MAN'S SIN... DEFORESTATION

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MARGOT MARITZ GR. 8 • 2011

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Design by: Margot Maritz

IS DEDICATED TO THE UNITED NATIONS'

THIS PROJECT

m.m

YEAR OF FORESTS

2011

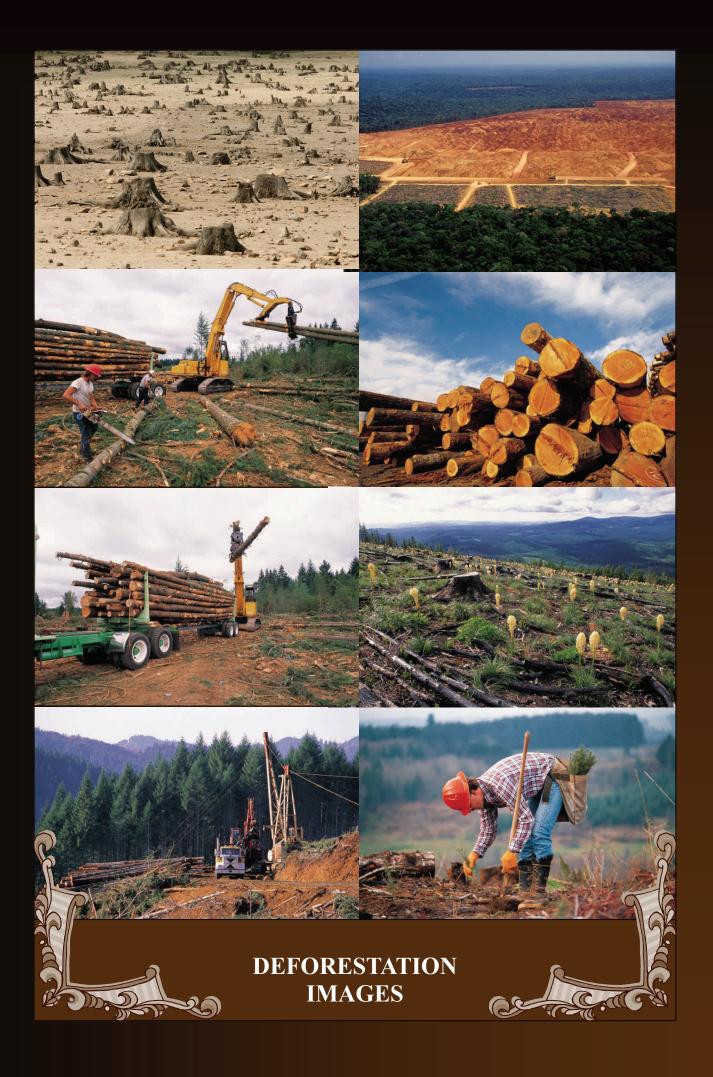


THE UN DECLARED 2011 THE YEAR OF <u>T</u>HE FOREST



SCIENCE PROJECT BY MARGOT MARITZ GR. 8 MENLOPARK HIGHSCHOOL SOUTH AFRICA

2011



NELSON MANDELA:



"EDUCATION IS THE MOST POWERFUL WEAPON WHICH YOU CAN USE

TO CHANGE THE WORLD"

I WOULD LIKE TO THANK THE FOLLOWING ORGANISATIONS

FOR THEIR ASSISTANCE, INFORMATION AND PHOTOS.

I WAS GRANTED WRITTEN PERMISSION TO USE THEIR RESOURCES

A-Z-ANIMALS

EARTH ACTIVISTS

GREENPEACE AFRICA

NATIONAL GEOGRAPHIC

A SPECIAL THANK-YOU ALSO TO

MONGABAY.COM



THE IAN SOMERHALDER FOUNDATION

TREES ARE ONE OF THE MOST IMPORTANT ASPECTS ON THE PLANET, VITALLY IMPORTANT FOR THE ENVIRONMENT, ANIMALS AND HUMANS

(BUZZLE, 2011: 1).

FORESTS ONCE COVERED HALF OF THE EARTH'S LANDMASS. NOW, THEY COVER LESS THAN ONE TENTH (KNOWLEDGE ALLIANZ, 2011: 1).

MODERN PREDICTIONS PAINT A BLEAK OUTLOOK FOR THE PLANET AND UNFORTUNATELY IT IS ALL DUE TO HUMAN ACTIONS (EFFECTS-OF-DEFEORESTATION, 2011: 2).

DEFORESTATION IS INCREASING AND WE ARE THE ONLY ONES WHO CAN

STOP IT.



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EARTHCARDS designed by M Maritz

(attached please find my power point show)

MAN'S SIN: DEFORESTATION

INTRODUCTION

1

More than 50% of trees has disappeared due to human activity (Putatunda, 2011: 1).

2 THE RESEARCH PROCESS

2.1 HYPOTHESIS AND PROBLEM

My project has more than one hypothesis or problem, the first problem was to identify whether people knew what deforestation, reforestation & deforestation for palm oil was.

My hypothesis is: "People think that reforestation is a solution for deforestation".

2.1.1 <u>Choosing the theme</u>

I chose the theme because:

- A) The United Nations declared 2011 the Year of Forests.
- B) Global warming, the greenhouse effect and climate change is something that influences every living thing on the planet, and deforestation plays a huge role in this process.
- C) If people are not made aware of deforestation, and choose not to do something about it, the consequences will be devastating.

2.2 RESEARCH METHODS

2.2.1 <u>Choosing the subject sample</u>

My South African survey consists of 200 people, of which 25% are high-school girls, 25% are high-school boys, 25% are adult males and 25% are adult females. I also did a survey on twitter, were 28 different organizations / individuals worldwide were asked their opinion on de/reforestation.

2.2.2 <u>Research methods</u>

2.2.2.1 The process of gathering background information: Research
With the help of A-Z Animals, Earth Activists, Greenpeace and
National Geographic (which gave me access to, and permission to use their information), I conducted background research for my project.

2.2.2.2 The questionnaire (see appendix 3)

A questionnaire with 9 main questions were constructed and interpreted. (As well as the twitter survey).

2.2.2.3 The process of gathering and interpreting the data (see appendix 2)
After the background research was completed, and the questionnaire filled in, as well as the world-wide survey was completed, all the data was interpreted, and are represented by written as well as schematic explanations of the results. *I also constructed diagrams of deforestation, global warming etc. which can be seen in appendix 1.*

2.3 MY WEBSITE & PETITION

I am in the process of creating a website with the results:

(www.manssindeforestation.weebly.com), and I am in the process of finding petitioners to sign a petition against deforestation for palm oil (or sign into http://a-z-animals.com). Attached please find a power point presentation of my project.

3 FORESTS AND DEFORESTATION

Deforestation is an unavoidable environmental issue that impacts the global climate, and is directly linked to global warming. It is estimated that forests will be cleared completely within the next 100 years (Lovekar, 2010: 1).

TERMS AND DEFINITIONS 3.1

Deforestation:	The manual or mechanical clearance of naturally occurring	
	forests to make way for human activities (Rajeev, 2010: 1).	
Global warming:	The increase in temperature of the earth's atmosphere,	
	caused especially by Carbon Dioxide (Greenhouse effect).	
Reforestation:	The act of planting new trees in an area where a forest	
	used to be.	
Biomes:	An environment with specific vegetation and organisms.	
	A biome has many different ecosystems.	
Ecosystem:	Community of organisms.	
Desertification:	The process in which an area becomes a desert.	
THE IMPORTANCE OF FORESTS (also see 3.4)		

3.2 THE IMPORTANCE OF FORESTS (also see 3.4)

- A) Trees act as filters of carbon dioxide.
- B) Trees offer a habitat and shelter to various species.
- C) Trees influences biodiversity.
- D) Forests & Woodlands play an important role in maintaining the environment.
- E) They protect the soil and conserve water cycling.
- F) Forests contribute to various plants.
- Trees maintain climate and produce oxygen. G)
- H) Forests help to clean the atmosphere.

3.3 THE UNITED NATIONS The UN's General Assembly declared 2011 as the

International Year of Forests to raise awareness on management, conservation and development of all forests (UN, 2011: 1).

3.4 KEY FACTS ABOUT FORESTS & DEFORESTATION

It is not possible to sum up the importance of forests, they influence our lives every day, and still we allow them to disappear (WWF, 2011: 1). Here is a few facts about the world's forests & deforestation (Courtesy of WWF & Knowledge Allianz, 2011: 1).

- We need them to breathe.
- We need them for livelihood, habitat and conservation of species.
- About 50% of forests has been lost.
- They purify the air and control climate.
- Nearly 30% of the Earth is covered by Forests.
- Over 1 billion people rely on forests for firewood, cooking and heating.
- They are home to 50% of the life on Earth.
- Forests absorb about 1 ton CO² per hectare per year.
- An area of forest the size of a football pitch is lost every 4 seconds.
- The highest rate of deforestation is in South America.
- Deforestation releases 1.7 billion tons of carbon per year.
- The biggest causes of deforestation are agricultural expansion, cattle ranching, infrastructure development, logging, mining etc.
- The USA is the world's biggest supplier of wood.
- It would cost 15 to 25 billion euros every year to halve deforestation by 2020.

3.5 INTRODUCTION TO DEFORESTATION

National Geographic (2011: 1) says that the world's forests continue to disappear at an alarming rate, and that in some places the Earth is turning into desert.

4 CAUSES AND EFFECTS OF DEFORESTATION

Deforestation is clearing the Earth's forests on a massive scale.

They could completely vanish within 100 years (National Geographic, 2011: 1). According to UWC (2011: 1), deforestation is the permanent destruction of indigenous forests and woodlands.

4.1 CAUSES OF DEFORESTATION

(Courtesy of Earth Activists, Greenpeace Africa, Mongabay, National Geographic &

The Ian Somerhalder Foundation)

- Conversion of forests and woodlands for agricultural use.
- Development of crops and cattle ranching.
- Commercial logging.
- Felling trees for firewood and building material.
- Mining
- Oil and gas extraction
- Governments of 3rd world countries attracting corporations for development.
- Deforestation for profit.
- Urban and Construction development.
- Fuel usage in developing countries for charcoal and oil.
- Population growth, more people need more land.
- Lack of political will.
- Cutting down trees for use in furniture, flooring and paper products.
- Power plants and industries to generate electricity.
- Hydroelectric projects flood acres of forests.
- Road construction.
- For palm oil.

4.2 EFFECTS OF DEFORESTATION

(Summarized from all the research materials)

- Erosion of soil: soil is exposed to the sun making the cleared are infertile.
- Disruption of the water-cycle: trees maintain the water cycle, drawing water up through their roots, which is then released into the atmosphere. Deforestation disrupts this cycle.
- Loss of Biodiversity: 90% of all species exists in forests, every day there are a loss of 50 to 100 animal species due to deforestation (extinctions & habitat loss).
- Flooding and Drought: deforestation disrupts water regulation, which leads to drought and/or flooding.
- Climate change: deforestation increases global warming and the greenhouse effect.
- CO² increase: With lesser trees, carbon dioxide in the air increases.
- Pollution: ground, water and air pollution.
- Loss of culture and displacement of people.
- Social conflicts over land and natural resources.
- Conflicts over racial and ethnic rights.
- Economic uncertainty.

4.3 DEFORESTATION IN A "NUTSHELL"

Due to human's insatiable demand for wood and land, our forests are disappearing. The reasons for this are mostly economic. Daniel Howden of The Independent (2011: 1) says that deforestation is now recognized as one of the main causes of climate change. The results will be catastrophic!

4.4 DEFORESTATION FOR PALMOIL

Greenpeace (2011: 1) says that the demand for palm oil is growing fast. It is used in food products and cosmetics, as well as for biodiesel. The cost to the environment and global climate is devastating. Forests are being torn up to provide land for oil palm plantations.

4.4.1 The effects of deforestation for palm oil plantations

Although pal oil plantations are mostly in Indonesia, the after-effects are global.

The effects include:

- Global warming.
- Climate Change.
- Orangutan populations in Borneo and Sumatra are declining. They are being killed in the process.
- Destroying habitat.
- Pollution increases.
- Hundreds of animal species are in danger of extinction.
- It creates a biological desert.

4.4.2 Palm Oil Facts

- 90% of Sumatra's orangutan population has disappeared.
- 90% of Wildlife disappears when forest is replaced by palm.
 - 98% of Indonesia's forests will be destroyed by 2022 (UN, 2011: 1).

