

MODERN DAY- PLAGUE: DEFORESTATION

By: Margot Maritz



"The earth provides
enough to satisfy
every man's needs,
but not
every man's greed."
Mahatma Gandhi

It is getting Hot in here . . . Hug a tree!

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“What we are doing to the forests of the world is but a mirror reflection of what we are doing to ourselves and to one another.” Mahatma Gandhi

“The earth provides enough to satisfy every man’s needs, but not every man’s greed.” Mahatma Gandhi

“God has cared for these trees, saved them from drought, disease, avalanches, and a thousand straining, leveling tempests and floods; but he cannot save them from fools.” Joan Muir



It is getting Hot in here . . . Hug a tree!

SPECIAL THANK-YOU TO THE FOLLOWING ORGANIZATIONS & INDIVIDUALS

Greenpeace Africa

The Ian Somerhalder Foundation

The Carbon War Room

Rainforests SOS: The Prince's Project

Earth Activists

National Geographic

World Wildlife Fund

Mongabay

Kids Are Heroes

Kim Klingler - Director of the Ian Somerhalder Foundation

Mandy Morsink

Paula Earl - Division Director at the Ian Somerhalder Foundation

Mike Baillie - Greenpeace Africa

Charlene Heyburg - Editor Beyond Sustainability Magazine

Each and every person that took time to answer my questions!



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In the back of the file please find:

- Banners, my recycled paper sheet, Looloo sample,
and powerpoint DVD



LET'S CLEAN UP THE MESS . . .



STOP DEFORESTATION

MODERN-DAY PLAGUE: DEFORESTATION

1. **INTRODUCTION**

Forests are very important to our existence on Earth, they influence everything. Deforestation is very harmful to our existence on Earth, it influences everything. To help stop deforestation every person can do something to help: RECYCLE.

2. **THE RESEARCH PROCESS**

2.1 **HYPOTHESIS & PROBLEM**

I decided to compare different countries to one another in regards to recycling. Do they recycle, what do they recycle and how much do they recycle. I further asked people all over the world if they think recycling can stop deforestation and how. I also did a survey with South African Teens to find out their opinions regarding Deforestation and Recycling.

My main hypothesis is:

“People think that Recycling Paper can help prevent Deforestation”

and the secondary hypothesis is:

“South-African Teens think that Reduce, Reuse, Recycle can help stop Deforestation”

2.1.1 **Choosing the theme**

Last year I did my research on what causes deforestation, and what people knew about deforestation, palm-oil and how it can be prevented. It was a general look at the issue. This year I decided to look at how the climate is affected by deforestation

and how recycling paper can contribute to preventing deforestation. This I incorporated into my research questionnaire.

2.2 RESEARCH METHODS

2.2.1 Choosing the subject sample

The subjects were chosen randomly, without age or gender being considered. The subjects for the first survey are living all over the world, in different countries. In total there are 160 subjects that took part in the International survey. The survey for the South-African Teens was also done randomly, and there are 150 subjects in the survey. I have a total of 310 subjects.

2.2.2 Research Methods

2.2.2.1 Gathering background information

Background information was gathered and can be read in section 3 of this report.

2.2.2.2 The Questionnaire

International Survey: A twitter questionnaire was conducted, and 160 people from 21 countries responded.

South African Survey: This was done telephonically with 150 randomly chosen subjects, in high-school.

The results and details are discussed in section 4.

2.2.2.3 Interviews

I conducted a digital interview via e-mail, with Earth Activists.



2.2.2.4 Gathering & Interpreting the Data

The survey answers was interpreted and are discussed in section 4.

Detailed graphs can be seen in section 5.

2.3 OTHER INFORMATION

2.3.1 Website

I am creating a website for people to use, and learn more about Recycling. I have a website called: www.manssindeforestation.weebly.com & www.green-humanity.com which also educates people about deforestation and other environmental issues.

2.3.2 Petition

Please read the section on the KFC petition and sign.

2.3.3 Making recycled paper

As part of my project, and because it puts the focus on recycling of paper, I made my own recycled paper from old newspapers. See the whole process later-on in the report.

2.3.4 Powerpoint Presentation DVD

Attached please find an informercial on Powerpoint that accompanies my report. Pop in the DVD and press play.

2.3.5 Materials used

2.3.5.1 *Alternative Energy*

This report was done while using a solar generator to give energy to the computer.

3. BACKGROUND RESEARCH

3.1 DEFINITIONS (from The Business Dictionary)

3.1.1 Deforestation

Clearing of forests, intentional destruction or removal of trees for human activities such as agricultural, commercial, housing or firewood use without replanting (reforesting) and without allowing time for the forest to regenerate itself.

3.1.2 Global Warming

The increase of the Earth's atmosphere temperature due to emissions and build up of greenhouse gases. It results in climate change such as increased/decreased rainfall, winds, snow and other weather phenomenon. The polar ice caps are melting and causes sea levels to rise, flooding parts of the earth.

3.1.3 Greenhouse Effect

Steady increase in the Earth's temperature due to heat retention caused by greenhouse gases (this includes water vapor, carbon dioxide and CFC's). These gases forms a blanket around the earth that lets sun rays come in but blocks reflected sun rays from going out into space.

3.1.4 Environmental Sustainability

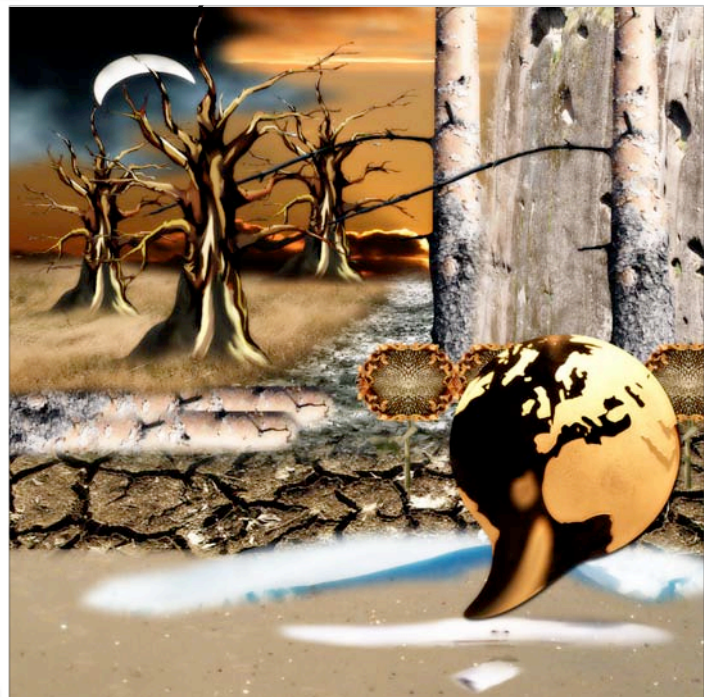
The maintenance of the factors and practices that contribute to the quality of environment on a long-term basis.

3.1.5 Recycling

Waste minimization strategy in which reusable materials are recovered from a waste stream, and put to the original or different use.

3.2 WHY WE NEED TREES

“Trees are the longest living organisms on the planet, they keep our air supply clean, reduce noise pollution, improve water quality, help prevent erosion, provide food and building materials” (Savatree, 2010: 1).





3.2.1 Tree Facts

- Trees reduce air conditioning needs by 30%.
- A mature tree removes 70 x more pollution than a newly planted tree.
- A healthy tree can have a value of up to R 100 000 (\$ 10 000).
- Two mature trees can supply enough oxygen per year for a family of 4.
- Water originating in forests provide drinking water for over 3 400 communities.
- Water originating in forests provide drinking water for 60 million individuals.
- A tree absorbs 20kg of dust per year.
- A tree filters and purifies 100 000m² of polluted air per year.
- Trees are the heart of nature.
- A tree swallows 80 kg of toxic metals in the air.
- A tree creates 700 kg oxygen and absorbs 20 tons carbon dioxide.
- Trees moderate climate, improves air quality, conserves water, protects wildlife.
- Trees cut down energy costs.
- One tree produces 173 reams of paper.
- Forests cycle nutrients within an ecosystem.
- Forests influence everything: atmosphere, water cycle, habitat and ultimately life.

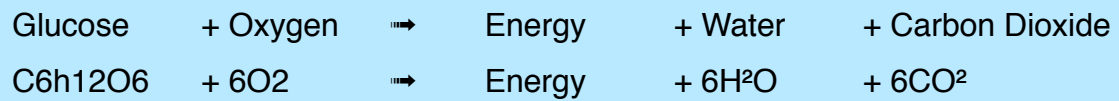


3.2.2 Trees and The Carbon Cycle

The carbon cycle is how nature recycles carbon, and trees form a very important part of the carbon cycle.

