُ النَّبِيَّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ فِي غَزْوَةِ تَبُوكَ وَهُوَ فِي قُبَّةٍ مِنْ أَدَمٍ فَقَالَ اعْدُدْ سِتًّا بَيْنَ يَدَيِ السَّاعَةِ مَوْتِي ثُمَّ فَتَحَ بَيْتَ الْمَقْدِسِ ثُمَّ مَوْتَانِ يَأْخُذُ فِيكُمْ كَفَعَاصِ الْعَنَمِ (صحيح البخاري: كتاب الجزية, رقم: 2940)<sup>54</sup>

Bukhāri narrated from Khumaidi narrated from al Walid bin Muslim narrated from Abdullah bin al-‘Ala’ bin Zabr said: he listened from Busro bin Ubaidillah verily listened that Aba Idris said he listened from ‘Auf bin Malik that he met Prophet (peace and blessings of Allāh be upon him) in ‘Tabuk’ war and he was sitting on cupola from leather, he (Rasulullah) said: “Count pleased! The six point of *Qiyāmah* before: my death then opened of bait al-maqdis then blood bath would bear upon like the goat that killed suddenly caused by disease.” {Hadīth narrated by Bukhāri in chapter al-Jizyah, hadīth number: 2940}

- 2) About the rain of stone, floods and sinking, and changed of physical human massively (genetics mutation):

حَدَّثَنَا عَبَادُ بْنُ يَعْقُوبَ الْكُوفِيُّ حَدَّثَنَا عَبْدُ اللَّهِ بْنُ عَبْدِ الْفُؤُسِ عَنِ الْأَعْمَشِ عَنْ هِلَالِ بْنِ يَسَافٍ عَنْ عِمْرَانَ بْنِ حُصَيْنٍ أَنَّ رَسُولَ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ قَالَ فِي هَذِهِ الْأُمَّةِ خَسْفٌ وَمَسْحٌ وَقَدْفٌ فَقَالَ رَجُلٌ مِنَ الْمُسْلِمِينَ يَا رَسُولَ اللَّهِ وَمَتَى ذَلِكَ قَالَ إِذَا ظَهَرَتْ

<sup>54</sup> Look in: Sahīh Bukhāri on chapter al-Jizyah, hadīth number: 2940; accessed with software CD Mausū’ah Hadīth al-Sharīf Kutub al-tis’ah Isdar al-Thani by Global Islamic Software company (1991-1997)

الْقَيْنَاتُ وَالْمَعَارِفُ وَشُرِبَتِ الْخُمُورُ ( سنن الترمذي : كتاب الفتن عن رسول الله :  
55(2138

Turmudhi narrated from ‘Abbad bin Ya’qub al-Kufi, narrated from ‘Abdullah bin Abdi al-Quddus from al-A’mash from Hilal bin Yasaf from ‘Imran bin Husoin; Verily Messenger of Allāh (peace and blessings of Allāh be upon him) said: “Would happen in the last periode sinking of earth, rain of stone, then Men from muslim peoples ask to him: hey Allāh messenger, when of these would happen? Rasulullah said: if music and songster (female vocalist) had been rampant and arrack became legal (halal)”. {Hadīth narrated by Turmudhī in chapter: al-Fitan ‘an Rasūlillah, hadīth number: 2138}

- 3) About the damage of Hijaz land (in Arabic) because any reason have been caused by natural factor:

حَدَّثَنَا أَبُو الْيَمَانِ أَخْبَرَنَا شُعَيْبٌ عَنِ الزُّهْرِيِّ قَالَ سَعِيدُ بْنُ الْمُسَيَّبِ أَخْبَرَنِي أَبُو  
هُرَيْرَةَ أَنَّ رَسُولَ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ قَالَ لَا تَقُومُ السَّاعَةُ حَتَّى تَخْرُجَ نَارٌ مِنْ  
أَرْضِ الْحِجَازِ تُضِيءُ أَعْنَاقَ الْإِبِلِ بِبَصْرَى (صحيح البخاري : كتاب الفتن :  
56(6585

Bukhāri narrated from Abu al-Yaman reported from al-Zuhri, he said Sa’id bin al-Musayyab reported to me from Abu Hurairah. Verily Messenger of Allāh (peace and blessings of Allāh be upon him) said: “Neither of *Qiyāmah* stood until out of fire from Hijaz land that brightened the camel’s neck in Basra.” {Hadīth narrated by Bukhāri in chapter: al-fitan, number: 6585}

The really of global warming in big phenomena was result big damage and disaster any where in the earth and heavens, land and oceans. So, *Qiyāmah* phenomena would nearest. Furthermore, global warming might became bridge to biggest damage: *Qiyāmah*.

<sup>55</sup> Look in: Sunan Turmudhī on chapter al-Fitan an Rasūlillah, hadīth number: 2138; accessed with software CD Mausū’ah Hadīth al-Sharīf Kutub al-Tis’ah Isdār al-Thāni by Global Islamic Software company (1991-1997)

<sup>56</sup> Sahīh Bukhāri on chapter al-Fitan, hadīth number 6585; accessed with software CD Mausū’ah Hadīth al-Sharīf Kutub al-Tis’ah Isdār al-Thāni by Global Islamic Software company (1991-1997)

CHAPTER IV  
**THE PROBLEM SOLVING AROUND THE THREAT OF GLOBAL  
 WARMING ACCORDING AL-QUR'AN**

**A. The Threat Of Global Warming And The Solution**

Most of these negative effects of global warming can be resolved by changing the attitudes and actions of mankind for an environmentally safe world.<sup>1</sup> This is definitely a difficult task but in a sense this is a necessary movement to maintain and care for the planet that the people live on. So with one change at a time this goal can be reached.

These changes include developing and harnessing new forms of energy that is environmentally safe, the prevention of deforestation and implementation of increasing flora environments, and ultimately influence and educate the public about environmental issues. These points are counterbalancing the threat of global warming as follow:<sup>2</sup>

1. **New energy:** a major solution is the need for new forms of energy to be developed that are environmentally safe. These new forms of energy can be implemented in cars, households and industry.

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<sup>1</sup> The notion that nature is somehow “constructed” by society is often met with a lack of understanding. There are at least three reasons for viewing nature as a social construct: *Firstly*, there are few environments left on the earth that is untouched by humans. People have over thousands of years transformed their biophysical milieu, and we cannot know what kind of nature we would have without the human impact. Man influences nature on the smallest microscopic scales (e.g. genetic engineering) up to the macroscopic scales e.g. global warming. Nature is in this sense constructed by human interaction and labour. *Secondly*, cultural ideas regarding nature (i.e. view of nature) often determine the nature constructed in reality. For instance, a society that values a certain kind of nature will probably conserve exactly that kind of nature, and the species that are culturally appreciated will have a better chance to be protected than others viewed insignificant in that society. *Thirdly*, we have to realise that nature is socially negotiated and the result of these negotiations is manifested in the environment. The actual levels of environmental pollutants are remnants from human societies and the production of consumer goods, but are also to a certain extent materialised forms of global ecological agreements and policies (or, as it seems to be more often the case, the absence of such agreements).