4.4.3 Products containing Palm Oil

(all products are trademarks and designs are property of their respective owners)

Greenpeace (2011: 1) says that there is virtually no way of telling whether palm oil is used ("vegetable oil") or whether the oil comes from sustainable plantations.

SOME PRODUCTS CONTAINING PALM OIL YOU MAY RECOGNISE



4.4.4 What you can do?

VISIT THE FOLLOWING WEBSITES FOR MORE INFORMATION & SIGN

THE PETITIONS:

http://a-z-animals.com/palm-oil/information/

http://bit.ly/EA_palmoil

http://greenpeace.org.uk/forests/faq-palm-oil

5 DEFORESTATION IN THE WORLD, AFRICA & SOUTH AFRICA

5.1 LARGEST FORESTS WORLDWIDE

- 1. Amazon in South America.
- 2. Congo river in Central Africa.
- 3. S.E. Asia
- 4. New Guinea
- 5. Madagascar

5.2 DEFORESTATION IN THE WORLD

(Courtesy of Mongabay)

- Brazil has the highest annual deforestation rate.
- The Atlantic coast of Brazil has lost up to 95% of its rainforest.
- Central America has lost 50% of its forests.
- South America has lost 70% of its rainforests.
- Philippines has lost 90% of its rainforests.
- Madagascar has lost 95% of its forests.
- El Salvador has lost 85% of its forests.
- Sumatra has lost 75% of its forests.
- Only 6% of Central Africa's forests are protected by law.

5.2.1 <u>Destruction of forests statistics</u>

- 2,4 acres per second are lost (equal to two football fields).
- 149 acres are lost per minute.
- 214 000 acres are lost per day.
- 78 million acres are lost per year.
 - 137 species become extinct per day, 50 000 per year.

5.3.1 The Congo



Africa's forests are diminishing, and it influences climate as well as Biodiversity, negatively (Mongabay, 2011: 1). In Africa millions of people depend on forests for their livelihood and well being. They need forests to survive.

Greenpeace Africa (2011: 3) says that forests provide food and shelter for the people living near them. In Africa, 40 million people depend on the Congo Basin Rainforest. It is the world's second biggest forest.

The biggest threat is logging in the DRC (Democratic Republic of Congo). Companies are currently cutting down forest areas the size of France (Greenpeace Africa, 2011: 1). Greenpeace further states that a third of this was actually supposed to be conservation land, and another third homes endangered tree species (afrormosia).

The government supported by The World Bank, encourages deforestation, and in the process the already poor people, live in increased poverty.

5.4 DEFORESTATION IN SOUTH AFRICA

Forests are important to the quality of human life and the environment in South-Africa. They provide food, shelter, water and medicine.

5.4.1 Forests in South Africa

Before I look at deforestation in South-Africa, I would like to explain the different types of forests the country has.

5.4.1.1 Main types of forests

There are two main types of forests, namely

- Indigenous Forests and Woodlands, which cover a small portion of the country. These are dense forests. An example is the Knysna forest.
- Urban or man-made forests, are plantations planted by man, such as the pine plantations in Sabie.

5.4.1.2 Indigenous forests, biomes and ecosystems

South-Africa has 8 different biomes namely:

- Succulent Karoo Savannas Fynbos
- Grasslands Forests Nama-Karoo
- Wetlands Marine and Coastal Ecosystems

5.4.1.3 Forest Biomes in South-Africa

Forests in South-Africa include indigenous evergreen forests, as well as forests of the coastal areas. The most famous forest area in the country is the Knysna forest. South-Africa is 7,6% (9 241 000 ha) forest of which 1 763 000 ha is primary forest. It contains 807 million metric ton of carbon, 1632 animal species and 23 420 plant species (Mongabay, 2011:4).

Deforestation is occurring in every region of South-Africa. The reason for this is because it is a developing country. More space are needed for the growing population.

They clear forests to build houses, for agricultural purposes, grazing for animals and use trees for fuel, firewood, cooking etc. Although the scale is not as high as in, say South America, the removal of trees in South-Africa is part of the global issue that is deforestation.

5.4.2.1 Effects of deforestation in South-Africa

- Reduction of oxygen.
- Destruction of habitat of a vast number of insects & animals.
- Desertification occurs because of the way the environment changes.

5.4.3 <u>Forest Conservation in South Africa</u>

Forest conservation was one of the first efforts developed in the country. Greenpeace Africa (2011: 1) says that SA can influence the battle against climate change, because it is a member of the African Union. Despite this, SA is the 14th highest emitter of CO² in the world!

6 SOLUTIONS TO DEFORESTATION

National Geographic (2011: 2) says that it is in the reach of people to control their activities. With the co-operation of industry, government and private companies, destruction of forests can be stopped.

6.1 WHAT GOVERNMENT AND INDUSTRY CAN DO TO STOP DEFORESTATION

- Sustainable logging that selectively cull trees & legislation.
- Campaigns to educate people about deforestation.
- Encourage purchasing of sustainable forest products.
- Encourage people living near forests to harvest fruits etc. instead of clearing them.
- Government moratoriums on road building and large infrastructure projects.
- Investing in the forestry sector.
- Creating jobs.
- Encourage transition to green economics.
- Protecting and managing forests.
- Restore damaged ecosystems by planting trees.
- Encourage people to living green (recycling etc.)
- Establish parks.
- Support companies that operate in ways that minimize damage to environment.
- Create better ways for 3rd world countries to sustain themselves without having to cut down forests.
- Rehabilitate ecosystems.
- Funding and Eco-Tourism.
- Expanding protected areas.
- Research & Forest Plantations
- Wildlife sanctuaries
- Reforestation (see point 7).

6.2 WHAT YOU CAN DO TO STOP DEFORESTATION

- Do not print, and if you have to, use both sides of the paper.
- Recycle paper, cans, glass and plastic.
- Read newspapers and magazines online.
- Cancel delivery of bills, rather have them e-mail it to you.
- Buy paper products made of recycled paper.
- Use pencils until they are stubs.
- Encourage people to buy furniture made from certified wood (legally cut-down).
- When receiving packages packed in wood chips, e-mail the company asking them to change the packaging material.
- Use recycled material, or natural fiber shopping bags.
- Trees are cut down for cattle to graze, change to being vegetarian or vegan.
- Buy organic food.
- Drive fuel efficient cars.
- Walk, ride your bike and carpool whenever possible.
- Save electricity and water.
- Try living green as far as humanly possible.
- Do not buy products made with palm oil (palm kernel oil).
- Sign petitions to stop deforestation.
- Make people aware of the problem.

7 **REFORESTATION**

Reforestation is the restocking of existing forests and woodlands which have been depleted (Wikipedia, 2011: 1).

7.1 REFORESTATION METHODS

- Management of forest areas.
- Planting trees in areas where forests have been cleared.
- Replanting trees whenever they are cut down.
- Incentives for reforestation.
- The best however, is to make another plan in the first place, and stop deforestation in its tracks!

7.2 CRITICISM OF REFORESTATION

The re-establishment of forests is not just simple tree planting. Forests are made up of a diversity of species and they build dead organic matter into soils over time.

Reforestation competes with other land uses such as food production, cattle grazing and living space (Wikipedia, 2011: 4).

In the words of Earth Activists: "Planting trees s not stopping deforestation, and as you know, it takes years for new trees to be a good habitat for all kinds of species. Habitat that is destroyed with each tree cut down for human consumption".

Nature is resilient, but the re-growth of forests will take a very long time. Once soil has been eroded it could take centuries to build support for biodiversity.

Forests are the most important tool in keeping climate change to a minimum (Greenpeace Africa, 2011: 2). Deforestation has to be stopped otherwise the world won't have oxygen to breathe. If it is not, 34,4 billion tones of carbon dioxide will be released into the atmosphere.

"When it comes to protecting the earth's species, habitat conservation is really the bottom line": The Ian Somerhalder Foundation (2011: 1).

Greenpeace is calling for.

- Zero deforestation by 2020.
- The adoption of the Forests for Climate project, where t makes more money to save forests than to destroy them.
- The destruction of the international market for illegal timber.
- Lobbying governments to protect their forests.

So, in the spirit of the YEAR OF FORESTS, I have decided to do a research project on deforestation.

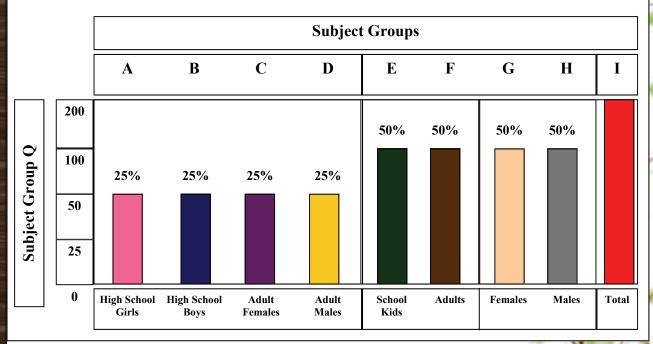
9 MY RESEARCH PROCESS AND OBSERVATIONS

9.1 RESEARCH PROCESS

My hypothesis was tested by using surveys, with the help of a questionnaire. I did a South African survey, as well as a world-wide survey. The results were interpreted, and are also represented by diagrams.

9.2 SOUTH AFRICAN SURVEY

The South-African survey had 200 participants of which 25% was high-school girls, 25% was high-school boys, 25% was adult females and 25% was adult males. The groups were compared with one-another, as well as a global impression was made. The survey was done with a questionnaire, consisting of 9 main questions, with sub-questions.



The South-African Subject Sample:

17

9.3 WORLD-WIDE SURVEY

I also did a world-wide survey on twitter, where 28 different organizations / individuals were asked their opinion on de– and reforestation.

9.3.1 <u>Twitter Responses</u>

There were responses from Britain, USA, Finland, Australia, Greece, Egypt, Turkey, Sweden, Kenya, Spain, Malaysia, India, France, Germany, Canada, South Africa and New Zealand.

Here are some responses:

@ISF_Turkey : "If we cut down 100 trees, we need to plant 200 trees to replace them. We need wood for sure. But we need to decrease our wood needs. We must use other materials instead."

@EarthActivists : "We'll end up with sterile technology if we continue with deforestation. If we stop deforestation (which I strongly suggest)...Reforestation will happen automatically."

@ISF_Canada : "It's one of the most overlooked issues. Simply it's murder, of trees, animals and people, and theft of habitat. They actually fail to realize that trees provide us with oxygen, but also filter all the air pollution we create - hence why we can still breathe. We should all be hugging trees and thanking them and defend them!"

@ISF_SASupporters : "Deforestation is impacting the environment negatively. A major effect on ecosystems, obviously we can't stop cutting down trees altogether, but everyone can help by recycling paper products and planting trees (reforestation). This will reduce the demand for cutting down trees and ultimately help the environment."

Continued on the next page...

@Vampirebrigade : "First you have to decide whether you are FOR/ AGAINST deforestation. I'm personally AGAINST this 100%, but the reason for this terrible thing happening is that in the opinions of others who are FOR t, deforestation can give land to those with little money, therefore giving them the chance to grow crops and feed their families, pay rent etc. Also, because of the extreme rise in population, they need more land so that they can manage more livestock and crops. So those against the situation (like myself and many others) will have to deal with this fact and if they get their way, then we have to figure out a way on how to feed our ridiculously high population!!!"

@ISF_Malaysia : "Deforestation is the cause of climate change, destroying animals habitat and endangering animals. It is a bad thing!"

@ISF_Britain : "My opinion on deforestation? Well, I understand the necessity of plotting more land for families, as our population s ever growing. However, why does that mean we cut down trees. There's plenty of unused land to house the world. Trees provide us oxygen and take the carbon dioxide from the air. If burned, we release CO² which is dangerous to the ozone layer and worsens the greenhouse effect. By warming the planet we are melting the layers of ice where the methane (cH4) bubbles are trapped, by releasing them we increase even more the chance of the greenhouse effect and consequently global warming. That increases the chance of floods and other natural disasters we have already suffered. Then there are also the ethical issues. Trees/forests are ultimately life. Not only that but they provide shelter for animals. What gives us the right to snatch creatures' homes for our own selfish desires? I say desires and not needs as I have already stated...."

@ISF_LONDONUK : "Education is needed to show how important trees are to us. They are the reason to our existence and it scares me to think how quickly we are losing our only constant source of oxygen! I don't believe we will stop it in my lifetime because of greed, but we need to be using renewable sources in an enclosed area so our Natural world is left alone, animals & tribes are affected... and at risk of extinction."