- Trees take in carbon through the process of photosynthesis.
- Carbon is then converted into sugar and other materials needed for survival.
- The tree passes carbon up the food chain to all other organisms (when animals eat plants, and when animals eat other animals).
- Trees and animals then release waste carbon dioxide - a process called respiration.
- Respiration is the process where organisms/trees produces energy.

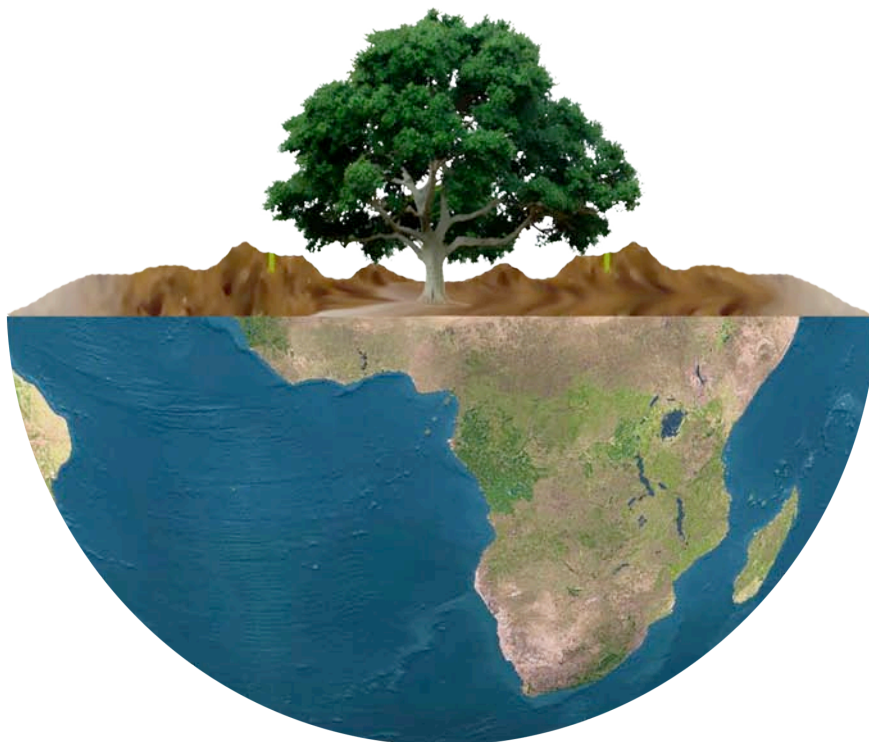
Respiration Equation:



Glucose = Carbon 6, Hydrogen 12, Oxygen 6

- Carbon Dioxide is then returned into the atmosphere where it will be absorbed again.
- Trees release oxygen during the day as a product of photosynthesis.

Energex (2012: 1) says that during the last 200 years, the burning of fossil fuels and deforestation increased the amount of carbon dioxide in the air by 28%.





3.2.3 Trees and The Water Cycle

“Protecting forests helps ensure a supply of safe, clean water”

(Stolton & Dudley, 2011: 1).

- Water is a renewable source, and covers most of the Earth's surface.
- Forests provides cover for streams that supply drinking water.
- Forest watershed supply water for domestic, agricultural, industrial & ecological needs.
- Trees contribute to the reduction of water-related risks, landslides, floods and droughts.
- Forests prevent desertification.
- Forests preserves water.
- Forests regulate the water cycle.
- Evaporation & precipitation are the processes used when trees recycle water.
- Trees sponge up water and rain.
- The water is then evaporated to form clouds and further rain.
- Water is recycled many times.
- Forests reduce drinking water treatment cost.
- Forests purify water.





3.3 DEFORESTATION

National Geographic (2012: 1) says that deforestation is clearing the Earth's forests on a massive scale, resulting in damage to the quality of the land. WWF (2012: 1) states that the equivalent of 26 football fields are deforested per minute.

Deforestation is the clearing of natural forests for alternative uses.

3.3.1 Some Causes of Deforestation

- Money.
- Providing for families (firewood etc).
- Agriculture.
- Housing (urban development).
- Palm-oil plantations.
- Roads.
- Paper products.
- Unsustainable logging.

3.3.2 Effects of Deforestation

- Loss of habitat.
- Loss of species.
- Desertification.
- Climate Change.
- Disruption of the water cycle.
- Increased carbon emissions.
- Loss of resources for medicine.
- Increased greenhouse gases.
- Reduced biodiversity.
- Increased soil erosion.
- Decreased quality of life.
- Disruption of livelihood.
- Increased pollution.
- Leads to food insecurity.



70% of the Earth's land animals and plants live in forests, many can't survive the deforestation that destroys their homes (National Geographic, 2012: 2). When forest cover is removed, wildlife becomes vulnerable.

Millions of people also rely on forests. Deforestation leads to social, medical and economic issues. It sometimes leads to conflict.

3.3.3 Examples of Deforestation

Philippines:	90% forests have been lost.
Central America:	60% forests have been lost.
Madagascar:	95% forests have been lost.
Nigeria:	79% forests have been lost.
Ethiopia:	98% forests have been lost.
Brazil:	90% forests have been lost.



3.3.4 Deforestation and the Carbon Cycle

- Deforestation causes an increase in greenhouse gas emissions.
- Deforestation releases the carbon stored in trees as CO².
- This leads to higher Carbon dioxide in the atmosphere.
- Temperatures rise because there are less trees to cool down the atmosphere.
- The volume of oxygen declines.

3.3.5 Deforestation and the Water Cycle

- Deforestation results in less trees to evaporate groundwater.
- Deforestation leads to a dry earth.
- Less trees means there are less roots to draw up water and re-release it into the atmosphere.
- The water cycle is directly disrupted.
- Water drains too quickly.
- This results in droughts and desertification.
- Water supply dries up.

3.3.6 Effects of Deforestation disrupting the Water Cycle on Human Life

Not only do we have less oxygen, but 1 in 5 people lives without reliable water supply. Many people in the developing world depend on water from forests to live. Due to deforestation disrupting the water cycle, infant mortality has increased, health issues increased, the world has a water shortage, lives are endangered by the resulting floods/droughts and water pollution increased.

3.3.7 Deforestation & The Paper Industry

Because this research paper puts the focus on recycling paper, I included this section (read more about paper recycling in the Recycling section of the report).

“One billion trees are cut down each year to satisfy the world’s paper demand” (Toussaint: 2009, 1).

- One tree produces 173 reams of paper.
- The paper industry are responsible for 10% of all global CO² emissions.
- The paper industry uses more than 23,5 billion kilowatt hours of electricity per year.
- The paper industry produces 74 million metric tons of CO² per year.
- The paper industry uses more water than any other industry.
- One tree is used every 5 seconds for paper in the USA.

3.4 CLIMATE CHANGE AND FORESTS: A vicious cycle!

An area the size of Belgium is lost annually due to deforestation in the Amazon alone.

Deforestation is responsible for the highest greenhouse gas emissions in the world.

We know that greenhouse gas drives the Earth’s climate patterns (WWF: 2012, 2). The rise in greenhouse gas results in catastrophic weather patterns such as hurricanes, droughts and floods. Forests play a critical role in protecting the earth

and decreasing greenhouse gas. We also know how deforestation contributes to climate change, but did you know that a vicious circle is created?

Deforestation ➡ Climate Change ➡ Influences Forests

3.4.1 The effect of Climate Change on Forests

So not only does deforestation cause climate change, but the remaining forests are also impacted by climate change.

- Climate change creates drier forests.
- Climate change results in forest fires.
- Climate change leave forests vulnerable to pests and diseases.
- Climate change increases the chance for desertification to occur.
- Climate change influences growth and productivity of trees.
- Climate change influences the ecosystem interactions in forests.
- Resulting drought influences the tree's ability to produce sap.
- Increased temperatures influences water availability.
- Extreme weather patterns such as wind storms, causes further damage to forests.





3.5 PREVENTING DEFORESTATION: GO GREEN!

“If we are not careful, all that comes with a rainforest and wooded lands will cease to exist” (How To Prevent: 2012, 1).

There are a few organizations, such as the Carbon War Room and The Global Forest Carbon Mechanism, that plans to compensate developing countries for reducing carbon emissions from deforestation. Some of these projects are addressed later-on in this report.