<sup>2</sup> More the solution about the threat of global warming, but human factor is final to do these solutions. So, any solution to keep of global warming threatment is conscious thought to this disaster from all mankind.

Look:<http://www.rpi.edu/%7Engok/global%20warming/solutions.html>.

2. **Cars:** since one of the biggest contributors to “greenhouse gases” is produced from cars, a big solution would be to use less transportation through cars or drive hybrid automobiles. These new energy powered cars that run on electricity that don’t release these harmful chemicals and are fuel efficient. In addition when it comes to buying cars, consumers can purchase more fuel efficient cars with more mileage which will produce less harmful by-products.
3. **Households:** when it comes to households, people can save on using electricity which will burn less fossil fuel and create a smaller amount of “greenhouse gases”. Consumers can also change to a more efficient heating system such as from oil to gas. The best thing that any person can do is conserve energy because less power will be used and less “greenhouse gases” will be produced.
4. **Industry:** now in terms of the industrial world involving factories and power plants, an ultimate solution is to research new chemicals to be used that will reduce the emission of harmful by-products. Currently one solution is to have all countries join and agree on the Kyoto Protocol, which is a global plan to reduce these harmful emissions. During the past decade there has been tremendous efforts to research new types of energy that are environment friendly and some of these new energies are solar energy and wind energy. These types of energies don’t produce there harmful “greenhouse gases” and even though they aren’t preferred some of the energy produced from these methods can be used by companies to fuel a part of their factories.
5. **Prevent deforestation:** by reducing the size of forests around the world this is causing carbon dioxide, one of the “greenhouse gases” to increase, therefore an evident solution is to end deforestation and promote the growth of these ecosystems.

6. **Stop deforestation:**<sup>3</sup> ending deforestation is certainly a hard problem to fix because the reason for deforestation is to account for the growing population with more living space and also there is a need for more lumber to build buildings. Even though this is true, the rates at which these forests are being destroyed are increasing rapidly and there needs to be a stop to this or at least a compromise to limit deforestation. Another possible solution is to use synthetic material rather than wood as a resource. This leads to the idea of recycling, products that are made from trees such as paper, so that the recycled material can be re-used rather than destroying more forests.
7. **Encourage planting:** since many miles of forestland are already destroyed an effort to replenish these lands by planting trees in the area can definitely help reduce these carbon dioxide levels. In recent decades many cities are encouraging the planting of trees and plants in urban areas as an effort to promote cleaner air. This is one small step that the government is actively promoting but there needs to be a large scale restoration of the forest lands lost due to deforestation. One solution is through the creation of reserves.
8. **Environmental Attitude:** the ultimate goal is for people all over the world to be aware and attempt to make an effort in wanting to support environmental issues. When it comes to Global Warming people can start helping by conserving energy or using more efficient energy. The general car consumer can consider buying a hybrid car rather than a

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<sup>3</sup> Deforestation is the conversion of forested areas to non-forested land, for uses such as: pasture, urban use, logging purposes, and can result in arid land and wastelands. The removal or destruction of significant areas of forest cover has resulted in an altered environment with reduced biodiversity. In many countries, deforestation is ongoing and is shaping climate and geography. Deforestation results from removal of trees without sufficient reforestation, and results in declines in habitat and biodiversity, wood for fuel and industrial use, and quality of life. Forests disappear naturally as a result of broad climate change, fire, hurricanes or other disturbances, however most deforestation in the past 40,000 years has been anthropogenic. Human induced deforestation may be accidental such as in the case of forests in Europe adversely affected by acid rain. Improperly applied logging, fuelwood collection, fire management or grazing can also lead to unintentional deforestation. However, most anthropogenic deforestation is deliberate. Look in <http://en.wikipedia.org/wiki/deforestation>.

regular gasoline consuming automobile. Of course there's the effort to recycle. All of these suggestions mentioned are actions that anyone can do to help reduce Global Warming and be more environmentally friendly. Though when it comes to issues in Industry there needs to be an acknowledgement of environmental issues and some sort of genuine effort to reach a compromise with issues. Even though the loss of money is a possible outcome, the damages done to the earth cannot be over looked as a lesser loss.

Allāh has created everything in this universe in due proportion and measure both quantitatively and qualitatively. Allāh has declared in the Qur'ān:

إِنَّا كُلَّ شَيْءٍ خَلَقْنَاهُ بِقَدَرٍ (49)

“Verily, all things have We created in proportion and measure”. ﴿QS.al-Qamar [54]: 49<sup>4</sup>﴾

اللَّهُ يَعْلَمُ مَا تَحْمِلُ كُلُّ أُنْثَىٰ وَمَا تَغِيصُ الْأَرْحَامُ وَمَا تَزْدَادُ وَكُلُّ شَيْءٍ عِنْدَهُ بِمِقْدَارٍ (8)

“Allāh doth know what every female (womb) doth bear, by how much the wombs fall short (of their time or number) or do exceed. Every single thing is before His sight, in (due) proportion.” ﴿QS.al-Ra'd [13]: 8﴾

وَالسَّمَاءَ رَفَعَهَا وَوَضَعَ الْمِيزَانَ (7)

“And the Firmament has He raised high, and He has set up the Balance (of Justice).” ﴿QS.al-Rahman [55]: 7﴾

In the universe there is enormous diversity and variety of form and function. The universe and its various elements fulfill human welfare and are evidence of the Creator's greatness; He it is Who determines and ordains all things, and there is not a thing He has created but celebrates and declares His said:

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<sup>4</sup> The Quotation of all Qur'ānic verses and its translation in English refers from al-Qur'ān software by sakhr, version 6.50,(1991-1997)

أَلَمْ تَرَ أَنَّ اللَّهَ يُسَبِّحُ لَهُ مَنْ فِي السَّمَوَاتِ وَالْأَرْضِ وَالطَّيْرُ صَافَاتٍ كُلُّ قَدْ عَلِمَ صَلَاتَهُ  
وَتَسْبِيحَهُ وَاللَّهُ عَلِيمٌ بِمَا يَفْعَلُونَ (41)

“Seest thou not that it is Allāh Whose praises all beings in the heavens and on earth do celebrate, and the birds (of the air) with wings outspread? Each one knows its own (mode of) prayer and praise. And Allāh knows well all that they do”. ﴿QS.al-Nūr [24]: 41﴾

Environment as system was indicated by al-Qur’ān. Human responsibility to take care the environment was repeatedly cited. Forbidden of mischief to environment is clearly stated. The role and importance of water in environment was also stressed. The last but not least was the warning that a lot of destruction of environment has happened due to the management of earth neglecting the guidance from Allāh. The following are some of Qur’ānic verses that contain the information and warning to Man on the importance of environment to their life. Allāh said:

وَالْأَرْضَ مَدَدْنَا وَأَلْقَيْنَا فِيهَا رَوَاسِيَ وَأَنْبَتْنَا فِيهَا مِنْ كُلِّ شَيْءٍ مَوْزُونٍ (19) وَجَعَلْنَا  
لَكُمْ فِيهَا مَعَايِشَ وَمَنْ لَسْتُمْ لَهُ بِرَازِقِينَ (20)

And the earth we have spread out (like a carpet); set thereon mountains firm and immovable; and produced therein all kinds of things in due balance (19). And We have provided therein means of subsistence, for you and for those for whose sustenance ye are not responsible. (20) ﴿ QS.al-Hijr [15]: 19-20 ﴾

الَّذِي جَعَلَ لَكُمْ الْأَرْضَ مَهْدًا وَسَلَّكَ لَكُمْ فِيهَا سُبُلًا وَأَنْزَلَ مِنَ السَّمَاءِ مَاءً فَأَخْرَجْنَا بِهِ  
أَنْوَاجًا مِنْ نَبَاتٍ شَتَّى (53) كُلُوا وَارْعَوْا أَنْعَامَكُمْ إِنَّ فِي ذَلِكَ لَآيَاتٍ لِأُولِي  
النُّهَى (54)

"He Who has made for you the earth like a carpet spread out; has enabled you to go about therein by roads (and channels); and has sent down water from the sky." With it have We produced diverse pairs of plants each separate from the others. (53) Eat (for yourselves) and pasture your cattle: verily, in this are Signs for men endued with understanding. (54).