10 DISCUSSION OF RESEARCH RESULTS

10.1 DISCUSSION OF THE SOUTH AFRICAN SURVEY

10.1.1 <u>The Questionnaire</u>

Question 1:Dealt with terms and definitions.Subjects had to state whether they understood certain wordsand if they knew what the words imply for example:Desertification

Question 2:Asked why subjects thought forests were important.Shown on the diagrams are the responses given most.

- Question 3:Asked subjects what they thought causes deforestation.Once again, the diagrams show the most similar responses.
- Question 4: Here, I wanted to know what people thought were the effects of deforestation.

Question 5: Palm Oil Questions.

Did the subjects know what it is, and what the link is between palm oil plantations and deforestation etc.

Question 6: I asked them what they think the solutions to deforestation is.

Question 7 & 8: Dealt with reforestation.

Question 9: Subjects had to answer what they are doing to save the planet.

There were 9 groups in all: Please refer to page 17

10.1.2 Discussion of responses

For discussion purposes, I am only going to include the overall (Total) %, and compare the High-school group with the Adult group. The individual group responses can be seen in App 2.

QUESTION 1:

Here I was surprised, only 59,5% of the subjects knew what the term deforestation meant, of which the adults were 46% and the school kids 73%.

Everyone understood global warming, and the % for the greenhouse effect, biodiversity and ecosystems were also high.

Very few people knew what desertification meant. Once again more school kids knew the term than adults.

QUESTION 2:

100% answered that forests were important for oxygen, habitat and ecosystems.

Only 70% said that money makes forests important.

The school kids were the highest in answering for monetary value and forests, at 80%.

QUESTION 3:

The question: "What do you think leads to deforestation", had an overall response of above 80%. The options were greed, need, crops & livestock and populations size.

Deforestation for grazing land, crops and population size had the highest "agree" answers.

Greed as a cause of deforestation had an overall "yes" response of 92%.

Deforestation for livelihood had only a 78% agreement response.

QUESTION 4:

In question 4, subjects were asked what they think are the effects of deforestation.

All (100%) responded that climate change, loss of habitat and loss of species were effects of deforestation.

Of the High school kids, however, 72% said that the greenhouse effect were an after-effect of deforestation, were all of the adults mentioned this.

QUESTION 5:

- A) Only 65.5% knew what palm oil was, with the highest response coming from the adults.
- B) 40% of High school children and 48% of adults knew what palm oil was used for.
- C) 100% of High school children knew that palm oil plantations took the place of forests, were only 68% of adults knew this.
- D) Asked whether subjects thought deforestation for palm oil causes:
 - i) Global warming -
 - The total positive response was 92,5%
 - ii) Climate change
- The total positive response was 91,5% The total positive response was 75,0%
- iii) Increased pollution -
- iv) Decline in orangutan population Both the adult and the High School groups had a 85% positive reaction to this statement.
- E) Only an average of 47% positive responses were found for thinking there are palm oil in all the products together.

QUESTION 6:

100% of all subjects said that education is the best solution to deforestation.

100% adults, and 90% High school children stated that planting trees were a solution.

100% adults, and 94% High school children said that recycling were a solution to deforestation.

QUESTION 7:

100% of all subjects thought that reforestation is a solution to deforestation.

QUESTION 8:

100% of all subjects thought that reforestation will put back the same biodiversity as

was before - WHICH IS IN MY OPINION TROUBLING!

QUESTION 9:

Only 67% of all subjects recycle, 5% volunteer (Adults 2% and High school children 8%), and 47% of children try to educate others in comparison with only 10% of adults.

10.2 DISCUSSION OF THE TWITTER RESPONSES

Of the world-wide responses I received from the twitter participants, the following data was found:

- 100% were against deforestation.
- Within reason, nearly all were pro reforestation.
- The causes of deforestation were as follows:
 - Greed
 - Growing crops
 - For space for the growing population
 - Money reasons
 - Livelihood depends on it
 - Livestock and grazing
 - The reasons for why we need trees, were:
 - Oxygen
 - Shelter & Habitat
 - Saving ecosystems
 - For climate control
 - To minimize the greenhouse effect
- Solutions to deforestation were:
 - Use other materials instead
 - Recycle
 - Plant trees
 - Use of unused land
 - Educate people
 - Create wildlife sanctuaries

11 CONCLUSION

11.1 LIMITATIONS TO SURVEY

Deforestation and its solutions are a huge issue, which cannot be fully addressed in only a few pages.

In South Africa, there are such diverse groups of people with different education levels etc, the survey was done telephonically, at random, ages, race, education levels and more factors were not included in the survey. The same is true for the twitter survey.

11.2 THE FINAL WORD

Overall, most subjects understood the topic and its implications. There are however, areas where subjects had little knowledge, which must be addressed. Schools should start including this specific topic in its education plan. The twitter responses included more information and ideas.

I have proven my hypothesis:

"People think that reforestation is a solution to deforestation".

We all must realize that forests are our life. Without them nothing can breathe, live and grow. But it will take a small army to change the opinions of the people cutting down trees. Governments, industry and every person on the planet, must work together to create better awareness and alternatives for this. Otherwise the results will be catastrophic! And as someone on twitter tweeted:

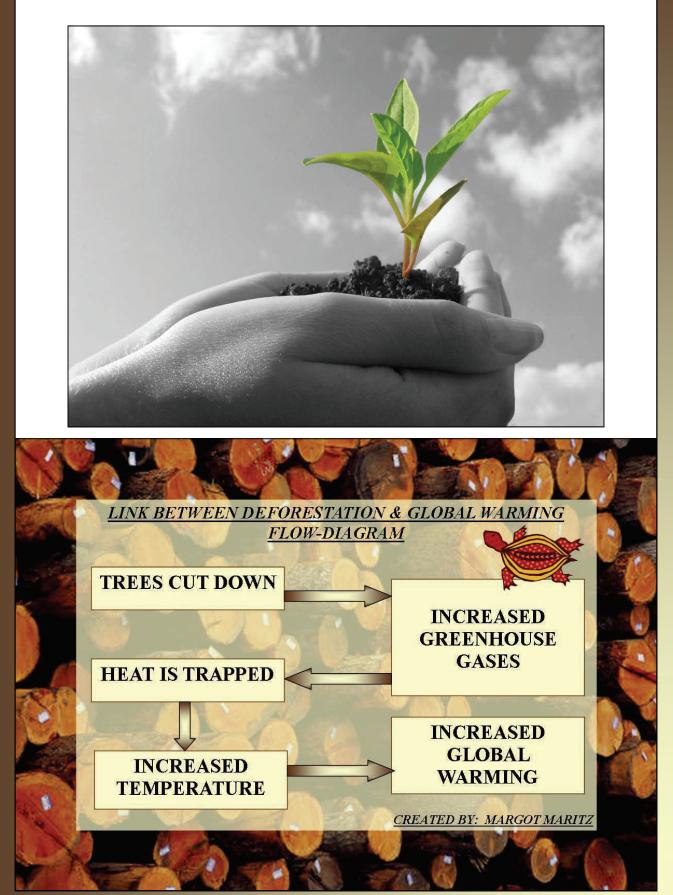
"THIS IS NOT A DRILL"

APPENDIX 1:

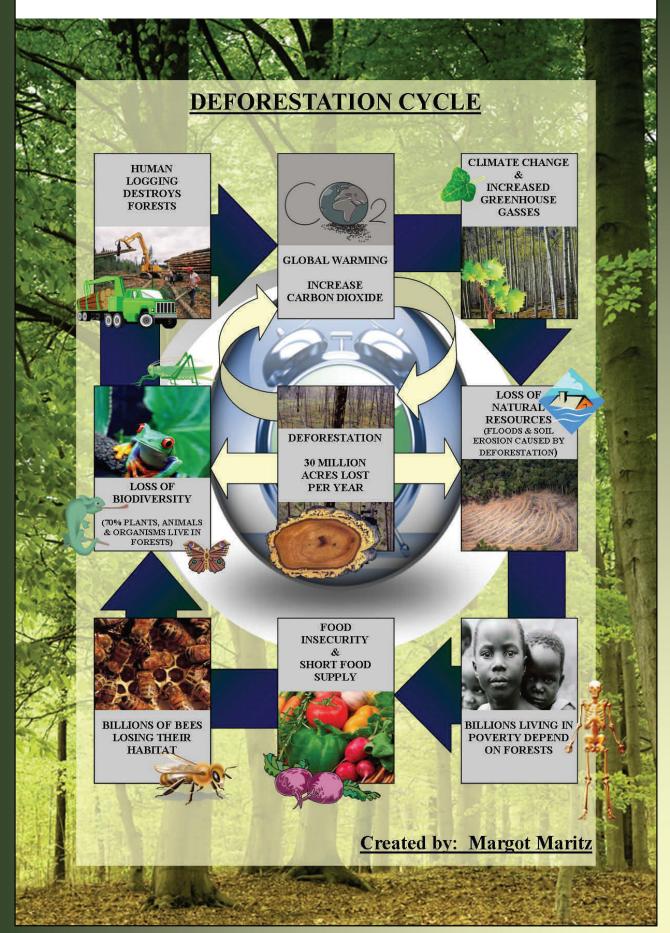
SCHEMATIC PRESENTATIONS



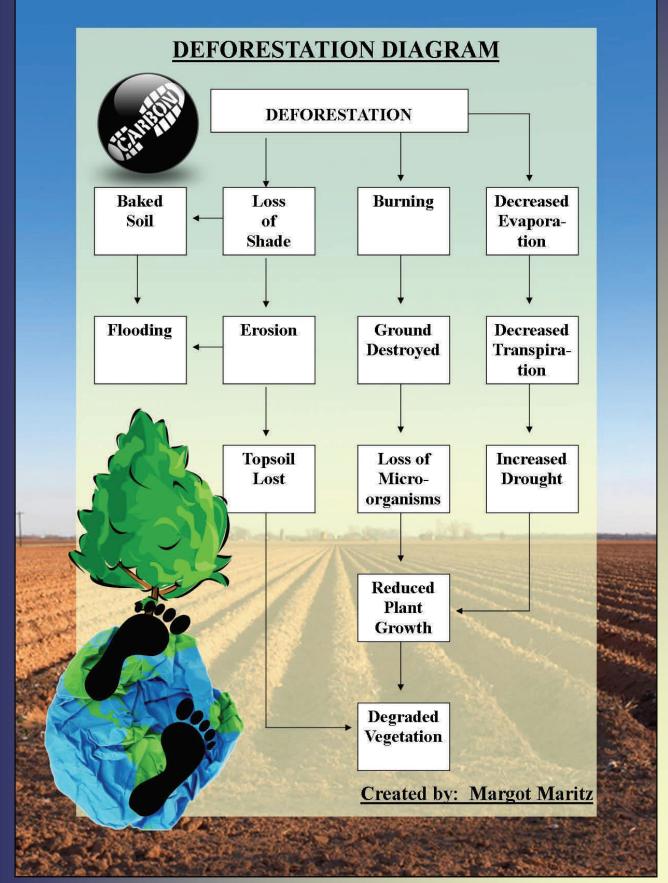
A1.1 The Link between Deforestation & Global Warming: Flow-Diagram