Although there are many measures that can help stop deforestation, for the purposes of this report, I am going to concentrate on “Going Green”, specifically Recycling Paper.



3.5.1 Renewable Energy

- Trees are being cut down for energy purposes.
- A shift from using firewood to alternative energy is needed.
- Renewable energy is solar, wind and water energy, or biogas.

3.5.2 Biogas

- Biogas is a gas produced by the breakdown of organic matter such as dead plants and animals.
- Even kitchen waste can be converted into biogas.
- Biogas can be used as an alternative energy source instead of firewood.

3.5.3 Becoming Vegetarian

(Courtesy of PETA: people for the ethical treatment of animals)

- Becoming vegetarian has many health benefits, such as making your heart stronger.
- Forests are cut down to make way for grazing land for cattle and sheep.
- Farmed animals excrement pollutes waterways, emits greenhouse gas and poisons the air, all contributing to global warming.

- Deforestation for factory farms causes soil erosion, contributes to species extinction and habitat loss.

According to Vidal (2010: 3) around 6m hectares of land - twice the size of Belgium, is converted into farmland each year.

The industry is driving cattle ranching deeper into the forests. Farm animals also consumes a lot of water. With the water shortage and deforestation, it is better to not eat meat!





3.5.4 Reduce, Reuse, Recycle: PAPER

One tree every 5 seconds are used in the USA alone for paper usage.

3.5.4.1 Forest environmental effects to reducing, reusing and recycling paper: Facts

- Less waste.
- If printing is reduced by just 10%, it would save over 100 million trees.
- If printing is reduced by just 10%, there would be 100 million metric tons less CO² in the atmosphere.
- Recycling helps minimize climate change.
- 500 000 trees are “thrown away” every day in the USA in the form of 44 million newspapers.
- Each ton of recycled paper saves 17 trees, 380 gallons of oil and 7 000 gallons of water.
- If we take our own shopping bag to the store, we would save 60 000 trees.
- Recycling reduces our carbon footprint.
- It takes 12 trees to make 1 ton of newsprint paper.
- It takes 24 trees to make 1 ton of printer paper.
- About 71 million tons of paper are used in the USA alone each year.
- 1 Billion trees a year are required to produce disposable diapers.
- 5 Million trees were used to produce mail in 1990 in the USA.
- 500 000 Trees are used to produce a weekly Sunday Newspaper
- Recycling a single print of the Sunday New York Times would save 75 000 trees.
- If all the USA newspapers were recycled, it would save 250 000 000 trees a year.
- A 15 year old tree makes 700 paper grocery bags.
- In 1 year, a supermarket could use up to 60 500 000 paper bags.
- The average USA consumer, uses 2 billion trees per year.
- The amount of paper we throw away each year, could heat 50 000 000 homes for 20 years.
- 1 Billion trees worth of paper are thrown away every year in the USA.
- 200kg's of recycled paper can save 17 trees.
- Recycling reduces energy consumption.
- Recycling reduces pollution.
- Using recycled paper uses 50% less energy than making paper from trees.
- Recycling paper creates jobs.

- For 1 ton of paper that is recycled, 60 000 gallons of water are saved.

3.5.4.2 What can be recycled? (In RSA)

<u>What can be Recycled</u>	<u>vs.</u>	<u>What can't be Recycled</u>
<ul style="list-style-type: none"> - Envelopes - Gift wrap - Invoices - Receipts - Magazines - Newspapers - Mail - Telephone Directories - Cardboard - Any white paper - Any coloured paper - Booklets - Manuals - Fax paper - Greeting cards - Flyers 		<ul style="list-style-type: none"> - Cement bags - Dog food bags - Disposable nappies - Plastic lined paper - Foil lined paper - Self adhesive paper (post-it) - Chemically treated paper - Wax coated boxes - Milk cartons - Food wrapping - Paper towels - Tissues - Carbon paper - Candy wrappers

Recycled paper are used to make new products or create the original products.

The reason why some paper products can't be recycled are due to contamination from the residue such as wax, ink or glue. So try not to buy them.



3.5.4.3 Recycling Paper Tips:

- Cancel all bills, receive them via e-mail
- Do not print unless absolutely necessary
- Print on both sides of the paper
- Keep a paper recycling bin in your home and office
- Download newspapers, magazines and books online
- Cut down using paper for memos
- Eliminate duplicate files
- Buy recycled paper
- Print on recycled paper
- Re-use paper products
- Educate others





3.5.5 Other tips

- Use rechargeable batteries.
- Ban plastic: water bottles, plastic bags etc.
- Save Water.
- Recycle everything you can.
- Find out where your nearest recycling center is.
- Use cold water whenever possible.
- Don't use electrical appliances for things you can do by hand.
- Store food in re-usable containers.
- Give to charity shops.
- Install a water-saving shower head.
- Turn down heat.
- Don't keep electrical appliances on when not using them.
- Switch off lights.
- Plug electrical appliances such as cell phone chargers, out of the socket when not using them.
- Start a compost pile.
- Use and buy organic.
- Carpool, walk or use a bicycle.
- Recycle car engine oil.
- Climb stairs instead of using the elevator.
- Use washable mugs instead of throw-away cups.
- Do not use plastic.
- Volunteer and join a conservation organization.
- Spread the word.

3.5.6 The Top 10 Paper Recycling Countries

i	Switzerland	ii	Sweden
iii	Austria	iv	Netherlands
v	USA	vi	Germany
vii	Finland	viii	Japan
ix	Norway	x	France

3.6 ORGANIZATIONS WORKING TO PREVENT DEFORESTATION

3.6.1 Greenpeace

(www.greenpeace.org/africa)

Greenpeace says: “Forests are the most important tool in keeping climate change to a minimum because they are a huge carbon reserve, turning carbon back into oxygen and letting the world breathe”.

They are specifically worried about deforestation in the DRC (Democratic Republic of the Congo - Africa).

What Greenpeace is calling for:

- Zero deforestation by 2020.
- Adopt the Forests for Climate project, where it makes more money to save forests, than destroying them.
- Destruction of the international market for illegal timber.
- Getting the DRC government to get communities involved in protecting forests.

3.6.2 The Prince's Rainforest Project

(www.rainforestsos.org)

Prince Charles started the Rainforest project in 2007. It is developing a proposal for financial incentives to reduce deforestation.

The Rainforest Project aims to:

- Give payments to rainforest nations for not deforesting.
- Setting targets.
- Funding alternative, low-carbon economic development plans.
- Global participation.
- Action to stop deforestation.

3.6.3 The Carbon War Room

(www.carbonwarroom.com)

The Carbon War Room was started by Richard Branson. They are trying to prevent further deforestation.

The Carbon War Room's plan:

- Preventing further deforestation.
- Reducing deforestation drivers.
- Investing in the protection of forests.
- Sustainable forestry.

3.6.4 The Ian Somerhalder Foundation

(www.isfoundation.com)



The Ian Somerhalder Foundation is working with Conservation International to help save forests. To date the ISF have already protected over 300 acres of forest. For more information please visit the ISF website or www.conservation.org

3.7 WHAT IS BEING DONE IN SOUTH AFRICA?

Greenpeace (2012) says that South Africa is in a position to lead, and influence the battle against climate change. South Africa is currently the world's 14th highest emitter of Carbon in the world. But as a member of the African Union, we can change this.

3.7.1 110% Green Campaign

On World Environment Day, the 110% Green Campaign was launched in South Africa by Helen Zille. "Change can only happen if citizens makes the shift to go green" (Zille, 2012: 12). The articles mentions how the Western Cape will be worst affected by climate change, as it is plagued with drought and a rising sea level.

The Green Campaign wants:

- A Green future.
- Energy efficiency.
- The whole of Africa to become involved.
- Green economy.

Stopping deforestation forms a huge part of creating a green future for South-Africa.

3.7.2 Food & Trees for Africa (FTFA)

The FTFA has been planting trees for 22 years. It is the leader in tree-planting programs in South Africa.

The Purpose of the FTFA:

- Planting trees.
- Learning about trees.
- Creating jobs in the process.
- Getting the community involved.

By planting trees - so far over 4.1 million - they contribute to the fight against climate change.

3.7.3 LooLoo (this product is featured in Appendix 7)
(www.chardantissue.com)

Looloo is toilet-paper made from recycled material. It was started by Niel van Wyk. The article states that if every household in the USA alone, replaced just 1 roll of toilet paper, with recycled toilet paper, 424 000 trees would still be standing.

Their goal is to have Looloo sold in stores nationwide. And this product is proudly South African!