﴿QS. Tāhā [20]: 53-54﴾

Allāh has not created anything in this universe in vain, without wisdom, value and purpose. Allāh said:

وَمَا خَلَقْنَا السَّمَوَاتِ وَالْأَرْضَ وَمَا بَيْنَهُمَا لَاعِبِينَ (38) مَا خَلَقْنَاهُمَا إِلَّا بِالْحَقِّ وَلَكِنَّ أَكْثَرَهُمْ لَا  
يَعْلَمُونَ (39)

We created not the heavens, the earth, and all between them, merely in (idle) sport;(38)  
 We created them not except for just ends: but most of them do not understand.(39).  
 ﴿QS.al-Dukhān [44]: 38-39﴾

Thus, the Islamic vision revealed in the Qur'ān is of a universe imbued with value. All things in the universe are created to serve the One Lord Who sustains them all by means of one another, and Who controls the miraculous cycles of life and death:

إِنَّ اللَّهَ فَالِقُ الْحَبِّ وَالنَّوَى يُخْرِجُ الْحَيَّ مِنَ الْمَيِّتِ وَمُخْرِجُ الْمَيِّتِ مِنَ الْحَيِّ ذَلِكُمْ اللَّهُ فَأَنَّى تُؤْفَكُونَ (95)

It is Allāh who causeth the seed-grain and the date stone to split and sprout. He causeth the living to issue from the dead, and He is the One to cause the dead to issue from the living. That is Allāh: then how are ye deluded away from the truth? ﴿QS.al-An'ām [6]: 95﴾

Life and death are created by Allāh so that He might be served by means of good works:

تَبَارَكَ الَّذِي بِيَدِهِ الْمُلْكُ وَهُوَ عَلَى كُلِّ شَيْءٍ قَدِيرٌ (1) الَّذِي خَلَقَ الْمَوْتَ وَالْحَيَاةَ لِيَبْلُوَكُمْ أَيُّكُمْ أَحْسَنُ عَمَلًا وَهُوَ الْعَزِيزُ الْعَفُورُ (2)

Blessed be He in Whose hands is Dominion; and He over all things hath Power;(1) He Who created Death and Life, that He may try which of you is best in deed; and He is the Exalted in Might, Oft-Forgiving;(2). ﴿QS.al-Mulk [67]: 1-2﴾

All created beings are created to serve the Lord of all beings and, in performing their ordained roles in a cohesively designed society; they best benefit themselves and each other in this world and the next. This leads to a cosmic symbiosis. The universal common good is a principle that pervades the universe, and an important implication of God's Oneness, for one can serve the Lord of all beings only by working for the common good of all.

Man is part of this universe, the elements of which are complementary to one another in an integrated whole indeed, man is a distinct part of the universe and it has a special position among its other parts. The relation between man

and the universe, as defined and clarified in the Glorious Qur'an and the Prophetic teachings, is as follows:<sup>5</sup>

- ❖ A relationship of meditation, consideration, and contemplation of the universe and what it contains.
- ❖ A relationship of sustainable utilization, development, and employment for man's benefit and for the fulfillment of his interests.
- ❖ A relationship of care and nurture for man's good works are not limited to the benefit of the human species, but rather extend to the benefit of all created beings; and "there is a reward in doing good to every living thing."

All of the resources upon which life depends have been created by Allāh as a trust in our care. He has ordained sustenance for all people and for all living beings:

وَجَعَلَ فِيهَا رِوَاسِيَ مِنْ فَوْقِهَا وَبَارَكَ فِيهَا وَقَدَّرَ فِيهَا أَقْوَاتَهَا فِي أَرْبَعَةِ أَيَّامٍ سَوَاءً  
لِلنَّاسِ وَاللِّدَابِّ (10)

He set on the (earth). Mountains standing firm, high above it, and bestowed blessings on the earth, and measured therein all things to give them nourishment in due proportion, in four Days, in accordance with (the needs of) those who seek (sustenance). ﴿QS.Fussilat [41]: 10﴾

Thus, in Islām the utilization of these resources is the right and privilege of all people and all species. Hence, Man should take every precaution to ensure the interests and rights of all others since they are equal partners on earth. Similarly, he should not regard such as restricted to one generation above all other generations. It is, rather, a joint responsibility in which each generation uses and makes the best use of nature, according to its need, without disrupting or adversely affecting the interests of future generations. Therefore, man should not abuse, misuse, or distort the natural resources as each

<sup>5</sup> Look: <http://www.Islamreligion.com/articles/307/viewall>.

generation is entitled to benefit from them but is not entitled to “own” them in an absolute sense.

The right to utilize and harness natural resources, which God has granted man, necessarily involves an obligation on man’s part to conserve them both quantitatively and qualitatively. God has created all the sources of life for man and all resources of nature that he requires, so that he may realize objectives such as contemplation and worship, inhabitation and construction, sustainable utilization, and enjoyment and appreciation of beauty. It follows that man has no right to cause the degradation of the environment and distort its intrinsic suitability for human life and settlement. Nor has he the right to exploit or use natural resources unwisely in such a way as to spoil the food bases and other sources of subsistence for living beings, or expose them to destruction and defilement.

While the attitude of Islām to the environment, the sources of life, and the resources of nature is based in part on prohibition of abuse, it is also based on construction and sustainable development. This integration of the development and conservation of natural resources is clear in the idea of bringing life to the land and causing it to flourish through agriculture, cultivation, and construction. Allāh said:

...هُوَ أَنشَأَكُم مِّنَ الْأَرْضِ وَاسْتَعْمَرَكُمْ فِيهَا... (61).