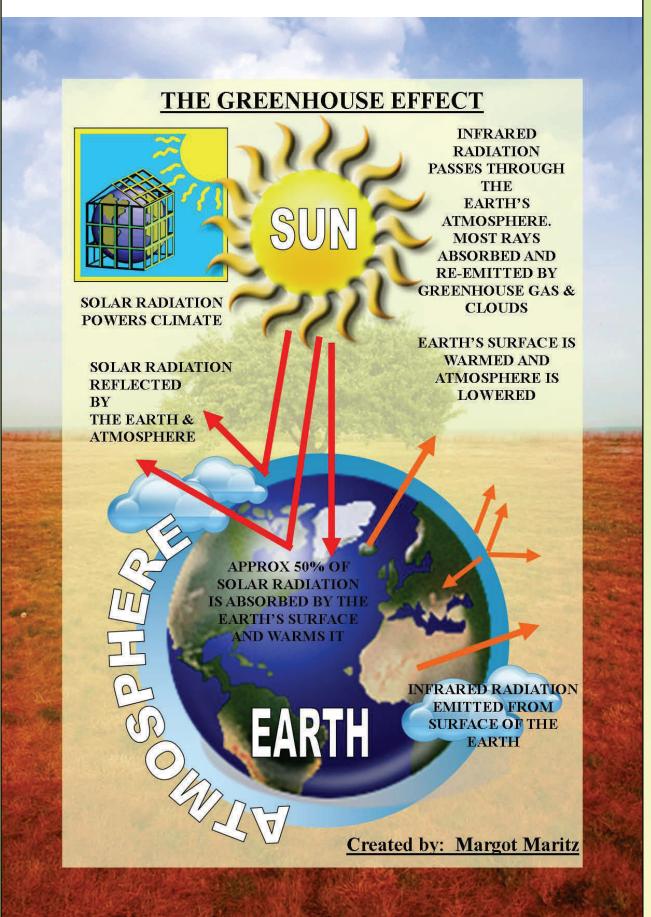
A1.2 The Deforestation Cycle



A1.3 The Deforestation Diagram



A1.4 The Greenhouse Effect



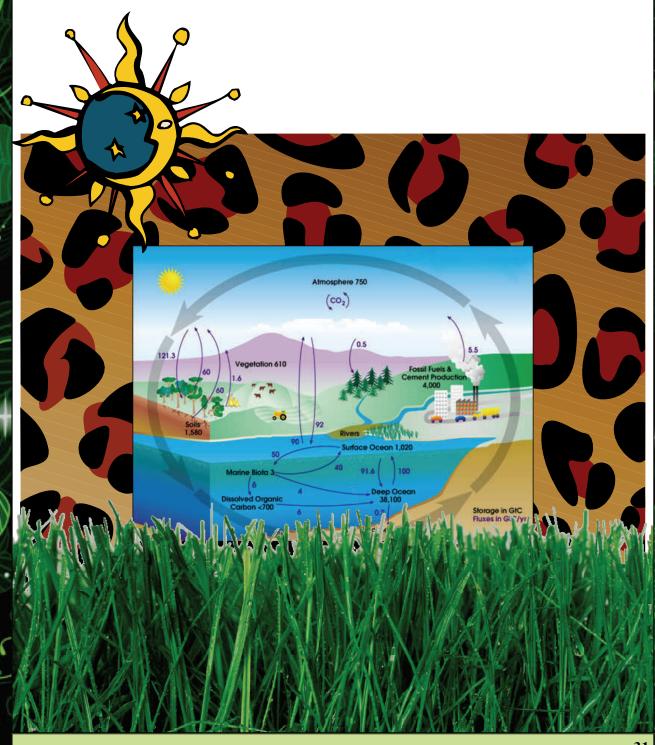
A1.5 Endangered Forests

Endangered Forest	<u>Region</u>	<u>Remaining</u>
Indo-Burma	Asia Pacific	5%
New Caledonia	Asia Pacific	5%
Sundaland	Asia Pacific	7%
Philippines	Asia Pacific	7%
Atlantic Forest	South America	8%
Southwest China	Asia Pacific	8%
California	North America	10%
Eastern Africa	Africa	10%
Madagascar	Africa	10%
Eastern Afromontane	Africa	11%
	Fro	m Wikipedia (2011: 12)

12) **30**

APPENDIX 2:

RESEARCH RESULTS: DIAGRAMS



	<u>Reponses:</u>		
2 A		GH SCHOOL (
) B	DEFORESTATION QUESTIONS: 25%	50	People
1	Do you know what the followng words mean and imply?	YES	%
14		44	88
18		50	100
10		44	88
10		50	100
1E	Desertifcation	41	82
1F	Biodiversity	40	80
10	Ecosystems	50	100
2	Why do you think forests are important?		
2A	Oxygen	50	100
2E	Habitat	50	100
20	Money	30	60
20	Ecosystems	50	100
3	What do you think leads to deforestaton?		
3A	Greed	50	100
3E	Need as in "livelihood"	41	82
30	Crops and livestock needs	50	100
30	· ·	44	88
4	What do you think is the effects of deforestation?		
44		32	64
48		50	100
40	-	50	100
40		50	100
5	Palm oil questions:		
5A		40	80
58		40	80
50		50	100
50			
52	Global warming	44	88
	Climate change	50	100
	Increased Pollution	35	70
	Decline in orangutan populations	35	70
5E			- 10
51	Kit-Kat	21	42
		39	78
	Pringles Johnsson Shampoo		62
		31	
	Revlon Lipstick	26	52
	Colgate Toothpaste	42	84
	Dove Soap	29	58
	Aero	33	66
-	Nutella	19	38
6	What do you think is the solution to deforestation?		
6A		40	80
6E		44	88
60		50	100
7	Do you think reforestation is a solution to deforestation?	50	100
8	Do you think that reforestation will put back the same biodiversity?	50	100
9	What do you do to help save the planet?		
9A	Recycle	44	88
9E	Volunteer	5	10
90	Educate others	37	74

~				
645	Α		H SCHOOL I	
100	В	DEFORESTATION QUESTIONS: 25%	50	People
	1	Do you know what the followng words mean and imply?	YES	%
	LA	Deforestation	29	58
	1B	Global warming	50	100
1	1C	Reforestation	21	42
1	LD	Greenhouse effect	50	100
1	1E	Desertifcation	20	40
1	1F	Biodiversity	50	100
1	lG	Ecosystems	50	100
:	2	Why do you think forests are important?		
2	2A	Oxygen	50	100
2	2B	Habitat	50	100
2	2C	Money	50	100
2	2D	Ecosystems	50	100
:	3	What do you think leads to deforestaton?		
3	3A	Greed	42	84
3	3B	Need as in "livelihood"	33	66
3	BC	Crops and livestock needs	30	60
3	3D	Population size	40	80
	4	What do you think is the effects of deforestation?		
4	1A	Greenhouse effect	40	80
4	4B	Climate Change	50	100
4	4C	Loss of habitat	50	100
	1D	Loss of species	50	100
	5	Palm oil questions:		
	5A	Do you know what palm oil is?	10	20
	5B	Do you know what palm oil is used for?	0	0
	5C	Did you know that palm oil plantations take the space of forests?	50	100
	5D	Do you think deforestation for palm oil causes:		
		Global warming	41	82
		Climate change	50	100
		Increased Pollution	30	60
		Decline in orangutan populations	50	100
	5E	Do you think the following contains palm oil?	50	100
-	JL	Kit-Kat	10	20
			0	20
		Pringles Johnsson Shampoo	20	40
		Revlon Lipstick		
			0	0
		Colgate Toothpaste	19	38
		Dove Soap	20	40
		Aero	15	30
	_	Nutella	7	14
	6	What do you think is the solution to deforestation?		
	5A	Planting trees	50	100
	6B	Recycling	50	100
6	5 C	Education	50	100
	7	Do you think reforestation is a solution to deforestation?	50	100
:	8	Do you think that reforestation will put back the same biodiversity?	50	100
9	9	What do you do to help save the planet?		
9	9A	Recycle	20	40
9	ЭВ	Volunteer	3	6
9	9C	Educate others	10	20

	<u>Reponses:</u>		
Q A	SUBJECT INFORMATION/GROUP: C	ADULT FEMA	
Q B	DEFORESTATION QUESTIONS: 25%		People
1	Do you know what the followng words mean and imply?	YES	%
14		20	40
18		50	100
10		41	82
1D	A Design of the second s	40	80
1E	Desertifcation	38	76
1F	Biodiversity		60
1G	Ecosystems	37	74
2	Why do you think forests are important?		
2A	Oxygen	50	100
2B	Habitat	50	100
20	Money	41	82
2D	Ecosystems	50	100
3	What do you think leads to deforestaton?		
3A	Greed	50	100
3B	Need as in "livelihood"	50	100
30	Crops and livestock needs	50	100
3D		50	100
4	What do you think is the effects of deforestation?		
4A		50	100
4B	Climate Change	50	100
40	-	50	100
4D		50	100
5	Palm oil guestions:		
5A		40	80
5B		30	60
50		50	100
5D			
	Global warming	50	100
	Climate change	50	100
	Increased Pollution	50	100
	Decline in orangutan populations	50	100
5E		50	100
JL	Kit-Kat	30	60
	Pringles	30	60
	Johnsson Shampoo	50	100
	Revlon Lipstick	50	100
	Colgate Toothpaste	18	36
	Dove Soap	41	82
	Aero	20	40
~	Nutella	27	54
6	What do you think is the solution to deforestation?		100
6A		50	100
6B	, , ,	50	100
60		50	100
7	Do you think reforestation is a solution to deforestation?	50	100
8	Do you think that reforestation will put back the same biodiversity?	50	100
9	What do you do to help save the planet?		
9A	,	40	80
9B		1	2
90	Educate others	10	20

		Reponses:		
Q	Α		ADULT MAL	ES
Q	В	DEFORESTATION QUESTIONS: 25%	50	People
	1	Do you know what the followng words mean and imply?	YES	%
	1A	Deforestation	26	52
1	1B	Global warming	50	100
1	1C	Reforestation	36	72
1	1D	Greenhouse effect	50	100
1	1E	Desertifcation	0	0
:	1F	Biodiversity		100
1	1G	Ecosystems	50	100
	2	Why do you think forests are important?		
2	2A	Oxygen	50	100
	2B	Habitat	50	100
	2C	Money	21	42
	2D	Ecosystems	50	100
	3	What do you think leads to deforestaton?		
	3A	Greed	50	100
-	3B	Need as in "livelihood"	32	64
	3C	Crops and livestock needs	50	100
	3D	Population size	50	100
-	4	What do you think is the effects of deforestation?	50	100
	4A	Greenhouse effect	50	100
	4B	Climate Change	50	100
	4C	Loss of habitat	50	100
	4C 4D	Loss of species	50	100
•	4D 5	Palm oil questions:	50	100
	5 5A	Do you know what palm oil is?	41	82
		Do you know what paim oil is? Do you know what palm oil is used for?		
	5B	· · ·	18	36 36
	5C	Did you know that palm oil plantations take the space of forests?	18	50
:	5D	Do you think deforestation for palm oil causes:	50	100
		Global warming	50	100
		Climate change	33	66
		Increased Pollution	35	70
		Decline in orangutan populations	35	70
	5E	Do you think the following contains palm oil?		
		Kit-Kat	16	32
		Pringles	28	56
		Johnsson Shampoo	28	56
		Revlon Lipstick	20	40
		Colgate Toothpaste	15	30
		Dove Soap	15	30
		Aero	11	22
		Nutella	16	32
	6	What do you think is the solution to deforestation?		
(6A	Planting trees	50	100
(6B	Recycling	50	100
(6C	Education	50	100
	7	Do you think reforestation is a solution to deforestation?	50	100
	8	Do you think that reforestation will put back the same biodiversity?	50	100
	9	What do you do to help save the planet?		
9	9A	Recycle	30	60
	9B	Volunteer	1	2
	9C	Educate others	0	

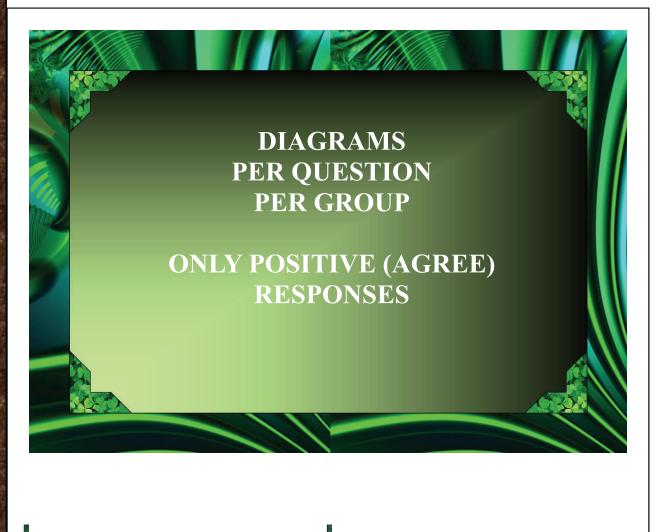
~	-			
Q	Α		H SCHOOL	
ג	В	DEFORESTATION QUESTIONS: 50%	100	People
	1	Do you know what the followng words mean and imply?	YES	%
	1A	Deforestation	73	73
	1 B	Global warming	100	100
	1C	Reforestation	65	65
	1D	Greenhouse effect	100	100
	1E	Desertifcation	61	61
	1F	Biodiversity	90	90
	1G	Ecosystems	100	100
	2	Why do you think forests are important?		
	2A	Oxygen	100	100
	2B	Habitat	100	100
	2C	Money	80	80
	2D	Ecosystems	100	100
	3	What do you think leads to deforestaton?		
	3A	Greed	92	92
	3B	Need as in "livelihood"	74	74
	3C	Crops and livestock needs	80	80
	3D	Population size	84	84
	4	What do you think is the effects of deforestation?		
	4A	Greenhouse effect	72	72
	4B	Climate Change	100	100
	4C	Loss of habitat	100	100
	4D	Loss of species	100	100
	5	Palm oil questions:		
	5A	Do you know what palm oil is?	50	50
	5B	Do you know what palm oil is used for?	40	40
	5C	Did you know that palm oil plantations take the space of forests?	100	100
	50 5D	Do you think deforestation for palm oil causes:	100	100
	50	Global warming	85	85
		Climate change	100	100
		Increased Pollution	65	65
		Decline in orangutan populations	85	85
	5E	Do you think the following contains palm oil?	85	65
	JE	Kit-Kat	21	31
			31	
		Pringles	39	39
		Johnsson Shampoo	51	51
		Revlon Lipstick	26	26
		Colgate Toothpaste	61	61
		Dove Soap	49	49
		Aero	48	48
	_	Nutella	26	26
	6	What do you think is the solution to deforestation?		
	6A	Planting trees	90	90
	6B	Recycling	94	94
	6C	Education	100	100
	7	Do you think reforestation is a solution to deforestation? 100		100
	8	Do you think that reforestation will put back the same biodiversity?	100	100
	9	What do you do to help save the planet?		
	9A	Recycle	64	64
	9B	Volunteer	8	8
	9C	Educate others	47	47