For more information contact: Mr B. Stanfield on (021) 987 4549 or email at looloo.sales@gmail.com

3.7.4 Woolworths

(www.woolworths.co.za)

Woolworths is declaring a war on waste.

- Woolworths has recycling facilities.
- They even collect light bulbs at some stores.
- They reduce packaging by 33%.
- They cut plastic food bags.
- Their packaging uses recycled material.
- They have reusable bags.

Please read more on their website.

3.7.5 Prasa

(www.prasa.co.za)

PRASA is the paper recycling association of South Africa.

The PRASA mission is to reduce the amount of recoverable paper that goes into landfills, by increasing paper recovery.

- They promote paper recycling in South Africa.
- They increase education and awareness about recovery of paper.
- They promote a culture of recycling.
- They contribute to preservation and protection of the environment.

3.8 CONCLUSION

“The trees are like the green engine of our planet, keeping not only us alive, but also every single animal” (Ian Somerhalder Foundation, 2012: 2).

This says it all...



4. MY RESEARCH PROJECT

My main hypothesis is:

“People think that Recycling Paper can help prevent Deforestation”

and the secondary hypothesis is:

“South-African Teens think that Reduce, Reuse, Recycle can help stop Deforestation”

4.1 RESEARCH METHODOLOGY

International Survey: 160 Subjects from 21 Countries participated in the survey. It was done via Twitter.

South African Survey: 150 Subjects in high-school in RSA was selected randomly, and interviewed on the telephone.

Total amount of Subjects = 310

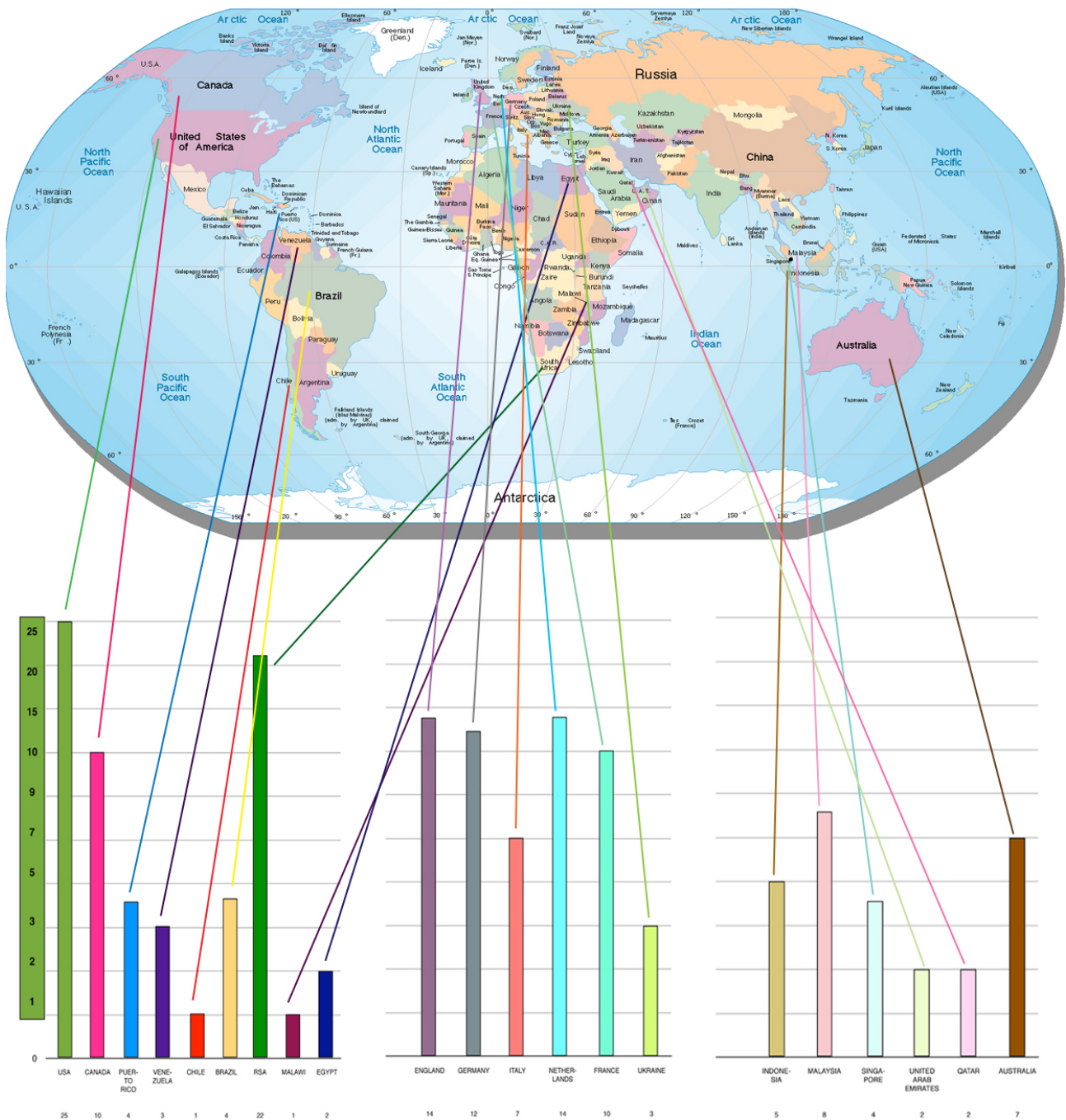
4.2 DISCUSSION OF THE RESEARCH RESULTS

4.2.1 International Survey

In the info-graphic below, you will see how many, and from which countries, the researcher received responses, and in Appendix 1 you will find all the diagrams related to the survey.

Please note: for the purposes of the survey I included Puerto Rico with the North American Continent, although it is considered an independent country.

The purpose was to see how opinions of different countries over the world compare to one another. No variable such as education, ages etc was included.



Subjects Over The World

TOTAL 160

North America (39), South America (8), Africa (25), Europe (60), Asia (21), Australia (7)

Question 1: Do you think recycling will help stop Deforestation?

Many countries responded here with a 100% agreement. The countries were, USA, Canada, Malawi, Egypt, Venezuela, Chile, England, Netherlands, France, United Arab Emirates & Australia. You have to keep in mind that some of the above-mentioned countries had less than 5 respondents. And those who replied, actually thinks about saving the planet.

The countries with the lowest agreement was Qatar, and the Ukraine with 33%.

South Africa had an average of 91%

Question 2: How can the paper industry help stop Deforestation?

This was an open question, and the answers that I received the most were included in the charts.

People mentioned the following:

- Using sustainable crops
- Sustainable Tree plantations
- Bamboo

Overall most people said using sustainable tree plantations.

Question 3: Do you Recycle?

All countries recycle with the exception of Malawi (but keep in mind that one 1 person responded).

The continents of Australia and Asia stands at 100%, and if I take Puerto Rico out of the equation, North America will also stand on 100%. Africa has the lowest recycling % of all the continents.

Question 4: What do you recycle?

Nearly all subjects recycled paper, newspapers, magazine, cardboard etc. Very few people recycled diapers and batteries. In South Africa diapers can't be recycled. The diaper response can be low because most subjects does not have infants in the house.

Question 5: What recycling Projects does your country have?

Again this was an open question, and the most responses I received was the following:

- Recycling is Progressive (the country is before others when coming to recycling)
- Recycling is mandatory (people feel they should recycle)
- Tree planting campaigns
- Petitions
- School Recycling Programs

Canada had the highest % when it comes to being before other countries in recycling. Most of the other people said Tree planting and School recycling programs.

Question 6: What do you think people can do to use less paper?

The responses the researcher received were:

- paperless billing
- downloading books & magazines
- reading online
- recycling more
- awareness programs

The USA, Canada, South Africa, Venezuela, Chile, England, Germany, Italy, Netherlands, France, Malaysia, Singapore, United Arab Emirates, Qatar & Australia all agreed 100% with all of the options.

Overall Picture

The total average positive agreement per country for the whole survey:

USA	75%	Canada	77%	Puerto Rico	29%
RSA	70%	Malawi	15%	Egypt	31%
Venezuela	72%	Chile	56%	Brazil	36%
England	85%	Germany	70%	Italy	81%
Netherlands	82%	France	85%	Ukraine	28%
Indonesia	71%	Malaysia	73%	Singapore	69%
UAE	65%	Qatar	69%	Australia	75%

The total average positive agreement per continent for the whole survey:

North America	60% (Puerto Rico Included)
South America	54%
Africa	39%
Europe	72%
Asia	69%
Australia	75%

4.2.2 South African Survey

A telephonic survey was conducted with 150 high-school students over South Africa. Again no variable such as education, age etc. was included.