“... It is He Who hath produced you from the earth and settled you therein...” ﴿QS.Hūd [11]: 61﴾

Furthermore, Allāh asks to human for change the destiny.<sup>6</sup> Neither the change will better especially if we have gotten disaster or damage like global

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<sup>6</sup> QS.al-Ra’d [13]: 11

warming. There was a ten point plan to mitigate some of the threat of Global Warming as follow:<sup>7</sup>

1. Transform Deserts into Saltwater Wetlands to Slow Rising Sea Level<sup>8</sup>
2. Cool and Protect Small Areas of Tropical Coral Reefs for Future Recovery<sup>9</sup>
3. Manage Drained, Cultivated Wetlands to Minimize Greenhouse Gas Emissions<sup>10</sup>

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<sup>7</sup> Read any discussing about global warming solution in <http://discuss.greenoptions.com>. <accessed on 1<sup>st</sup> December 2008>

<sup>8</sup> No human action can reduce greenhouse gas concentrations in the atmosphere soon enough to prevent the large-scale melting of glaciers and, consequently, a destructive rise in sea level. However, by taking seawater out of the ocean and putting it on desert land, we could slow the rising of the sea. The transformation of hot, dry desert surface into wetlands would have an immediate evaporative cooling impact to reduce temperatures. Water vapors rising from the new saltwater wetlands would form clouds, which cool the earth by blocking incoming solar radiation (global dimming). Increased cloud formation would result in increased rainfall over some of the desert margin areas, mitigating the increasingly frequent drought conditions there. The new saltwater wetlands would act as a carbon “sink”, as the ecosystem sequesters carbon dioxide from the atmosphere through photosynthesis, and as the alkaline desert sand and soil reacts with the added seawater to create a chemical trap for carbon dioxide. Some desert areas are below sea level, and seawater would flow in and remain trapped if a channel were created. As the new wetlands become increasingly hypersaline over time, new channels could be opened to allow the saltiest water to flow to the sea. This would maintain the saltwater wetlands at an acceptable steady state of hypersalinity, while contributing alkalinity to the ocean. Pollutants such as “acid rain” and elevated carbon dioxide have depleted the ocean’s acid neutralizing capacity, and the transfer of alkalinity from desert land to sea would help to mitigate this. Seawater moved into deserts could combat rising sea level, cool the earth, sequester carbon dioxide, mitigate drought, and create new fisheries to feed humanity.

<sup>9</sup> No human action can cool the rising temperature of ocean surface waters soon enough to prevent the widespread death of the world’s tropical coral reefs. Warmer water, in combination with the severely depleted acid neutralizing capacity of the ocean, has caused “bleaching” of coral reefs. The destruction already in progress represents an unthinkable loss of biodiversity, as well as the devastation of the some of the most productive fisheries. Coral reefs act as a major “sink” in the carbon cycle, and their associated carbonate deposits represent the ultimate fate of much of the carbon dioxide in the atmosphere. Their loss would contribute to a vicious feedback to aggravate global warming, by increasing the residence time of carbon dioxide in the atmosphere. However, we can protect at least some small areas of reef using simple technology. Sea-wave-powered pumps could produce spray mist immediately upwind and upcurrent from selected pockets of tropical coral reef. Sea-wave energy is clean, nearly unlimited, and can be used to power seawater pumps with simple technology and inexpensive materials. With enough sea-wave-powered pumps and seawater misters, hundreds of these protected pockets of reef could survive. When our efforts to improve atmospheric conditions cool the ocean surface down again, these protected areas would provide the seed banks of biodiversity to facilitate the regeneration of the world’s tropical coral reefs.

<sup>10</sup> Wetlands sequester atmospheric carbon dioxide through photosynthesis, and the organic matter they produce is accumulated and stored because the waterlogged, low-oxygen conditions prevent much of the dead plant material from decomposing. Over centuries, enormous deposits of organic matter can accumulate. When wetlands are drained for cultivation, oxygen becomes available to decompose the stored organic matter, and large

#### 4. Outlaw Unauthorized Environmental Chemotherapy<sup>11</sup>

#### 5. Minimize Greenhouse Gas Emissions Associated with Agriculture<sup>12</sup>

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amounts of carbon dioxide are released. It is now believed that 10% of annual global carbon dioxide emissions, and significant nitrous oxide emissions, are released from drained wetlands. To reduce this important contribution to global warming and to mitigate subsidence of land surface elevation in the face of rising sea levels, drained wetlands need to be managed in a manner that minimizes the loss of carbon. This can be achieved in some cases by restoring them to the wetland condition. Restored wetlands can be managed for flood control, wildlife habitat, fisheries, and to act as a carbon “sink” to sequester carbon dioxide. Unfortunately, the carbon dioxide that a restored wetland can sequester in a year is one or two orders of magnitude less than the amount of carbon dioxide that an equal area of drained, cultivated wetland can emit. Furthermore, drained wetlands include the world’s most productive cropland. Mitigation of global warming can be achieved by greatly reducing greenhouse gas emissions from cultivated wetlands, without taking them out of production. For example, a layer of mineral-rich dredged sediment can be used to raise the land surface elevation and “cap” the organic-carbon-rich peat soil, to prevent wind erosion, impede aeration, oxidation and decomposition of organic matter, and minimize greenhouse gas emission from drained, cultivated wetlands.

<sup>11</sup> Prescriptions suggesting that we release chemicals into the environment to mitigate global warming range from deliberately spewing sulfur into the atmosphere to fertilizing the open ocean with iron. There are few guidelines to regulate such experiments, and few competent scientists assessing the potential consequences. A risk of fertilizing the ocean, for example, is that it might succeed, producing a bloom of plankton. Dead plankton will eventually end up in low-oxygen environments. As microorganisms consume oxygen to decompose the dead plankton, this itself can create low-oxygen conditions, such as now occurs in the enormous “dead zone” of the Gulf of Mexico. Combined with the excess nitrate nitrogen that human activity has added to the ocean, under low-oxygen conditions, dead organic carbon can be oxidized by the process of denitrification, which produces nitrous oxide as a by-product. Nitrous oxide is a powerful greenhouse gas that has more than 300 times as much global warming potential as an equivalent weight of carbon dioxide. If ocean fertilization is followed by denitrification of dead plankton blooms, and emits just 1 kg of nitrous oxide for every 100 kg carbon dioxide sequestered by the plankton, the net impact on global warming will be three times more harm than good. We may one day all agree that release of chemicals into the environment makes sense. For example, we may need to replenish some of the ocean’s depleted acid neutralizing capacity near selected coral reefs, and a well-regulated effort could be carried out with minimal risk. Meanwhile, international safeguards are needed to ensure that private entities do not recklessly experiment with unauthorized environmental chemotherapy.

<sup>12</sup> Agricultural operations emit large amounts of carbon dioxide and nitrous oxide, either directly or indirectly. Agricultural nitrogen comes at a high cost of carbon dioxide and nitrous oxide emissions during fertilizer production, and nitrous oxide emitted as a by product from excess nitrogen in the field, or in the runoff to surface water. High yield crop breeds require chemical fertilizer because they do not produce very much root mass. Input of new organic carbon through root turnover is not enough to keep pace with decomposition of preexisting soil carbon, causing net loss of soil organic matter and a net release of carbon dioxide. Fertilizer uptake by high yield breeds is inefficient, averaging less than one third of the applied nitrogen getting into the crop, and the other two thirds getting into the environment. Excess agricultural nitrogen is a major source of water pollution and nitrous oxide emissions, and the loss of soil organic matter is an important source of carbon dioxide emissions. By accepting lower yields, we could go back to using crop breeds that produce a large enough root mass to derive adequate nutrition from unfertilized soil, and very efficiently take up any applied fertilizer. The reduction in yield would be partly compensated by the reduction in greenhouse gas emissions, reduced water pollution, and increased soil organic matter content, with its associated fertility benefits and measurable carbon offset value.