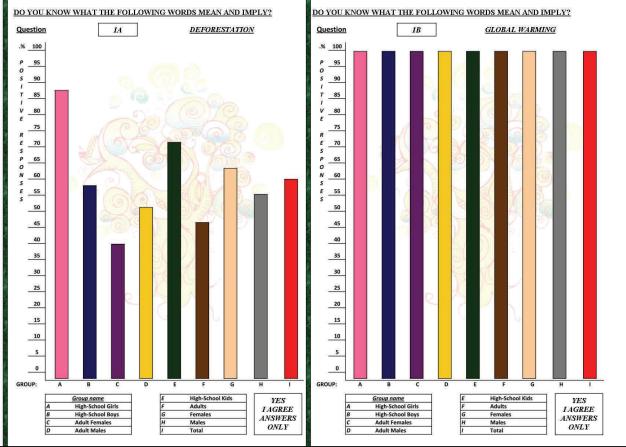
~ ~	<u>Reponses:</u>		
Q A	SUBJECT INFORMATION/GROUP: F	ADULTS	
Q B	DEFORESTATION QUESTIONS: 50%	100	People
1	Do you know what the followng words mean and imply?	YES	%
14		46	46
18		100	100
10	Reforestation	77	77
10	Greenhouse effect	90	90
16	Desertifcation	38	38
16	Biodiversity	80	80
10	Ecosystems	87	87
2	Why do you think forests are important?		
2 <i>F</i>	Oxygen	100	100
2E	Habitat	100	100
20	Money	62	62
20	Ecosystems	100	100
3	What do you think leads to deforestaton?		
3 <i>4</i>		100	100
3E		82	82
30		100	100
30		100	100
4	What do you think is the effects of deforestation?		
44		100	100
46		100	100
40		100	100
40		100	100
5	Palm oil guestions:	100	100
5 54		81	81
56		48	48
50		68	68
50		08	00
JL	Global warming	100	100
		83	83
	Climate change		
	Increased Pollution	85	85
	Decline in orangutan populations	85	85
5E			
	Kit-Kat	46	46
	Pringles	58	58
	Johnsson Shampoo	78	78
	Revlon Lipstick	70	70
	Colgate Toothpaste	33	33
	Dove Soap	56	56
	Aero	31	31
	Nutella	43	43
6	What do you think is the solution to deforestation?		
6A		100	100
6E		100	100
60		100 100	100
7	Do you think reforestation is a solution to deforestation?		100
8	Do you think that reforestation will put back the same biodiversity?		100
9	What do you do to help save the planet?		
9 <i>4</i>	Recycle	70	70
9E	· ·	2	2
90	Educate others	10	10

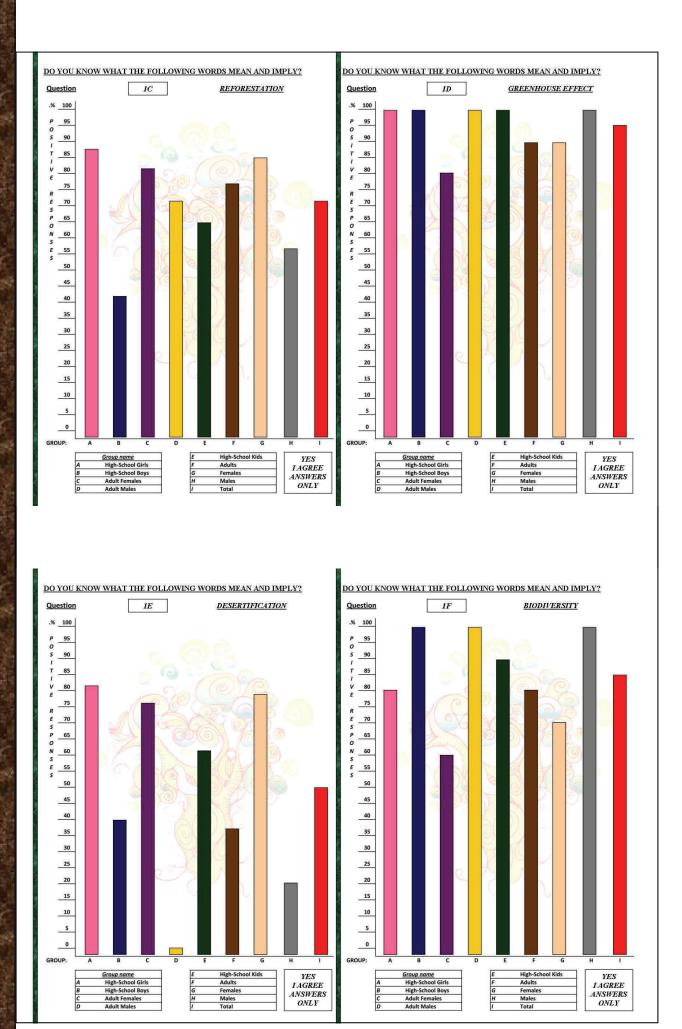
		<u>Reponses:</u>		
Q	Α	SUBJECT INFORMATION/GROUP: G	FEMALES	
Q	В	DEFORESTATION QUESTIONS: 50%	100	People
	1	Do you know what the followng words mean and imply?	YES	%
	1A	Deforestation	64	64
	1B	Global warming	100	100
	1C	Reforestation	85	85
	1D	Greenhouse effect	90	90
	1E	Desertifcation	79	79
	1F	Biodiversity	70	70
	1G	Ecosystems	87	87
	2	Why do you think forests are important?		
	2A	Oxygen	100	100
	2B	Habitat	100	100
	2C	Money	71	71
	2D	Ecosystems	100	100
	3	What do you think leads to deforestaton?		
	3A	Greed	100	100
	3B	Need as in "livelihood"	91	91
	3C	Crops and livestock needs	100	100
	3D	Population size	94	94
	4	What do you think is the effects of deforestation?		
	4A	Greenhouse effect	82	82
	4B	Climate Change	100	100
	4C	Loss of habitat	100	100
	4D	Loss of species	100	100
	5	Palm oil questions:		
	5A	Do you know what palm oil is?	80	80
	5B	Do you know what palm oil is used for?	70	70
	5C	Did you know that palm oil plantations take the space of forests?	100	100
	5D	Do you think deforestation for palm oil causes:	100	100
	50	Global warming	94	94
		Climate change	100	100
		Increased Pollution	85	85
		Decline in orangutan populations	85	85
	5E	Do you think the following contains palm oil?	05	05
	JL	Kit-Kat	51	51
		Pringles	69	69
		Johnsson Shampoo	81	81
		Revlon Lipstick	76	76
			60	60
		Colgate Toothpaste		
		Dove Soap	70	70
		Aero	53	53
	~	Nutella	46	46
	6	What do you think is the solution to deforestation?		
	6A	Planting trees	90	90
	6B	Recycling	94	94
	6C	Education	100	100
	7	Do you think reforestation is a solution to deforestation?	100	100
	8	Do you think that reforestation will put back the same biodiversity?	100	100
	9	What do you do to help save the planet?		
	9A	Recycle	84	84
	9B	Volunteer	6	6
	9C	Educate others	47	47

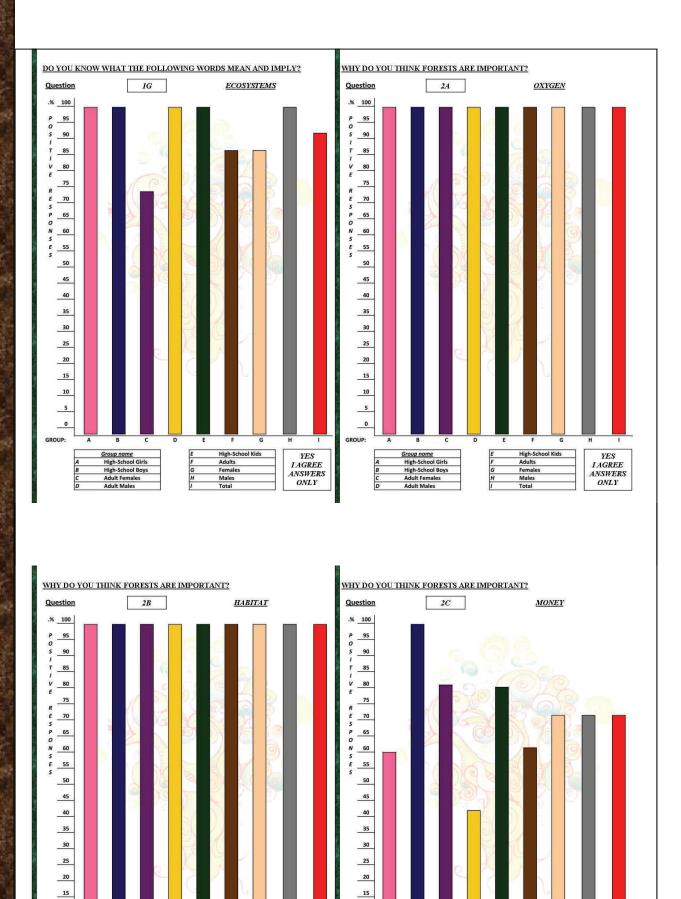
<u> </u>			
Q A	SUBJECT INFORMATION/GROUP: H	MALES	
Q B	DEFORESTATION QUESTIONS: 50%	100	People
1	Do you know what the followng words mean and imply?	YES	%
1A	Deforestation	55	55
1B	Global warming	100	100
1C	Reforestation	57	57
1D	Greenhouse effect	100	100
1E	Desertifcation	20	20
1F	Biodiversity	100	100
1G	Ecosystems	100	100
2	Why do you think forests are important?		
2A	Oxygen	100	100
2B	Habitat	100	100
2C	Money	71	71
2D	Ecosystems	100	100
3	What do you think leads to deforestaton?		
3A	Greed	92	92
3B	Need as in "livelihood"	65	65
3C	Crops and livestock needs	80	80
3D	Population size	90	90
4	What do you think is the effects of deforestation?		
4A	Greenhouse effect	90	90
4B	Climate Change	100	100
4C	Loss of habitat	100	100
4D	Loss of species	100	100
5	Palm oil questions:		
5A	Do you know what palm oil is?	51	51
5B	Do you know what palm oil is used for?	18	18
5C	Did you know that palm oil plantations take the space of forests?	68	68
50 5D	Do you think deforestation for palm oil causes:		
50	Global warming	91	91
	Climate change	83	83
	Increased Pollution	65	65
	Decline in orangutan populations	85	85
5E	Do you think the following contains palm oil?	85	85
JE	Kit-Kat	26	26
	Pringles	28	20
	Johnsson Shampoo	48	48
	Revlon Lipstick	20	20
	•		
	Colgate Toothpaste	34	34
	Dove Soap	35	35
	Aero	26	26
-	Nutella	23	23
6	What do you think is the solution to deforestation?	100	100
6A	Planting trees	100	100
6B	Recycling	100	100
6C	Education	100 100	100
7	,		100
8	Do you think that reforestation will put back the same biodiversity? 100		100
9	What do you do to help save the planet?		
9A	Recycle	50	50
9B	Volunteer	4	4
9C	Educate others	10	10