The charts and diagrams related to the survey can be seen in Appendix 2.

Most questions were open questions, and the Researcher divided them into categories.

Question 1: Are you aware of the problem Deforestation?

Out of a total of 150 subjects, 133 replied yes (89%).

Question 2: What do you think can be affected by Deforestation?

The responses received were:

- Loss of Habitat (83%)
- Loss of Oxygen (67%)
- Less Natural Resources (40%)
- Global Warming (51%)
- More Pollution (23%)

Question 3: Why are trees important?

The responses received were:

- Provide Habitat (83%)
- Oxygen (87%)
- Sponge up Carbon Dioxide (49%)
- Protect Nature & Wildlife (43%)
- Protect the Ground - erosion (15%)

Question 4: Do you think the water cycle can be influenced by cutting down trees?

93% Of the subjects said yes.

Question 5: What do you think causes Deforestation?

The responses received were:

- Cutting down trees for paper (59%)
- Population Growth (68%)
- More space for human activities (50%)
- Palm-oil Plantations (17%)

Question 6: Do you know what renewable energy is?

83% Knew what renewable Energy is.

Question 7: Do you thin that being a vegetarian can help prevent Deforestation?

Only 50 of the subjects said yes, that is only 33%.

Question 8: Do your family reduce, reuse and recycle?

61% Said that they did, which is very low.

Question 9: If so, what?

The 61% said paper, glass and plastic.

Question 10: Do you think the three R's can help stop Deforestation?

All 150 subjects (100%) said that reduce, reuse, recycle can help stop Deforestation. This is despite the fact that only 61% actually does it!

Question 11: Do you think the following can be recycled in South Africa?

- Envelopes (100%)
- Gift Wrap (90%)
- Magazines (93%)
- Newspaper (100%)
- Cardboard (100%)
- Candy Wrappers (67%)
- Tissues (100%)
- Milk Cartons (100%)
- Dog food Bags (67%)
- Foil (83%)
- Paper Towels (100%)

According to The National Recycling Forum of South Africa (2012: 1) the following can't be recycled in South Africa yet (please see Appendix 4):

- Dog food bags
- Foil
- Paper towels
- Tissues
- Cement Bags
- Disposable nappies
- Plastic lined paper
- Self adhesive post-it notes
- Wax coated boxes (such as milk cartons)
- Food wrapping
- Carbon paper

Question 12: How can someone use less paper?

17% Said reading books on the internet, 59% said using both sides of the paper, and 8% mentioned that you should use a pencil before a pen, because you can erase mistakes and save paper that way. You have to keep in mind that not all subjects have access to reading online.

Question 13: Which Country do you think recycles the most?

The USA came out on top with 77%, then the Netherlands with 17% and last the UK with 7%.

The Top 10 Paper Recycling Countries actually are:

i	Switzerland	ii	Sweden
iii	Austria	iv	Netherlands
v	USA	vi	Germany
vii	Finland	viii	Japan

Question 14: Do you do anything else to save the environment?

50% Said yes.

Question 15: What?

Saving Electricity (33%) and Planting trees (17%).

Overall Picture

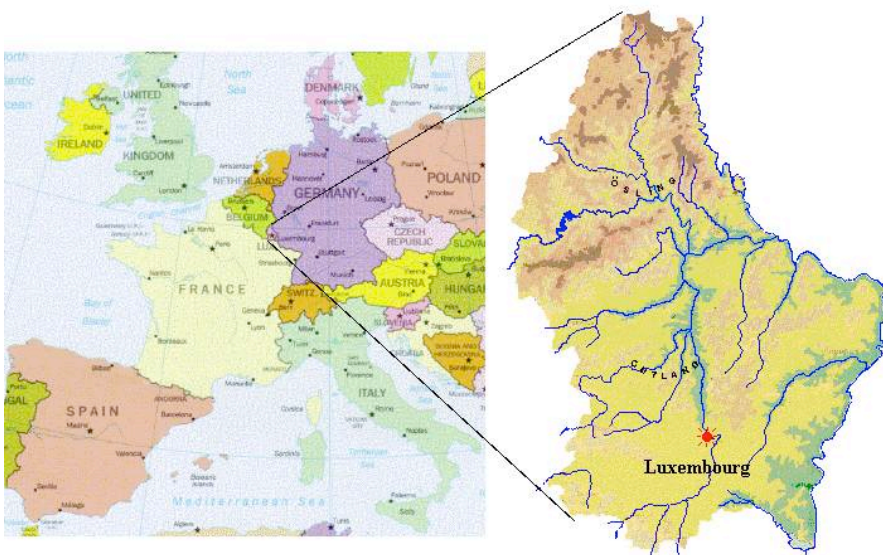
In the big picture, South African high-school kids knew more about Deforestation and Recycling than expected. It is just a pity that not more people recycle.

4.3 INTERVIEW

I conducted an online interview with Earth Activists. They are eco-activists situated in Luxembourg. Belgium.

Their opinions are as follows:

“Recycling paper will not stop deforestation at all if we recycle less than 100%. If people continue to buy paper that is not recycled, we’ll not stop deforestation for paper. If we need “new” paper for any reason, we will continue to cut down trees. If we cut trees faster than they can grow, which is the case, then we continue deforestation until no tree is left.”



4.4 RECYCLED PAPER PROJECT

As part of my project, I decided to create my own recycled paper from old newspapers. In Appendix 8 there is one sheet of the finished product, as well as photographs of the whole process.

Steps in making your own Recycled Paper.

Tear scrap paper into tiny pieces.
Soak them in hot water for 30 minutes.
Put some of the soaked paper in a blender.
Put a screen into a square pan.
Pour 3cm of the pulp into a pan.
Spread evenly.
Lift the screen and drain the water.
Lay the pulp covered screen down on a cloth.
Lift the screen away.
Cover and use a rolling pin to flatten pulp.
When dry you have your own recycled paper.



4.5 PETITION



Greenpeace International has a petition against KFC called “Junking the Jungle”. KFC is sourcing paper for packaging products from rainforests. It has been confirmed in China, Indonesia and the UK. Products are: cups, food boxes, French fries holders, napkins and chicken buckets. The rainforests where the paper comes from are not sustainable.

Please read and sign:

<http://www.greenpeace.org/international/KFCreport/>

4.6 SUMMARY

4.6.1 General observations

International Survey:

“People think that Recycling Paper can help prevent Deforestation”

Question 1 was the main question for testing this hypothesis. The total average positive response stands on 87% in agreement. The researcher proved the hypothesis.

South African Survey:

“South-African Teens think that Reduce, Reuse, Recycle can help stop Deforestation”

Question 10 was the main question for testing this hypothesis. 100% positive responses were found. The researcher proved the hypothesis.

4.6.2 Limitations to the research

The main problem with the surveys were that no variables were included. With the international survey it would have been better to get equal responses from every country, as well as more countries.



4.7 CONCLUSION

“The trees are our lungs, the rivers our circulation, the air our breath, and the earth our body.” - Deepak Chopra