6. Couple Hydrogen Fuel Combustion to Zero Emission Energy Sources<sup>13</sup>
7. Plant Trees for Cooling and to Protect Soil and Water<sup>14</sup>
8. Plant Tannin-rich Woody Perennials to Maximize Carbon Sequestration<sup>15</sup>

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There are such large areas of land under cultivation that managing them in a way to increase soil organic matter by even a small fraction would sequester enormous amounts of carbon dioxide. To minimize adverse impacts of agricultural nitrogen, variable rate technology can be used to ensure that larger amounts are given only to the limited areas that need it, rather than applying uniformly over the whole field, in order to get maximum yield. Agroecosystems need to be selected to be compatible with unique conditions of different environments, including steep, high rainfall regions. Compared to the mechanized tillage, chemical-intensive, monocrop plantations that have largely replaced them, indigenous agroforestry practices that maintain perennial ground cover are superior in their capacity to protect water quality, minimize soil erosion and nutrient loss, sustain productivity, and sequester carbon.

<sup>13</sup> Hydrogen gas can be used as fuel for combustion, producing only water vapor emissions. However, another energy source is required somewhere, in order to generate hydrogen. Oxidation of reduced (i.e., zero-valent) forms of metals, such as metallic aluminum, can provide that energy. After the zero-valent metal is used to generate hydrogen, the spent (i.e., oxidized) metal can be restored to a high-energy, zero-valent state through energy-intensive metal reduction. If the energy used to produce zero-valent metal emits no greenhouse gases – geothermal, hydroelectric, wind, solar, nuclear power, or carbon fuel with complete carbon dioxide capture and sequestration – there will be no greenhouse gas emissions occurring due to use of hydrogen fuel. Oxidized metal could be taken to zero emission facilities for the energy-intensive recycling of the metal back to a zero-valent state, for reuse as portable stored energy to make hydrogen fuel. By coupling hydrogen combustion to zero emission energy sources, such as the geothermal fields of Iceland, or perhaps the next generation of zero emission coal-fired power plants in the US, hydrogen can be used as fuel without emitting, either directly or indirectly, any greenhouse gases.

<sup>14</sup> Trees can have an important local cooling effect in populated areas, where the shading from trees can reduce energy consumption in the summer. Evaporative cooling, as trees transpire water through their leaves, continues through the dry season, as trees draw deeper water even while the surface soil is dry. Tree planting is essential to combat global warming, particularly reforestation efforts where forests have been cleared. Trees regulate water quality in rivers. Rain intercepted by trees in the wet season continues supplying water to streams during the dry season. The litter layer of dead leaves on the forest floor acts like a protective sponge over the soil surface. Rain is temporarily stored in the leaf litter during the most intense storms, giving it time to infiltrate into the soil and recharge underground aquifers. One of the more serious consequences of deforestation has been the loss of tree leaf litter as soil surface protection, with consequent soil erosion, sediment-laden runoff, and inadequate infiltration to replenish aquifers. Rivers flood with muddy water when it rains, only to dry up later. Efforts to plant trees in these deforested watersheds have multiple environmental and social benefits, including direct local and global impact to mitigate some of the ravages of climate change.

<sup>15</sup> Long-term sequestration of carbon dioxide can be accomplished by ensuring that organic carbon produced by photosynthesis does not decompose (or combust) to release carbon dioxide back to the atmosphere. Whereas wetlands sequester carbon due to waterlogged, low-oxygen conditions, other ecosystems sequester carbon by producing organic matter that is highly resistant to decomposition. The convergent evolution of tannin-rich woody perennial plant communities has occurred on highly leached and infertile soils throughout the world. In extreme cases, such as fern thickets in rain forests, plant litter piles up to a depth of a meter or more, despite warm, wet, well-drained conditions to favor rapid decomposition. Due to its

## 9. Abolish Public and Private Support for Bogus Biofuels<sup>16</sup>

## 10. Create New Inland Seas for Major Sea Level Adjustment<sup>17</sup>

exceptionally high tannin content, the litter is unpalatable to detritivores, and difficult for microbial decomposers to degrade.

The raw humus litter layer that accumulates can contain significantly more (sequestered) carbon than the live biomass, and can be vital for storing and retaining nutrient capital, protecting the soil against erosion, and absorbing water to maximize infiltration and minimize runoff. Nitrogen cycling in tannin-rich ecosystems is regulated in such a manner that losses are minimized and nutrient availability is synchronized with uptake capacity. Most nitrogen in tannin-rich leaf litter is immobilized as protein-tannin complexes, does not easily release ammonium, and is rarely oxidized to nitrate. Whereas ammonium and nitrate can easily transform to forms that leave the ecosystem, including loss as nitrous oxide emissions, preservation of nitrogen in protein-tannin complexes minimizes losses. As we shift away from using crops that are dependent on being supplied with chemical fertilizers, nutrient cycling dynamics of these natural ecosystems can serve as models for selection of appropriate agroecosystems. Particularly in high rainfall areas, where tannin-rich litter provides benefits for protecting soil and water quality, we may want to select agroecosystems, forest and rangeland management practices that mimic the carbon sequestration dynamics of tannin-rich woody perennial plant communities. As regulators of organic matter decomposition, tannins can be utilized to mitigate global warming.

<sup>16</sup> A terrible tragedy now in progress is the clearing of tropical rain forests for biofuel, such as plantations used to grow palm oil biodiesel. Carbon “offsets” and other incentives for substituting biofuel for fossil fuel are very profitable. The greenhouse gas emissions associated with clearing rain forest exceed, by an order of magnitude or two, any global warming benefit gained from biofuel production. Even if it could reduce net greenhouse gas emissions, and even where it could be argued that the rain forest was previously cleared for other purposes, the use of that land now for palm oil biodiesel production makes it unavailable to produce needed food or fiber. Corn ethanol is another biofuel that has had unanticipated and severe adverse impacts. Global food markets have been chaotically disrupted, while greenhouse gas emissions associated with corn ethanol fuel are at least doubled, compared to use of pure fossil fuel in our vehicles. Fossil fuel, and its associated carbon dioxide emission, is required to produce nitrogen fertilizer, power farm equipment, transport corn to distilleries, process corn into ethanol, and transport ethanol to petroleum refineries to be mixed into fuels. Carbon dioxide is also emitted from soil organic matter decomposition, and the loss of soil organic matter often exceeds the input of crop residues and root turnover. Maximum corn yield requires using breeds that produce relatively few roots, relying instead on being supplied with chemical fertilizer.