• •		LI DECRONIC	
Q A		LL RESPONS	
QB	DEFORESTATION QUESTIONS: 100%	200	People
1	Do you know what the followng words mean and imply?	YES	%
1A	Deforestation	119	59.5
1B	Global warming	200	100
1C	Reforestation	142	71
1D	Greenhouse effect	190	95
1E	Desertifcation	99	49.5
1F	Biodiversity	170	85
1G	Ecosystems	187	93.5
2	Why do you think forests are important?		
2A	Oxygen	200	100
2 B	Habitat	200	100
2C	Money	142	71
2D	Ecosystems	200	100
3	What do you think leads to deforestaton?		
3A	Greed	192	96
3B	Need as in "livelihood"	156	78
3C	Crops and livestock needs	180	90
3D	Population size	184	92
4	What do you think is the effects of deforestation?		
4A	Greenhouse effect	172	86
4B	Climate Change	200	100
4C	Loss of habitat	200	100
4D	Loss of species	200	100
5	Palm oil questions:		
5A	Do you know what palm oil is?	131	65.5
5B	Do you know what palm oil is used for?	88	44
5C	Did you know that palm oil plantations take the space of forests?	168	84
5D	Do you think deforestation for palm oil causes:		
	Global warming	185	92.5
	Climate change	183	91.5
	Increased Pollution	150	75
	Decline in orangutan populations	170	85
5E	Do you think the following contains palm oil?	1/0	
JL	Kit-Kat	77	38.5
	Pringles	97	48.5
	Johnsson Shampoo	129	64.5
	Revlon Lipstick	96	48
	Colgate Toothpaste	90	48
	Dove Soap	105	52.5
	· · · · · · · · · · · · · · · · · · ·		
	Aero	79	39.5
6	Nutella	69	34.5
6	What do you think is the solution to deforestation?	100	05
6A	Planting trees	190	95
6B	Recycling	194	97
6C	Education	200	100
7	Do you think reforestation is a solution to deforestation?	200	100
8	Do you think that reforestation will put back the same biodiversity?	200	100
9	What do you do to help save the planet?		
9A	Recycle	134	67
9B	Volunteer	10	5
9C	Educate others	57	28.5









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High-School Kids Adults Females Males Total

E F G H I

Group name High-School Girls High-School Boys Adult Females Adult Males

GROUP:

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YES

ILS IAGREE ANSWERS ONLY

High-School Kids Adults Females Males Total

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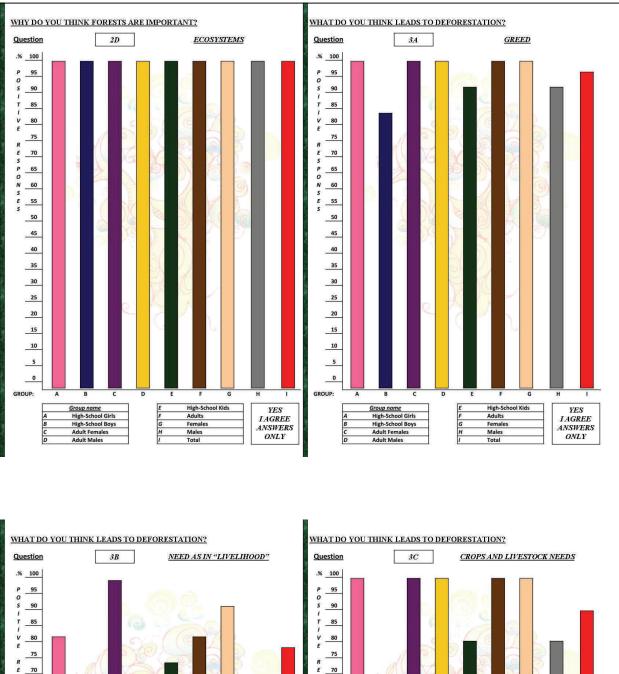
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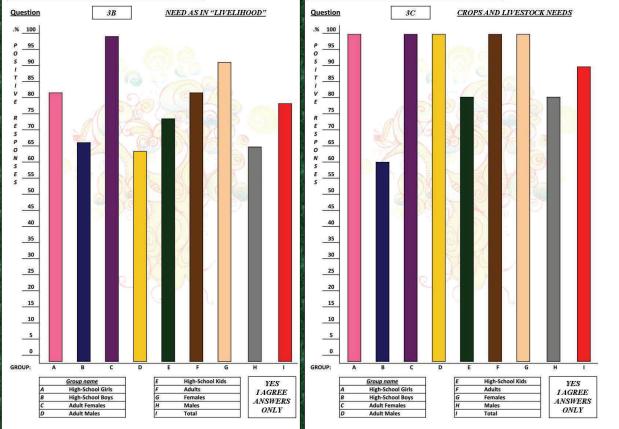


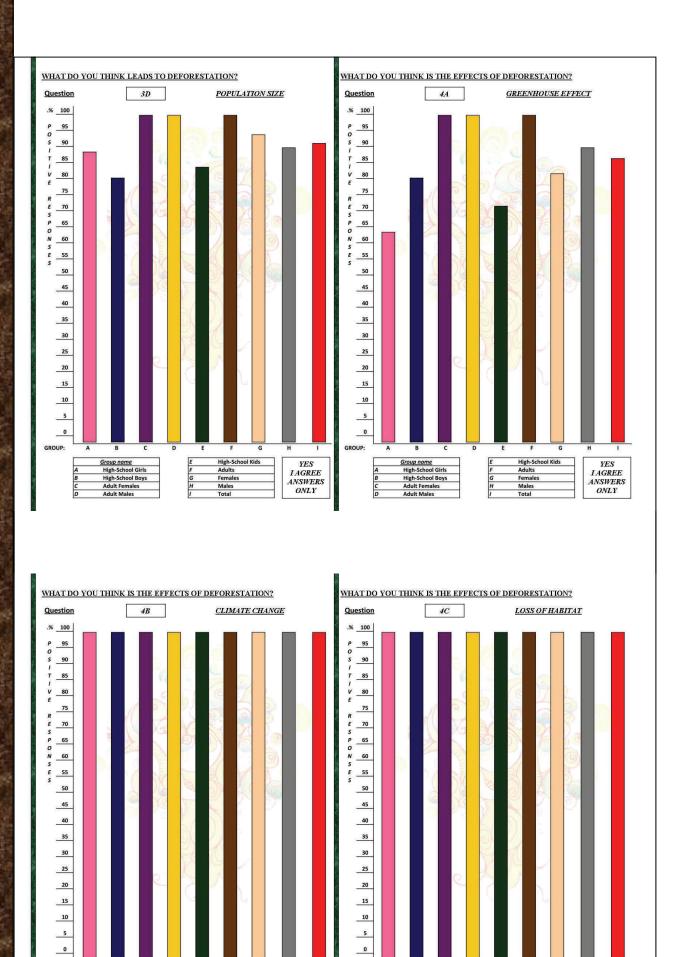
YES

IAGREE

ANSWERS ONLY







YES

ILS IAGREE ANSWERS ONLY

High-School Kids Adults Females Males Total

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GROUP:

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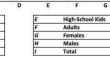
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Group name High-School Girls High-School Boys Adult Females Adult Males



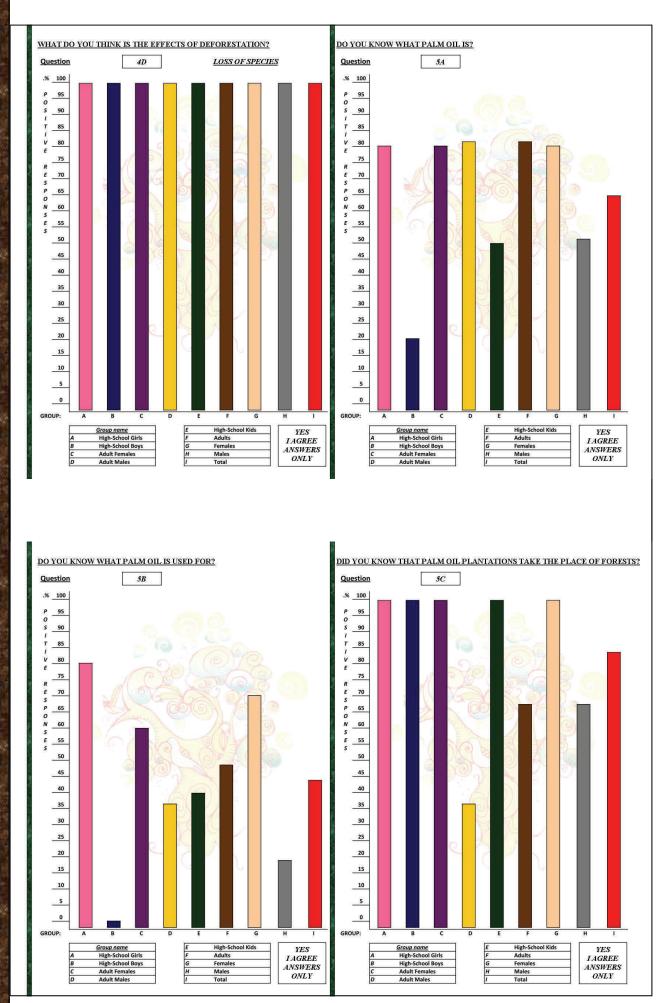
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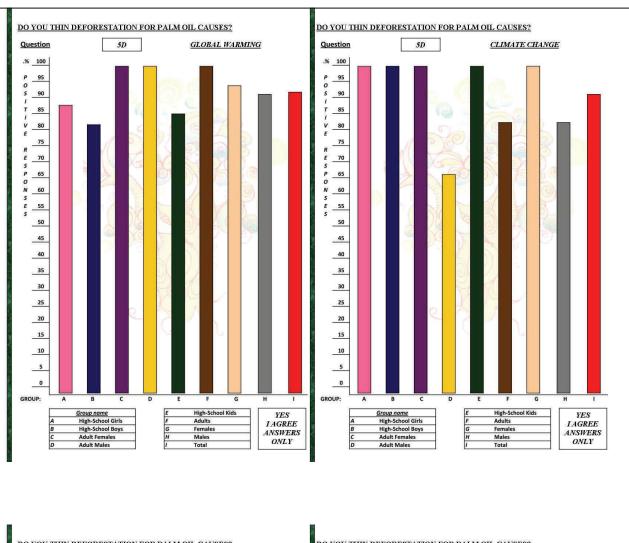
Group name High-School Girls High-School Boys Adult Females Adult Males