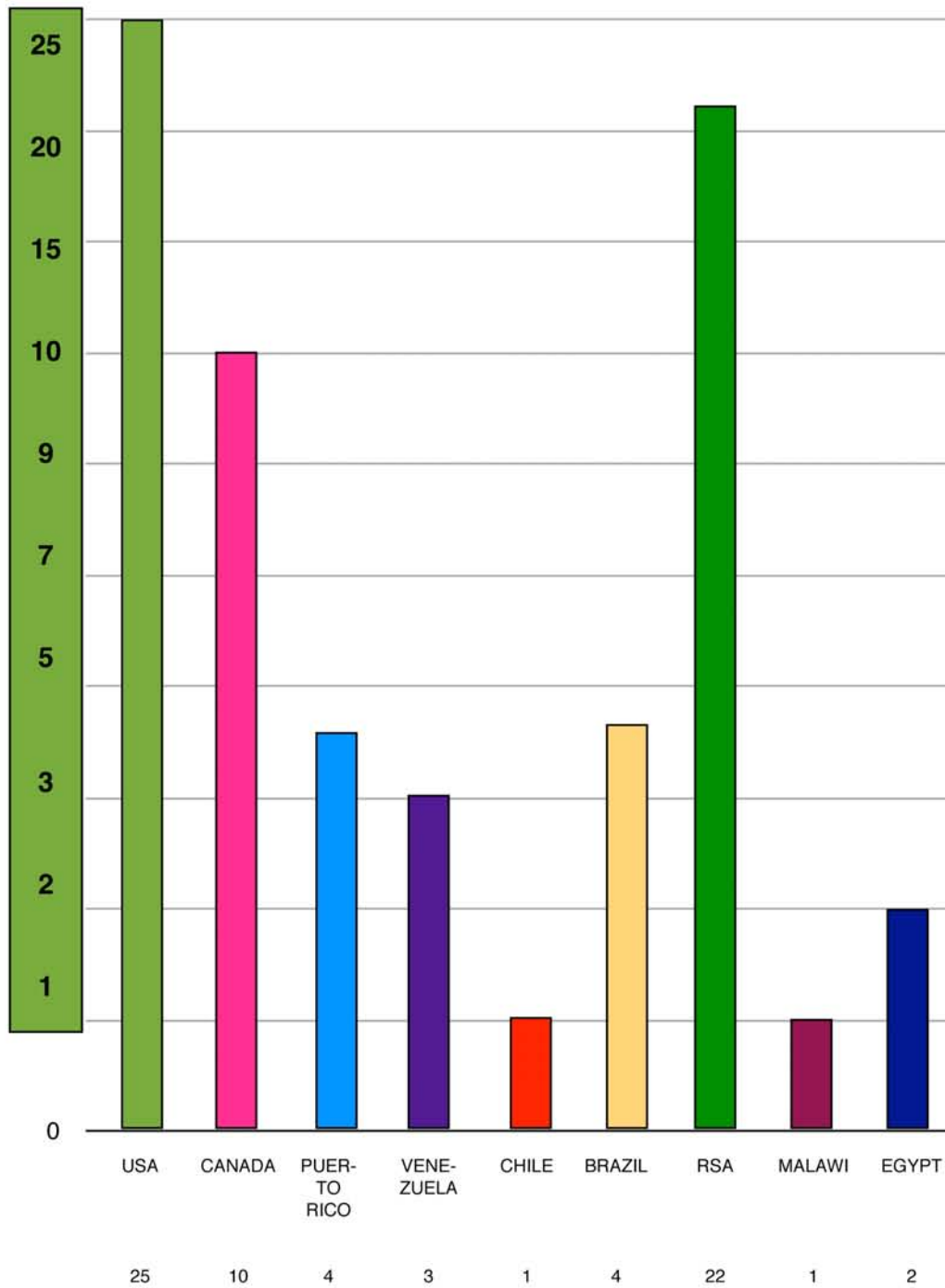
The last word from the Researcher: we need to look at what we are doing to the planet, we need to save the trees, and we need to recycle more. People need to become aware and we need to educate those who don't realize what is happening to the Earth.

“When you make a choice, you change the future.” - Deepak Chopra



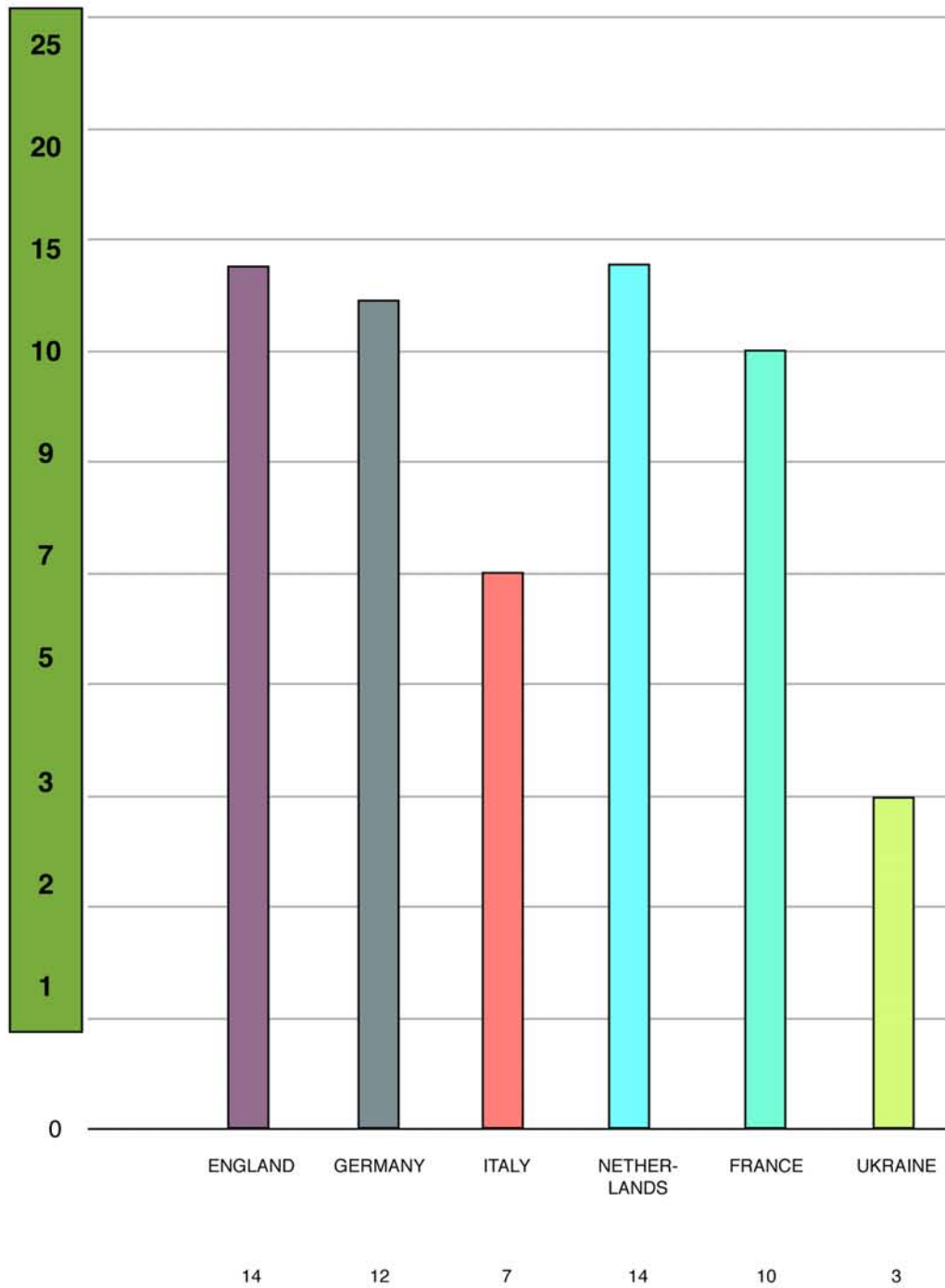
Appendix 1: Research Data Charts: International Survey