These high yield breeds can allocate the product of their photosynthesis into fruits, rather than the large root mass that is required to derive adequate nutrition from unfertilized soil. The low rate of organic matter input to soil through root turnover is not enough to replenish organic matter being lost to decomposition. Record high yields have been accompanied by a loss of soil organic matter, and this is an additional net release of carbon dioxide associated with corn ethanol production. Summing up the carbon dioxide emitted for fertilizer, fuel for corn/ethanol production, processing, and transport, and soil carbon loss, it is at least equal to the biofuel carbon content. Corn ethanol is promoted as a carbon “neutral” biofuel, although at least two tons of carbon dioxide are emitted – one during corn and ethanol production, and another during ethanol combustion, whereas only one ton would be emitted by using fossil fuel, rather than corn ethanol. Economic incentives encourage continued growth in corn ethanol production, despite very dubious global warming benefits, and the tragic human consequences of its impact on food prices.

<sup>17</sup> A truly catastrophic rise in sea level is possible, if large glaciers slip and slide into the ocean, rather than melting up on land. It may become necessary to remove massive volumes of seawater from the ocean as rapidly as possible. One way to accomplish this could be to transfer seawater from the ocean to inland seas. A large pumping station and dam across the Strait of

## **B. Back To Basic Concepts Of Al-Qur'ān And Al-Sunnah For Keeping The Environment.**

We believe Islām has an answer to the issues facing our planet and environment. We are responsible for what we do and what is now happening. Also if this continues then the future generation will be in a big problem & for that only we will be responsible. If we want to help them then we should change ourselves on wasting the bounties of Al-Mighty.

The cultural values of humans affect the way the natural environment and resources are perceived, used, and managed. The ultimate objective of life for a Muslim is salvation.<sup>18</sup> An Arabic dictionary defines "Islām" as "abiding by obligations and (avoiding) the forbidden without repining." *Salām*, the Arabic root of the word "Islām," means "peace and harmony".<sup>19</sup> Therefore, argues that an "Islamic way of life entails living in peace and harmony" at individual and social as well as ecological levels.

Human-environment interactions exist within dynamic cultural, spatial, and temporal contexts. Given this, it is critical that water management strategies should incorporate elements of local cultures and religions. There are numerous references to water and related phenomena in the Qur'ān. For example, the word "water" (ماء) occurs sixty-three times and "river" or "rivers" fifty-two times.<sup>20</sup> Other words such as "fountains", "springs", "rain", "hail", "clouds", and "wind" occur less frequently. Paradise, which, Muslim believes,

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Bosphorus could make it possible to raise the Black Sea and lower the global sea level. The Qattara Depression, the Afar Depression, and the Salton Trough are among the deserts that are below sea level and somewhat near the ocean. Further inland, the Caspian Sea area has enormous holding capacity for excess seawater. The transformation of desert depressions into inland seas could provide major sea level adjustment, if needed, as well as generate energy, provide evaporative cooling, carbon dioxide sequestration, increased cloud cover and rainfall, and productive new fisheries.

<sup>18</sup> Ansari, "Islāmic Perspectives on Sustainable Development," *American Journal of Islāmic Social Science* 11, 1994, p. 397

<sup>19</sup> Al Munjid, *Qamous Al Munjid* (Retrieving dictionary), Dar-al Machraq, Beirut, 34th ed, p.347

<sup>20</sup> Abdul Baqi, *al-Mu'jām al Mufahras li al-faż al Qur'ān al Karīm*, (Cairo:Dar al Hadith, 1987).

is the eternal home of believers and those who do righteous deeds,<sup>21</sup> is often depicted in the Qur'ān as having, among other desirable services and objects, running rivers.<sup>22</sup> Furthermore, perhaps the most quoted verse of the Qur'ān is "And We created from water every living thing."<sup>23</sup> It testifies to the centrality of water to life in the ecosystem as a whole, and as the unifying common medium among all species. Given Islām's recognition of water's pivotal importance, a management instrument that broadens traditional (for example, economic) water management approaches to include non-traditional, cultural and spiritual approaches is more likely to succeed in the Muslim world.

In Islām, human-environment interactions are guided by the notion of the person as a *khalīfa*, meaning a viceregent or steward of the earth, according to the al-Qur'ān:

وَإِذْ قَالَ رَبُّكَ لِلْمَلَائِكَةِ إِنِّي جَاعِلٌ فِي الْأَرْضِ خَلِيفَةً قَالُوا أَتَجْعَلُ فِيهَا مَنْ يُفْسِدُ فِيهَا وَيَسْفِكُ الدِّمَاءَ وَنَحْنُ نُسَبِّحُ بِحَمْدِكَ وَنُقَدِّسُ لَكَ قَالَ إِنِّي أَعْلَمُ مَا لَا تَعْلَمُونَ (30)

Behold, thy Lord said to the angels: "I will create a vicegerent on earth." They said: "Wilt Thou place therein one who will make mischief therein and shed blood? Whilst we do celebrate Thy praise and glorify Thy holy (name)?" He said: "I know what ye know not." ﴿QS.al-Baqarah [2]: 30﴾.

This task includes taking care of nature according to the His Divine will, but the responsibility involves also a certain amount of freedom in performing this task. In my ecological perspective, this God given freedom is for instance expressed in how nature is socially constructed. Environmental crisis is a failure of the trusteeship, thus nature becomes an index of how well a particular society has performed its responsibility towards God. However, the human being was the only one in God's Creation (i.e. nature) that was prepared to undertake this task of trusteeship (*āmana*) willingly, according to the verse:

<sup>21</sup> QS.al-Nisā [4]: 57

<sup>22</sup> For example, QS.al-Nisā [4]: 73, QS.al-Māidah [5]:119, QS.Muhammad [47]:12.

<sup>23</sup> QS.al-Anbiyā [21] :30

إِنَّا عَرَضْنَا الْأَمَانَةَ عَلَى السَّمَوَاتِ وَالْأَرْضِ وَالْجِبَالِ فَأَبَيْنَ أَنْ يَحْمِلْنَهَا وَأَشْفَقْنَ مِنْهَا  
وَحَمَلَهَا الْإِنْسَانُ إِنَّهُ كَانَ ظَلُومًا جَهُولًا (72)

We did indeed offer the Trust to the Heavens and the Earth and the Mountains; but they refused to undertake it, being afraid thereof: but man undertook it; - he was indeed unjust and foolish; ﴿QS.al-Ahzāb [33]: 72﴾

The philosopher of religion Ali Shariati<sup>24</sup> argued that the spiritual as well as the material dimensions of humans are both "directed toward the singular human purpose of *khalīfa* (viceregency)". Khalid states that although "we (humans) are equal partners with everything else in the natural world we have added responsibilities.<sup>25</sup> We are decidedly not its lords and masters" but its friends and guardians. One interpretation of *khalīfa* is given by Ibn Kathīr.<sup>26</sup> He argues that the *khalīfa* should be an adult Muslim male who is just, religiously learned (*mujtahid*), and knowledgeable in warfare. He ought to establish the thresholds (*hudūd*) of human conduct as mandated by God, as well as justice and peace among the people. He ought to stand by the oppressed and forbid indecency and despoiling. Some of the skills of a *khalīfa* that were essential fourteen hundred years ago, when Muslims were under constant threat of attack, are less relevant today – such as knowledge of warfare.