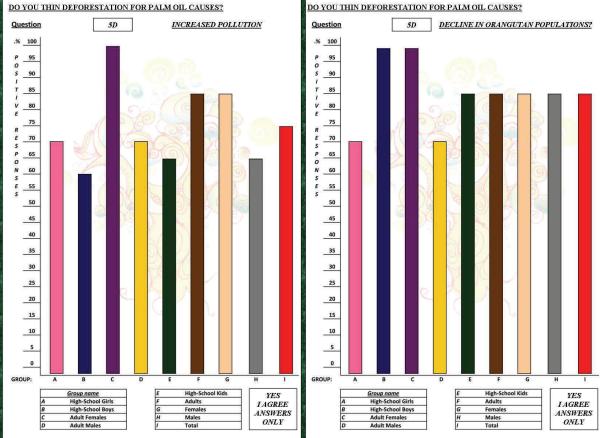
YES

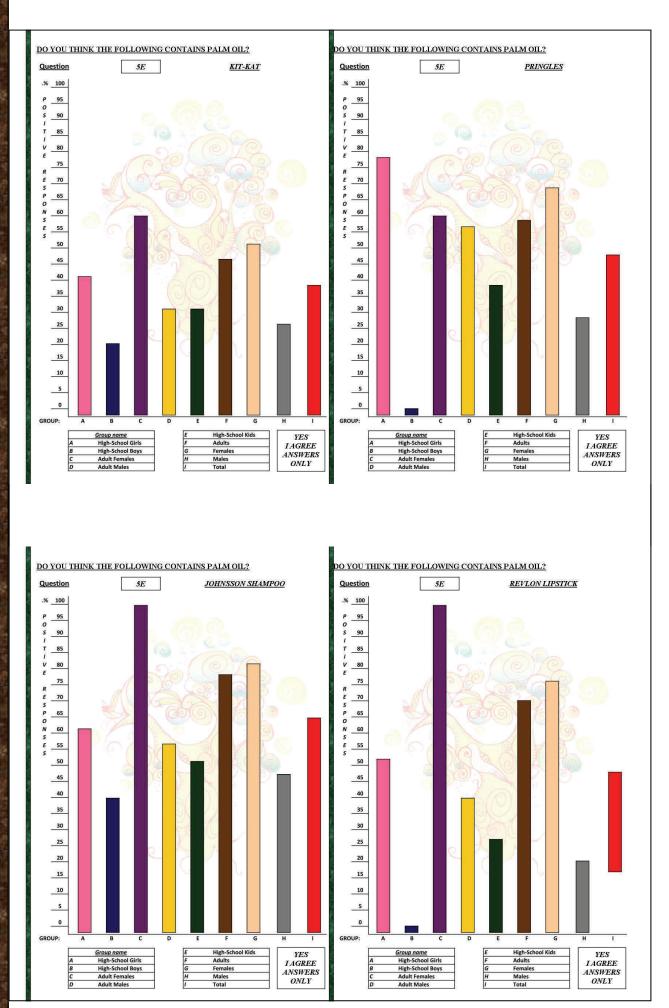
IAGREE

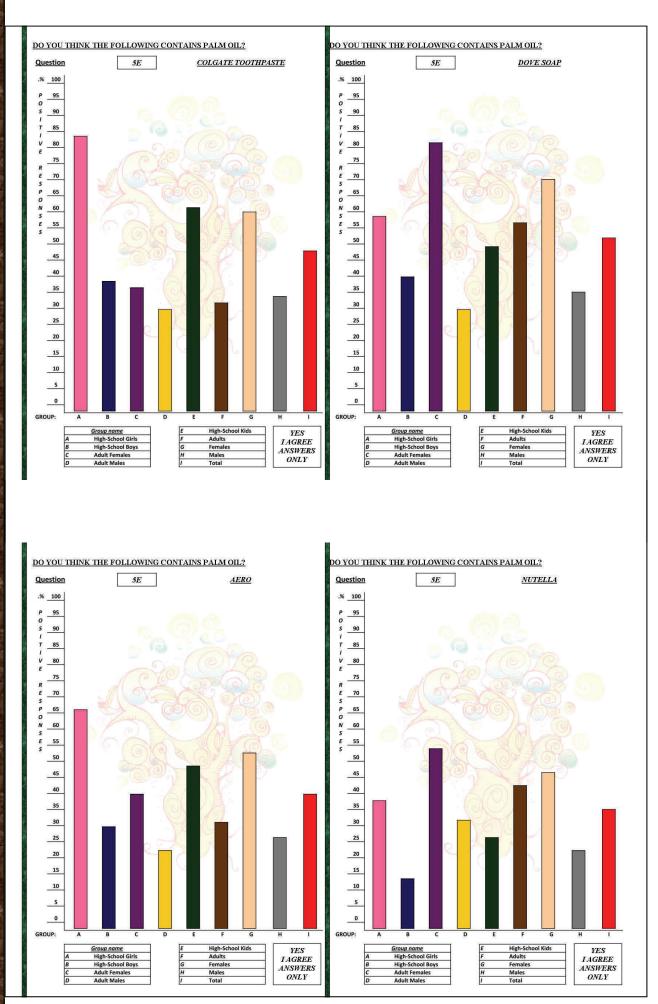
ANSWERS ONLY

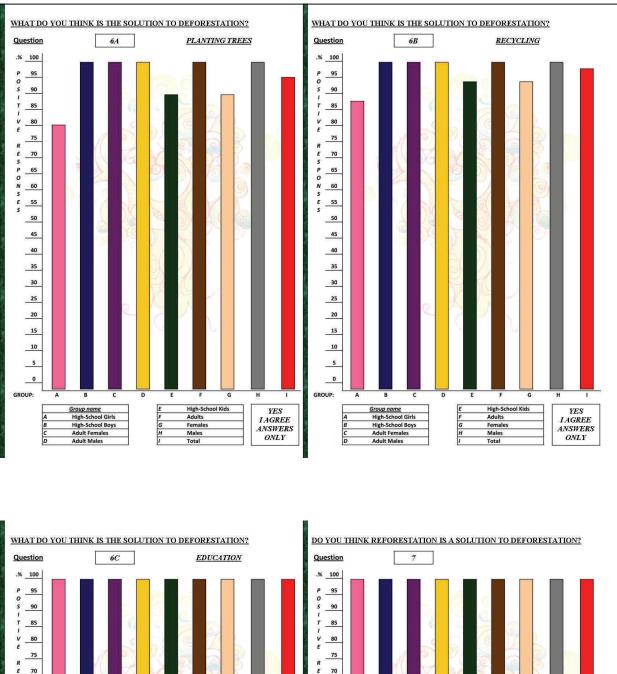


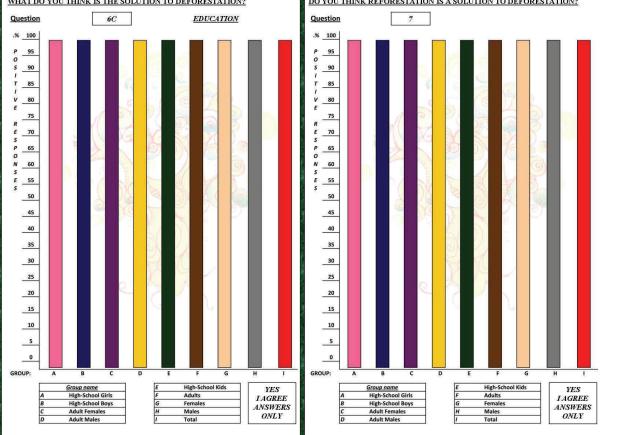


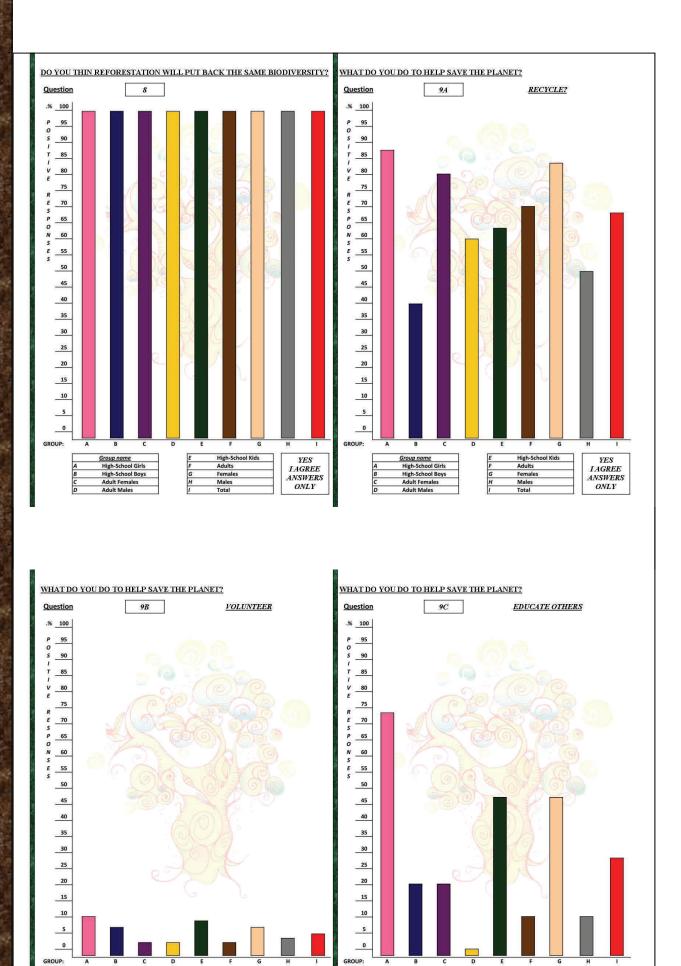












Group name High-School Girls High-School Boys Adult Females Adult Males

ABCD

High-School Kids Adults Females Males Total

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YES

I AGREE ANSWERS ONLY

Group name High-School Girls High-School Boys Adult Females Adult Males

ABCD



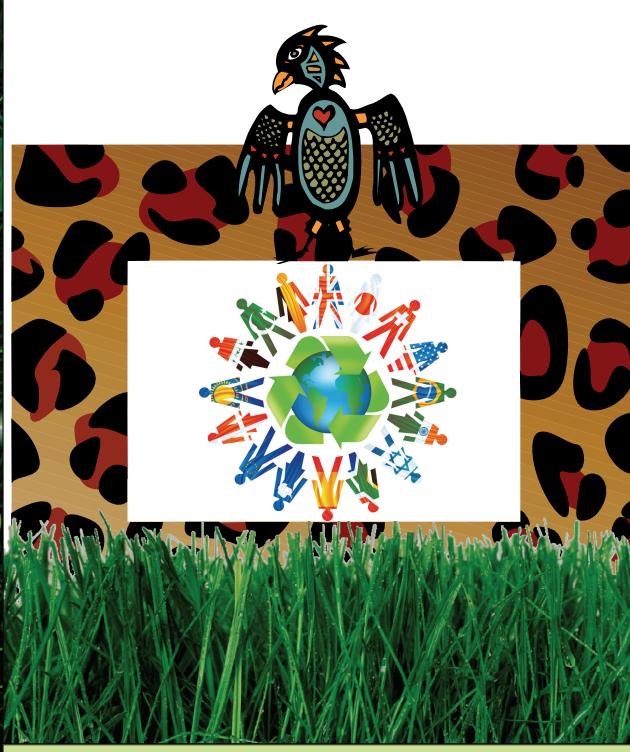
YES

IAGREE ANSWERS ONLY

High-School Kids Adults Females Males Total

E F G H I

APPENDIX 3: *The questionnaire*



A3.1 Questionnaire South Africa

Man's Sin: DEFORESTATION		Questionnaire Numbe	<u>r:</u>			
QUESTIONNAIRE					L	
A Subject Information: GENDER			1		ROUP	
A Subject Information:	Male Female		{	Highschool	Adı	ul t
l	IVIAIE	Female		півлясноог	Au	uit
B Questions:						
1 Do you know what the following w	ords mean	and imply)			
a Deforestation	YES	NO	·	f Biodiversity	YES	NO
b Global warming	YES	NO	{	g Ecosystems	YES	NO
c Reforestation	YES	NO	_			
d Greenhouse effect	YES	NO	_			
e Desertification	YES	NO				
2 Why do you think forests are impo	rtant?					
3 What do you think leads to defore	station?					
4 What do you think is the effects of	deforestat	ion?				
5 Palm Oil Questions:						
a Do you know what palm oil is?					YES	NO
b Do you know what palm oil is used					YES	NO
c Did you know that palm oil plantat	ions take t	he space of	forests?		YES	NO
d Do you think deforestation for pal	n oil cause	c٠	global warmir	ησ	YES	NO
	ii oli cause	5.	climate chang		YES	NO
			increased pol	,	YES	NO
			· · · · ·	ngutan populations	YES	NO
					123	110
e Do you think the following product	t contains p	oalm oil?		kit-kat	YES	NO
				pringles	YES	NO
				johnsson shampoo	YES	NO
				revlon lipstick	YES	NO
				colgate toothpaste	YES	NO
				dove soap	YES	NO
				aero	YES	NO
				aero		
6 What do you think is the solution for deforestation?						
6 What do you think is the solution f	or deforest	tation?		nutella	YES	NO
6 What do you think is the solution f	or deforest	tation?			YES	NO
6 What do you think is the solution f	or deforest	tation?			YES	NO
7 Do you think reforestation is a solu	ition to def	orestation		nutella	YES	NO
7 Do you think reforestation is a solu8 Do you think that reforestation will put	ition to def	orestation		nutella		
7 Do you think reforestation is a solu	ition to def	orestation		nutella	YES	NO
7 Do you think reforestation is a solu8 Do you think that reforestation will put	ition to def	orestation		nutella	YES	NO

A3.2 Questionnaire Twitter

With the use of Twitter, I did an "online" questionnaire.

I tweeted the following question:

"What is your opinion about de- and reforestation?"