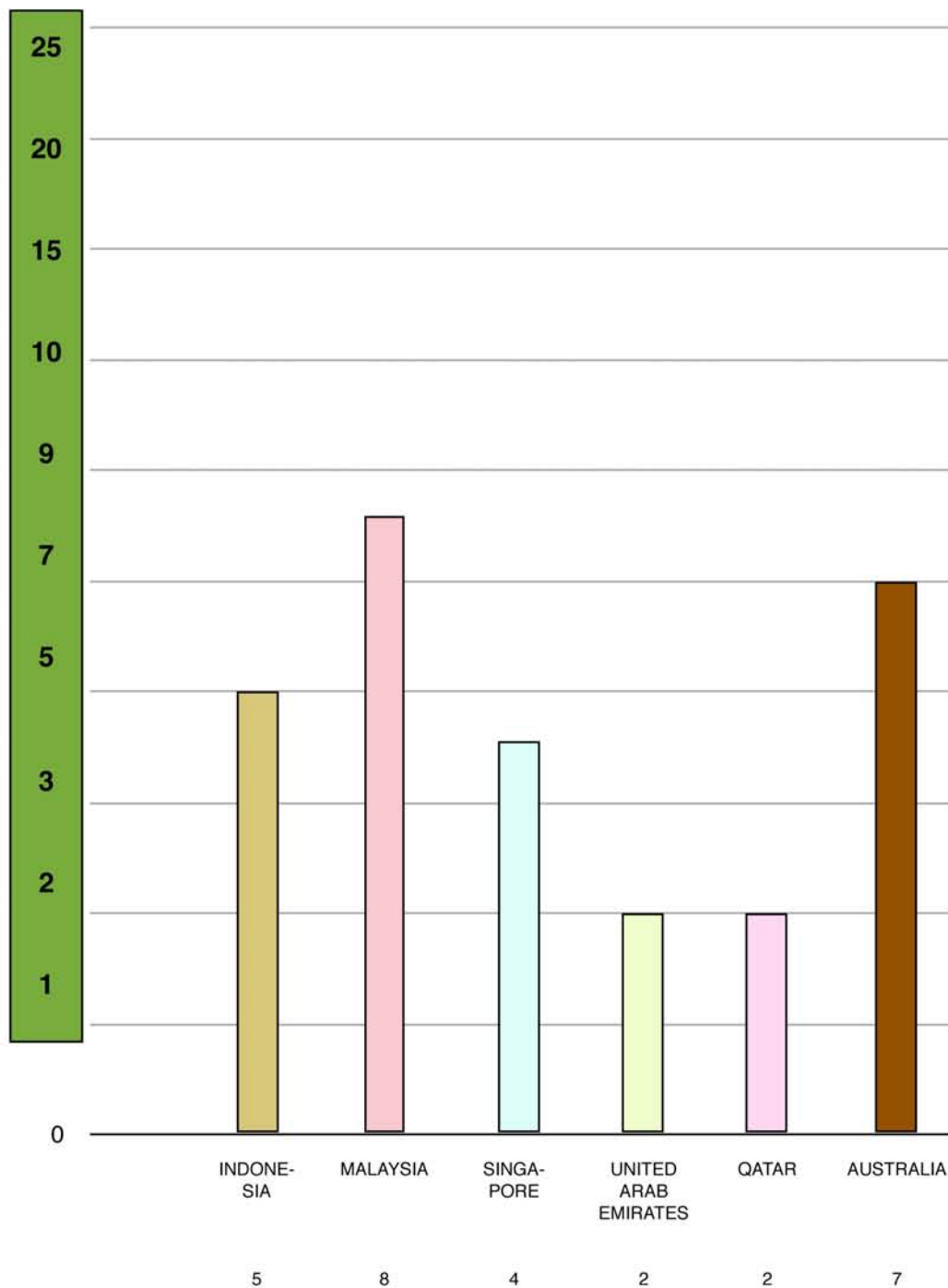
NORTH AMERICA (39) SOUTH AMERICA (8) AFRICA (25) EUROPE (60) ASIA (21) AUSTRALIA (7) TOTAL (160)

NUMBER OF SUBJECTS PER COUNTRY



NORTH AMERICA (39) SOUTH AMERICA (8) AFRICA (25) EUROPE (60) ASIA (21) AUSTRALIA (7) TOTAL (160)

NUMBER OF SUBJECTS PER COUNTRY



NORTH AMERICA (39) SOUTH AMERICA (8) AFRICA (25) EUROPE (60) ASIA (21) AUSTRALIA (7) TOTAL (160)

NUMBER OF SUBJECTS PER COUNTRY

QUESTIONNAIRE PER COUNTRY & CONTINENT

CONTINENT: NORTH AMERICA		Puerto Rico is independent, but I included it in North America					
COUNTRY		USA		CANADA		PUERTO RICO	TOTAL
Number of Subjects per Country		25		10		4	39
1	Do you think recycling will help stop Deforestation?	25	100	10	100	3	75
2	How can the Paper Industry Help stop Deforestation?						92
	Sustainable Crops	11	44	3	30	0	0
	Sustainable Tree Plantations	15	60	10	100	2	50
	Bamboo instead of trees	11	44	1	10	0	0
	Unsure	0	0	0	0	2	50
3	Do you Recycle?	25	100	10	100	1	25
4	What do you Recycle?						
	Newspaper	25	100	10	100	1	25
	Magazines	25	100	10	100	1	25
	Other Paper	25	100	10	100	1	25
	Plastic Bags	25	100	10	100	0	0
	Plastic Bottles	25	100	10	100	0	0
	Diapers	4	16	5	50	0	0
	Glass	25	100	10	100	0	0
	Cans	25	100	10	100	0	0
	Batteries	8	32	3	30	0	0
5	What Recycling Project does your country have?						
	Recycling is Progressive (we are advanced)	14	56	7	70	0	0
	Recycling is "mandatory" (people feel they should)	18	72	7	70	0	0
	Tree Planting Campaigns	18	72	5	50	0	0
	Petitions	14	56	6	60	1	25
	School Recycling Programs	20	80	10	100	1	25
	None / Unsure	0	0	0	0	3	75
6	What do you think people can do to use less paper?						
	Paperless Billing	25	100	10	100	2	50
	Downloading Books	25	100	10	100	2	50
	Downloading Magazines	25	100	10	100	2	50
	Reading Online	25	100	10	100	1	25
	Recycle More	25	100	10	100	4	100
	Awareness Programs	25	100	10	100	4	100
	TOTAL		75		77		29

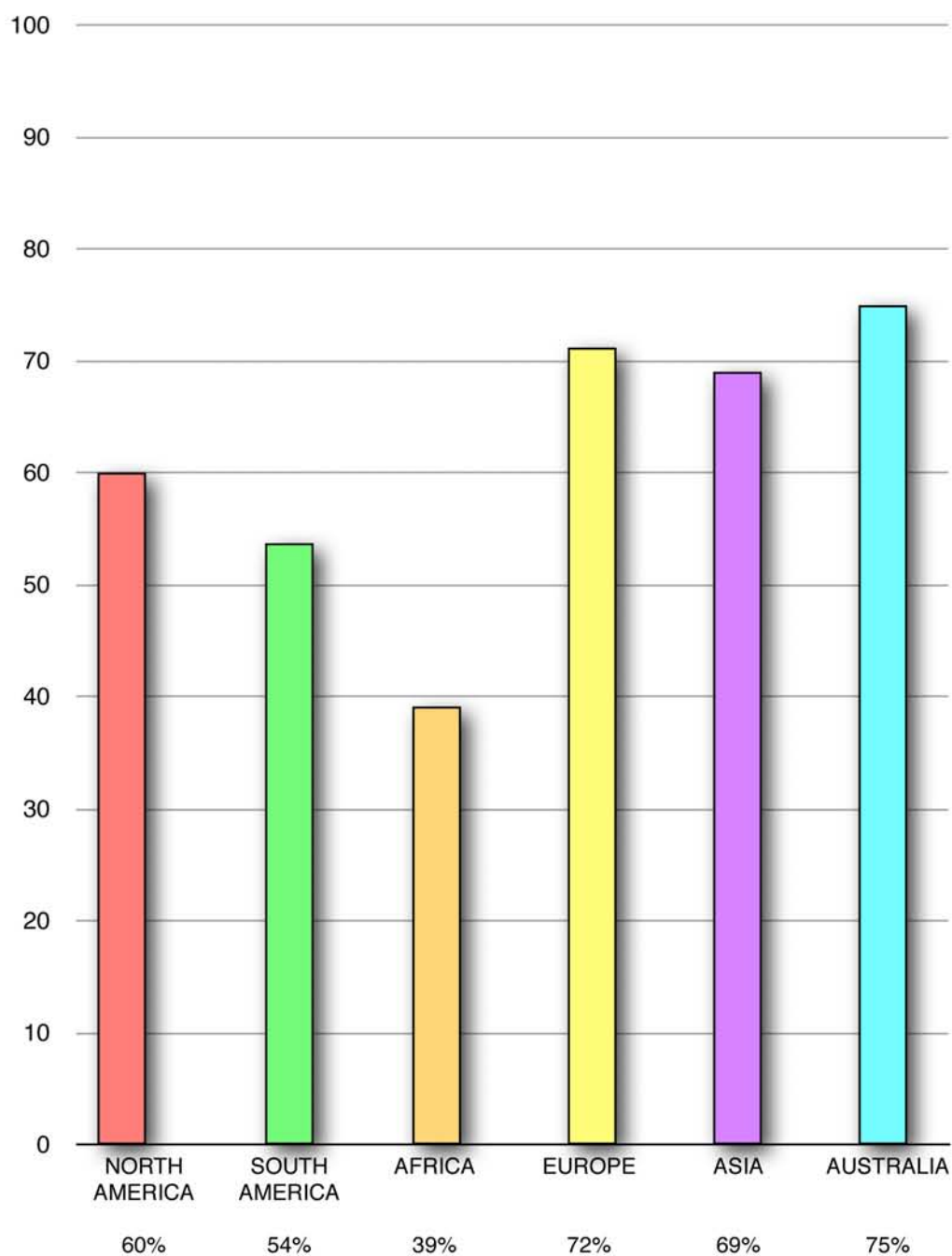
CONTINENT: AFRICA		RSA		MALAWI		EGYPT	
COUNTRY							TOTAL
Number of Subjects per Country		22		1		2	25
1	Do you think recycling will help stop Deforestation?	20	91	1	100	2	100
2	How can the Paper Industry Help stop Deforestation?						
	Sustainable Crops	10	45	0	0	0	0
	Sustainable Tree Plantations	22	100	1	100	2	100
	Bamboo instead of trees	10	45	0	0	0	0
	Unsure	0	0	0	0	0	0
3	Do you Recycle?	20	91	0	0	1	50
4	What do you Recycle?						
	Newspaper	20	91	0	0	1	50
	Magazines	20	91	0	0	1	50
	Other Paper	20	91	0	0	1	50
	Plastic Bags	20	91	0	0	0	0
	Plastic Bottles	20	91	0	0	0	0
	Diapers	0	0	0	0	0	0
	Glass	20	91	0	0	0	0
	Cans	20	91	0	0	0	0
	Batteries	0	0	0	0	0	0
5	What Recycling Project does your country have?						
	Recycling is Progressive (we are advanced)	0	0	0	0	0	0
	Recycling is "mandatory" (people feel they should)	0	0	0	0	0	0
	Tree Planting Campaigns	18	82	0	0	0	0
	Petitions	22	100	0	0	1	50
	School Recycling Programs	22	100	1	100	1	50
	None / Unsure	0	0	0	0	0	0
6	What do you think people can do to use less paper?						
	Paperless Billing	22	100	0	0	1	50
	Downloading Books	22	100	0	0	1	50
	Downloading Magazines	22	100	0	0	1	50
	Reading Online	22	100	0	0	1	50
	Recycle More	22	100	0	0	1	50
	Awareness Programs	22	100	1	100	2	100
	TOTAL		70		15		31