It is impermissible in Islām to abuse one's rights as *khalīfa*, because the notion of acting in "good faith" underpins Islamic law. The planet was inherited by all humankind and "all its posterity from generation to generation.... Each generation is only the trustee. No one generation has the right to pollute the planet or consume its natural resources in a manner that leaves for posterity only a polluted planet or one seriously denuded of its resources".<sup>27</sup>In other

<sup>24</sup> Look: the Hussein A. Amery opinion in <http://www.idp.ca/en/ev-93950-201-1-do-topic.html>

<sup>25</sup> Khalid, "Guardians of the Natural Order," *Our Planet* 8, 1996, p. 20

<sup>26</sup> Al-Imām Abī al-Fidā' al-Hāfiz Ibnu Kathīr al-Dimshiqī, *Tafsīr al-Qur'ān al-'Azīm*, (Beirut: Dar al-Fikr, 2005), juz 1, p.75-76

<sup>27</sup> Weeramantry, (1988), *Islāmic Jurisprudence: An International Perspective*, (New York: St. Martin's Press, 1988), p.61

contexts, the concept of *khalīfa* refers to the fact that waves of humanity will continuously succeed each other and inherit planet earth.

The Qur'ān enjoins believers to "*Make not mischief on the earth*"<sup>28</sup> and declares that "*Mischief has appeared on land and sea because of (the meed) that the hands of men have earned, that (God) may give them a taste of some of their deeds: in order that they may turn back (from evil)*".<sup>29</sup> When human-produced "mischief" – a rough translation<sup>30</sup> of the Arabic word *fasād* (فساد) – spoils the natural order, God penalizes people with the same type of affliction that they have inflicted on His creation. The other meanings of *fasād* include taking something unjustifiably and unfairly or spoiling or degrading (natural) resources. Tabatabai<sup>31</sup> views *fasād* as "Anything that spoils the proper functioning of current (natural) regulations of the terrestrial world regardless of whether it was based on the choice of certain people or not.... *Fasād* creates imbalance in the pleasant living of humans." The verses that succeed the passage on *fasād* refer to earth and wind, and to rewards from "*God's bounty*" for those "*who believe (in God) and work righteous deeds*."<sup>32</sup> The notion of *fasād* is not associated with any specific time and place, and is thus universal and everlasting in scope. *Fasād* is mentioned in the context of "land and sea."<sup>33</sup>

It is; however, reasonable to assume that this notion also encompasses all other components of the ecosystem because the Qur'ān states that to God, the creator of everything,<sup>34</sup> belong the heavens and the earth and whatever is between them and what is beneath the ground.<sup>35</sup> Islamic teachings, including the Qur'ān, therefore, command Muslims to avoid and prevent *fasād*, which

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<sup>28</sup> QS.al-Baqarah [2] :11

<sup>29</sup> QS.al-Rūm [30] :41.

<sup>30</sup> Yusuf Ali, *The Holy Qur'an: Text, Translation, and Commentary*, American Trust Publications for The Muslim Student Association of the United States and Canada, Plainfield, Ind, 1997

<sup>31</sup> Tabatabai, *Al-Mizān fī Tafṣīr al-Qur'ān*, (Beirut: al-Alami Library, 1973), vol. 16, p.196

<sup>32</sup> QS.al-Rūm [30] :42–46.

<sup>33</sup> QS.al-Rūm [30] :41.

<sup>34</sup> QS. Al-Furqān [25] :2.

<sup>35</sup> QS.Tāhā [20] :6; see also QS.al-Rūm [30] :26.

encompasses undue exploitation or degradation of environmental resources, including water. This perspective is especially revealing in light of the Islamic belief that the natural world is subservient to the human world. Humans are consequently permitted to use and transform the natural environment, with which they are entrusted, to serve their survival needs. For example, God states that humans may use His (good) resources for their sustenance on the condition that they "*commit no excess (لا تَطْغَوْا) therein, lest my wrath should justly descend on you.*"<sup>36</sup>

God's "green light" to use water and other resources is conditional on humans' wise and sparing use of it. They ought to employ it to sustain their biological needs. Current users of water and other environmental resources must avoid irreversible damage so that the resources can serve humanity's current and future needs. Muslims are, therefore, permitted to control and manage nature but not to cruelly conquer God's creation. Being mindful of the needs of current and future generations is an important aspect of piety in Islām. In the words of the Hadīth, "Act in your life as though you are living forever and act for the Hereafter as if you are dying tomorrow".<sup>37</sup> The Hadīth asks people in effect to work for and think of future generations as if they were alive and using these very resources. Just as one would not undermine one's own future, a person ought not to rob future generations of their needs.

Muslims are enjoined to "*Violate not the sanctity of the symbols of God*"<sup>38</sup> and to fulfill all of their obligations to Him.<sup>39</sup> In many verses, water and the rest of creation are described as "signs."<sup>40</sup> Different verses in the Qur'ān state that these signs are for people, who think, hear, see, and have sense, and are

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<sup>36</sup> QS.Tāhā [20]:81 ( كُلُوا مِنْ طَيِّبَاتِ مَا رَزَقْنَاكُمْ وَلَا تَطْغَوْا فِيهِ فَيَحِلَّ عَلَيْكُمْ غَضَبِي وَمَنْ يَحِلَّ عَلَيْهِ غَضَبِي فَقَدْ هَوَى )

<sup>37</sup> Izzi Deen, "Environmental Islāmic law, Ethics, and Society," in J. R. Engel and J. G. Engel (eds.), *Ethics of Environment and Development: Global Challenge*, International Response, Bellhaven Press, London, 1990, p.194

<sup>38</sup> QS.al-Māidah [5]:3.

<sup>39</sup> QS.al-Māidah [5]:1

<sup>40</sup> See, e.g., QS.al-Nahl [16]: 65, QS.Fussilat [41]: 39, for symbols of "the presence and might" of the Creator.

intended for the people to give thanks to the Giver. Therefore, one should naturally avoid violating or undermining these divine signs. Although people are entrusted with caring for the natural world, God states in the Qur'ān that many violate the admittedly heavy burden of trust. In light of this, Islamic teachings state that if one generation of people is "cheated" by preceding ones, it must not cheat succeeding generations. A Muslim is instructed to correct environmental failures by abstaining from behaviours that waste or pollute water.

Muslims who engage in *fasād* are effectively sinners. Their environmentally disrupting conduct amounts to breaking "*God's covenant after it is ratified*."<sup>41</sup> A covenant was "entered into with 'Father Abraham' that in return for God's favours the seed of Abraham would serve God faithfully." At another level, a "similar covenant is metaphorically entered into by every creature of God: for God's loving care, we at least owe Him the fullest gratitude and willing obedience"<sup>42</sup>. Therefore, by knowingly violating the teachings of God, one is in effect resisting His grace and sustenance for which one is penalized by, among other things, God withholding his bounty from that person.

The Islamic perspective on the natural environment is holistic. Everything is seen as important and as interdependent on everything else. God has "*sent down rain from the heavens; and brought forth therewith fruits for your sustenance*."<sup>43</sup> All environmental media have rights, including a right to water. The Qur'ān, for example, states that "*There is not an animal (that lives) on the earth, nor a being that flies on its wings, but (forms part of) communities like you*."<sup>44</sup> It also mentions that "*vegetation of all kinds*"<sup>45</sup> and of "*various*

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<sup>41</sup> QS.al-Baqarah [2]: 27.