The tweet was sent to:

@EarthActivists

@IS_FOUNDATION & Ian Somerhalder

@ISF_ World, SA, SA Supporters, Louisiana, Stockholm, Canada,

Finland, Greece, Washington DC, Turkey, Kenya, Chile,

London UK, Cairo Egypt, Malaysia and Cape Town,

Australia, Britain, Spain, India, New Zealand, France & Germany

@Vampirebrigade

@Greenpeace



Rampant deforestation in developing countries releases more emissions than all the world's cars, trucks, and airplanes combined... 54 nations are already more than 90%

APPENDIX 4:

DEFORESTATION IMAGES

COURTESY OF:

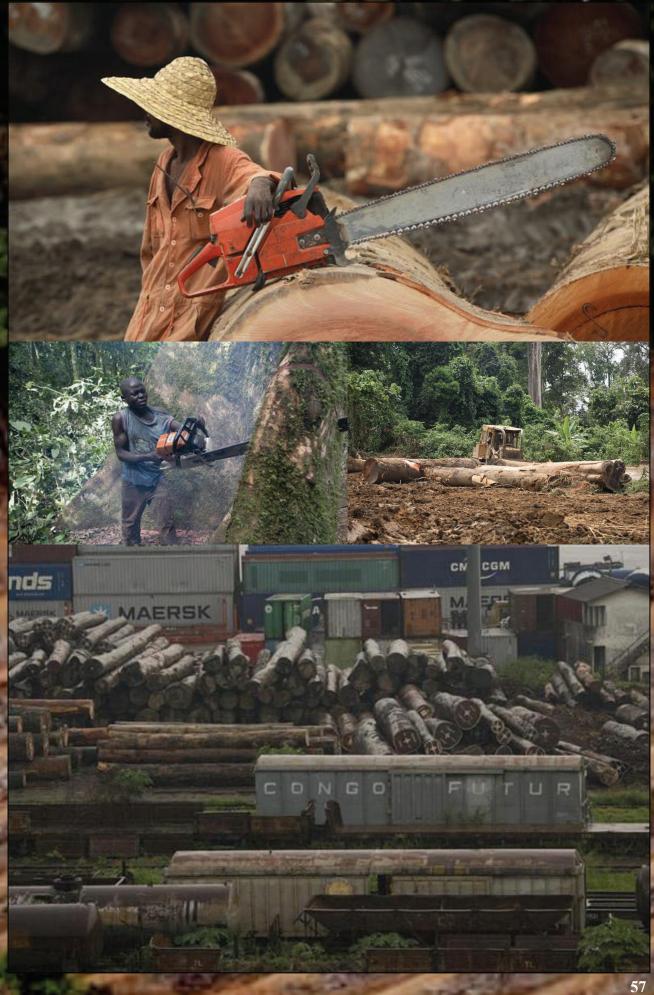
GREENPEACE AFRICA MONGABAY NATIONAL GEOGRAPHIC



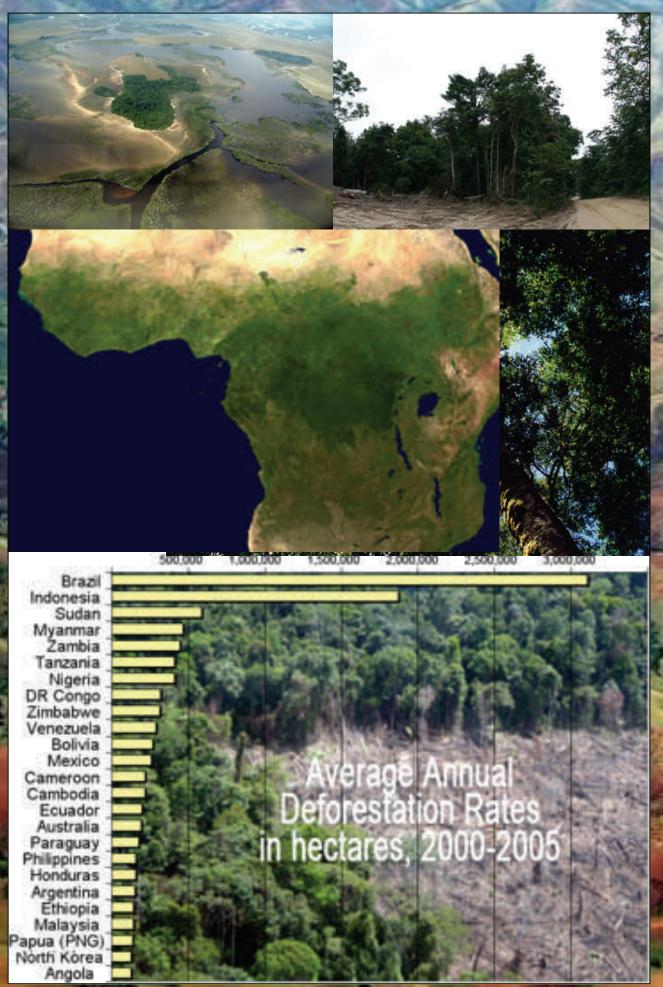
A 4.1 GREENPEACE AFRICA



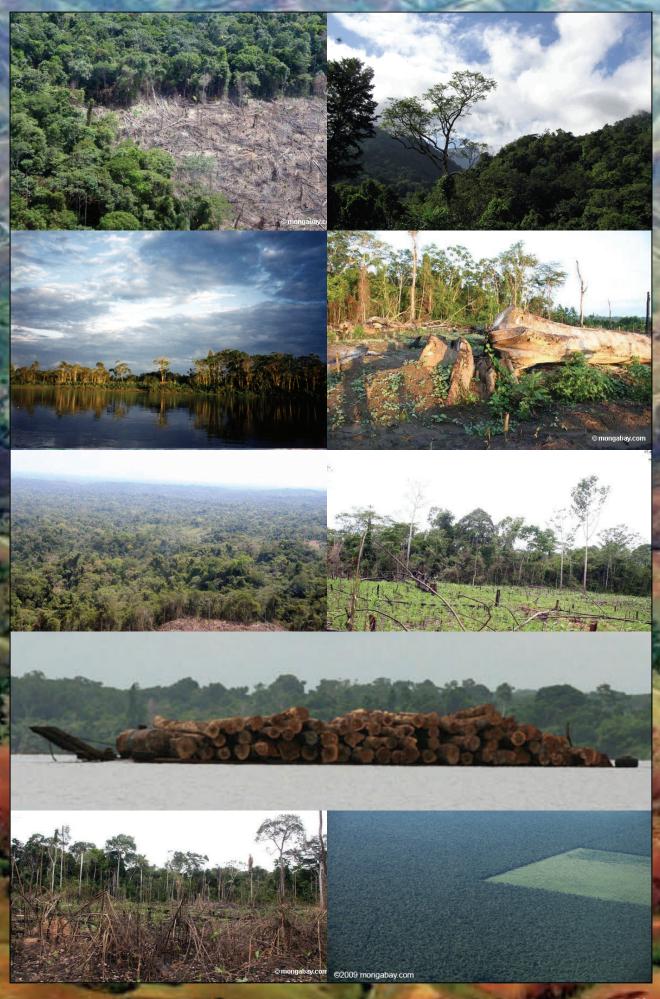
A 4.1 GREENPEACE AFRICA



A4.2 MONGABAY



A4.2 MONGABAY



A4.3 NATIONAL GEOGRAPHIC

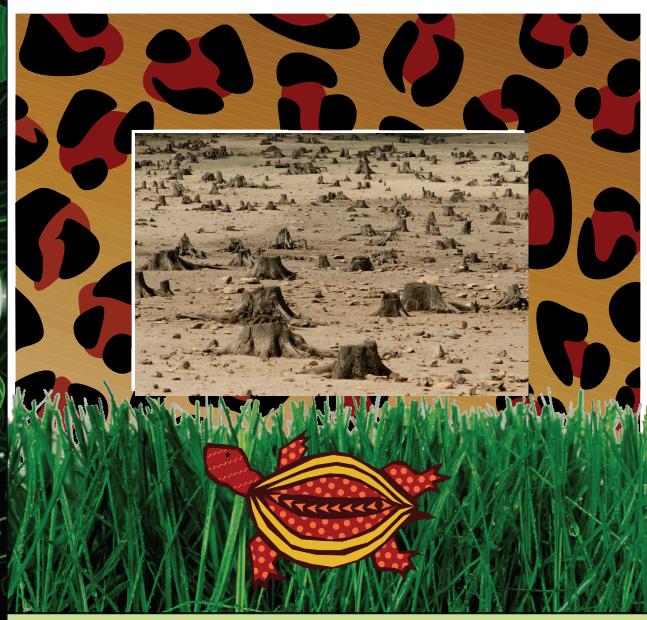


A4.3 NATIONAL GEOGRAPHIC



APPENDIX 5:

<u>The Petition</u> Please visit: www.a-z-animals.com And sign the petition... I will also provide a link from my website that I am in the process of creating: http://manssindeforestation.weebly.com





Did you know that, under current European legislation, companies do not have to state if they have used palm oil in their products, instead it can be labeled as vegetable oil?

Add your name to our petition that aims to change the current European legislation to ensure that companies are forced to clearly state if their products contain palm oil.

Print Name	Signature	Comments (optional)

SPECIAL REFERENCES:

A-Z-ANIMALS

EARTH ACTIVISTS

http://www.a-z-animals.com http://www.a-z-animals.com/palm.oil/ Twitter @azanimals

http://www.earthactivists.net http://CyG-ONE.net activists@cyg-one.net Twitter @EarthActivists

GREENPEACE AFRICA

http://www.greenpeace.org/africa iafrica@greenpeace.org michael.baillie@greenpeace.org Twitter @Greenpeaceafric

getinvolved@isfoundation.com Twitter @IS FOUNDATION

IAN SOMERHALDER FOUNDATION

MONGABAY

http://www.mongabay.com contact@mongabay.com Twitter @mongabay

http://isfoundation.com

NATIONAL GEOGRAPHIC

http://www.nationalgeographic.com dkomiske@ngs.org Twitter @NatGeo

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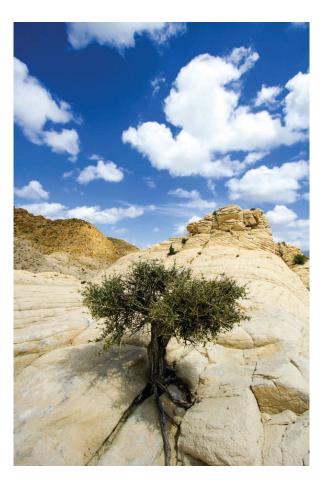
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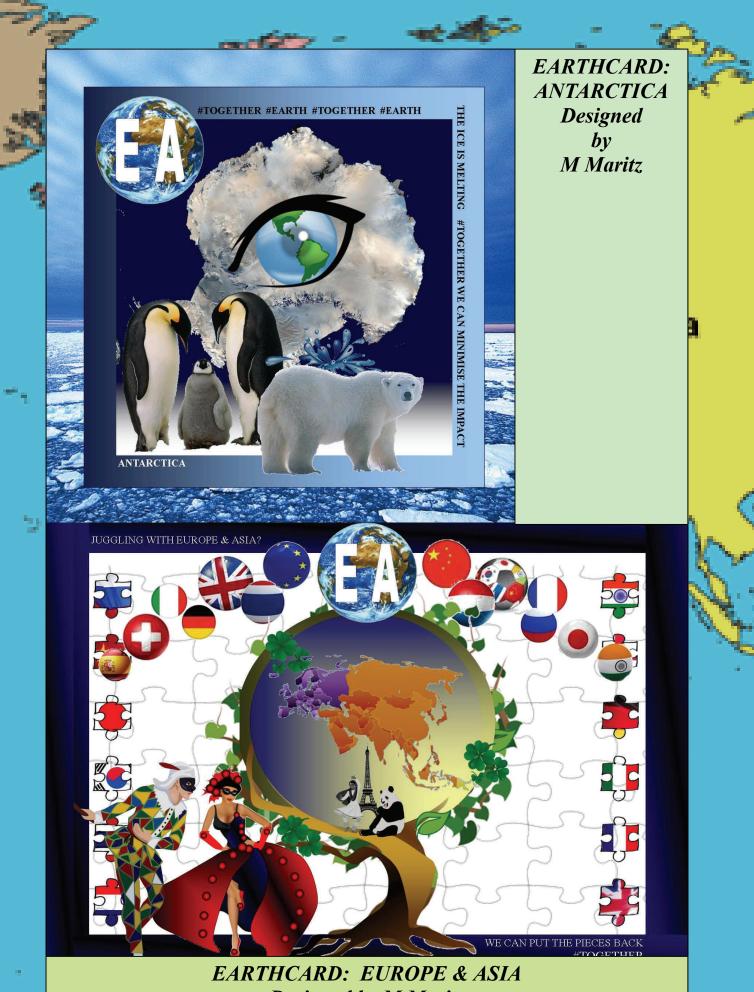
EARTHCARD: AFRICA Designed by M Maritz



Designed by M Maritz



Designed by M Maritz



Designed by M Maritz

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