<sup>42</sup> Yusuf Ali, *The Holy Qur'an: Text, Translation, and Commentary*, American Trust Publications for The Muslim Student Association of the United States and Canada, Plainfield, Ind, 1997, p.45

<sup>43</sup> QS.al-Baqarah [2]: 22.

<sup>44</sup> QS.al-An'ām [6]: 38.

<sup>45</sup> QS.al-An'ām [6]: 99 (emphasis added).

*colours*"<sup>46</sup> are nourished by rainwater that God sends down. Water is made available by God in "order that *all* life receives its support according to its needs"<sup>47</sup> including humans, animals, and plants.<sup>48</sup> This points to, among other things, the rights of non-human species to sufficient water that is of "good" quality because the water has to be suitable for irrigation and drinking.

Neither the problems for keeping the environment and natural were global guidance of al-Qur'ān and al-Sunnah, from the little problem till high problem have been arranged by al-Qur'ān. The permanent of matter and not change like aqidah, ibadah, law etc have been arranged as detail. But, social problem, science and relation with world were given of global rule by them. And rest, practice and development were given by human ijtihad. Allāh said:

وَنَزَّلْنَا عَلَيْكَ الْكِتَابَ تِبْيَانًا لِّكُلِّ شَيْءٍ وَهُدًى وَرَحْمَةً وَبُشْرَىٰ لِلْمُسْلِمِينَ (89)

... and We have sent down to thee a Book explaining all things, a Guide, a Mercy, and Glad Tidings to Muslims. ﴿QS.al-Nahl [16]: 89﴾

If the human in the universe did consequence like Qur'ānic arrangement, of course the damage in the heavens, earth, land, soil, water could be minimized.

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<sup>46</sup> QS.Fāṭir [35]: 27

<sup>47</sup> Yusuf Ali, *The Holy Qur'an*, op.cit, p.3107

<sup>48</sup> QS.al-Furqān [25]:49, QS.as-Shu'arā [26]: 155, QS.al-Ra'd [13]: 4.

## CHAPTER V C L O S I N G

### A. Conclusion

According the explanation of global warming topic in preceding chapter, could be concluded as follow:

- We could not find anything about global warming problem with textual comprehension in the Qur'ān or Sunnah tradition, but with contextual comprehension these problems were actually explained. The result from reading and interpreting al-Qur'ān using the Muhammad Shahrūr hermeneutic approach mentioned that signal of global warming was clarified and described in the Qur'ānic verses like: global warming phenomena {QS.al-Rūm [30]: 41-42}, greenhouse effect and ozon depletion {Sabā'[34]: 9; QS.al-Mulk [67]: 16-18}, mischief and any damage, natural disasters such as tornadoes, hurricanes, floods, and droughts, tsunami, oceans suffered to burst forth, {QS.al-Infitār [82]: 1-19, QS.al-Mulk [67]: 16-18}, and another verses, where all of them could be explained and answered with intertextuality method as approximation method of Muhammad Shahrūr hermeneutic.
- Allāh asks human to change the destiny {QS.al-Ra'd [13]:11}. Islamic teachings, including the Qur'ān, therefore, command Muslims to avoid and prevent *fasād*, which encompasses undue exploitation or degradation of environmental resources, including water, land and air. This perspective was especially revealing in light of the Islamic belief that the natural world was subservient to the human world. Humans were consequently permitted to use and transform the natural environment, with which they were entrusted, to serve their survival needs. Global Warming disaster is sunnatullāh and also caused by human hands as catalyzer. The negative effects of Global Warming can be resolved by changing the attitudes and actions of mankind for an environmentally safe world. Allāh has created

everything in this universe in due proportion and measure both quantitatively and qualitatively {QS.al-Qamar [54]: 49}. The attitude to life providently and not ravenous {QS.al-Isrā' [17]:27} for using energy and natural resource, and kept the environment balance would grow the grateful of behavior. These changes include developing and harnessing new forms of energy that was environmentally safe, the prevention of deforestation and implementation of increasing flora environments, and ultimately influence and educate the public about environmental issues. Finally, back to behavior of al-Qur'ān, it would give guidance and motivation to save the earth, where we know that contents of al-Qur'ān is always relevant to every period “Sālihun li Kulli Zamān wa Makān”, guide the humans to save the earth.

## **B. Suggestions And Closing**

To view the Qur'ānic studies from any approach especially the science and environment issues, necessary to methodological development i.e: hermeneutic theory as exegesis instrument. Of course some approach like: sociology, anthropology, culture, pure science, science, technology, environment e.t.c. All of them is a part of effort for understanding of al-Qurān where contents of al-Qur'ān is always relevant to every period “Sālihun li Kulli Zamān wa Makān”.

Finally, I would thank to my lecturers, my teachers and any parties. Hopefully this work is accountable and benefecial Qur'ānic studies and become reasonable reference. For closing, my success (in my task) can only come from Allah. In Him I Trust and unto Him I look. [ ]

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2003 : Ma'had al-Islāmī “al-Azhār” - Selojari Klambu  
Purwodadi.  
2001 – 2003 : Ma'had Tahfīz al-Qur'an “PPTQ Kauman”  
Semarang  
2007- : Ma'had Tahfīz al-Qur'an “Miftahul Ulum”  
Genuk - Semarang.  
2003 : Amthilāti Course  
2004 : Computer Courses: Windows, Office, Internet etc.  
2007 : Ma'had Ṭarīqah “Yanbū'a”.

**c) Workshop**

- 2004 : Workshop of Leadership in IAIN Walisongo
- 2005 : Workshop of Shalat in Novotel hotel Semarang
- 2006 & 2007 : Workshop of Qur'ānic development for MTQ, MHQ and Tafsir in IAIN Walisongo.
- 2006 : Workshop of literary research in Faculty of Ushuluddin IAIN Walisongo; workshop of social research by Puslit IAIN Walisongo.
- 2006 : Workshop for Training of Trainer (TOT) In Faculty of Ushūluddin IAIN Walisongo
- 2006 : Workshop of Shalat Khusu' by LEMBKOTA in Gracia hotel Semarang.

**Experiences**

- (2006) : Leader of Executive Student Government, Faculty of Ushūluddin IAIN Walisongo Semarang.
- (2006) : Coordinator of Human Resources in HMJ Tafsir Hadith, Faculty of Ushuluddin IAIN Walisongo
- (2006) : Coordinator Tahfiz program in UKM Jammiyyah Hamalah al-Qur'an (JHQ), Faculty of Ushuluddin.
- (2006) : First winner memorizing al-Qur'ān category In MTQ contest on province of Central Java level Inter-student university in UNISSULA.
- (2006) : Fifth winner on English of Qur'ānic Exegesis Category in MTQ contest on National Level In Kendari city, province of South East Sulawesi.
- (2007) : First winner on Qur'ānic Exegesis category In MTQ contest on Central Java level
- (2007) : Coordinator of Human Resources Development HMJ Tafsir Hadith Faculty of Ushuluddin. Inter-student university in IAIN Walisongo.
- (2008) : Seventh winner on English of Qur'ānic Exegesis Category in MTQ contest on National Level In Serang city, province of Banten.