CONTINENT: SOUTH AMERICA							
COUNTRY	VENEZUELA		CHILE		BRAZIL		TOTAL
Number of Subjects per Country	3		1		4		8
1 Do you think recycling will help stop Deforestation?	3	100	1	100	3	75	
2 How can the Paper Industry Help stop Deforestation?							
Sustainable Crops	1	33	0	0	0	0	11
Sustainable Tree Plantations	3	100	1	100	3	75	92
Bamboo instead of trees	2	67	0	0	0	0	22
Unsure	0	0	0	0	0	0	0
3 Do you Recycle?	3	100	1	100	3	75	92
4 What do you Recycle?							
Newspaper	3	100	1	100	3	75	92
Magazines	3	100	1	100	3	75	92
Other Paper	3	100	1	100	3	75	92
Plastic Bags	3	100	0	0	0	0	33
Plastic Bottles	3	100	0	0	0	0	33
Diapers	0	0	0	0	0	0	0
Glass	3	100	0	0	0	0	33
Cans	3	100	0	0	0	0	33
Batteries	0	0	0	0	0	0	0
5 What Recycling Project does your country have?							
Recycling is Progressive (we are advanced)	0	0	0	0	0	0	0
Recycling is "mandatory" (people feel they should)	0	0	0	0	0	0	0
Tree Planting Campaigns	1	33	1	100	1	25	53
Petitions	3	100	1	100	1	25	75
School Recycling Programs	3	100	1	100	1	25	75
None / Unsure	0	0	0	0	2	50	17
6 What do you think people can do to use less paper?							
Paperless Billing	3	100	1	100	2	50	83
Downloading Books	3	100	1	100	2	50	83
Downloading Magazines	3	100	1	100	2	50	83
Reading Online	3	100	1	100	2	50	83
Recycle More	3	100	1	100	4	100	100
Awareness Programs	3	100	1	100	4	100	100
TOTAL		72		56		36	54

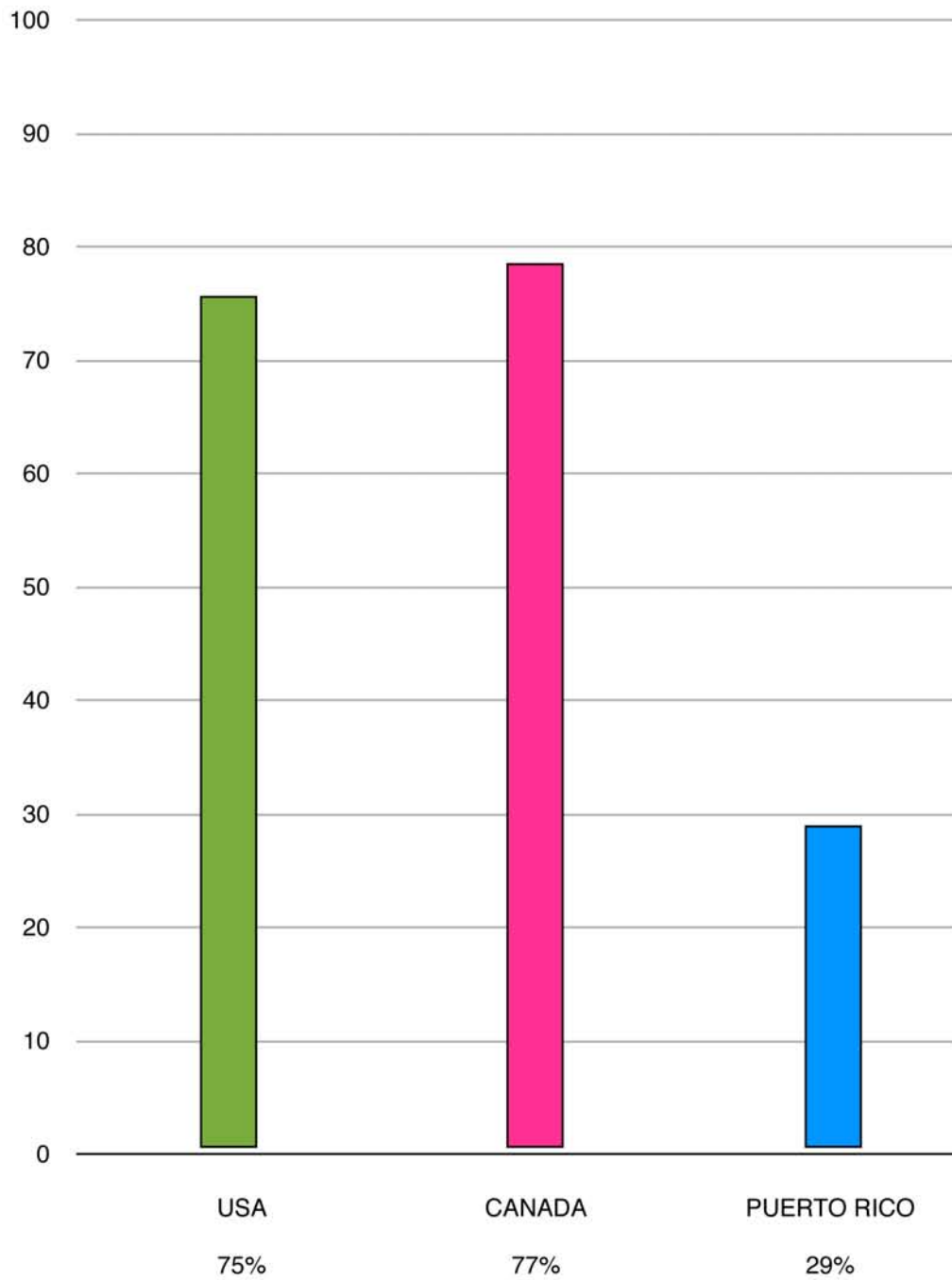
CONTINENT: EUROPE														
COUNTRY		ENGLAND		GERMANY		ITALY		NETHERL		FRANCE		UKRAINE	TOTAL	
Number of Subjects per Country		14		12		7		14		10		3	60	
1	Do you think recycling will help stop Deforestation?	14	100	10	83	6	86	14	100	10	100	1	33	84
2	How can the Paper Industry Help stop Deforestation?													
	Sustainable Crops	11	79	2	17	6	86	1	7	9	90	0	0	46
	Sustainable Tree Plantations	14	100	9	75	7	100	14	100	10	100	1	33	85
	Bamboo instead of trees	14	100	4	33	4	57	11	79	9	90	0	0	60
	Unsure	0	0	3	25	0	0	0	0	0	0	2	67	15
3	Do you Recycle?	14	100	10	83	7	100	14	100	10	100	1	33	86
4	What do you Recycle?													
	Newspaper	14	100	10	83	7	100	14	100	10	100	1	33	86
	Magazines	14	100	10	83	7	100	14	100	10	100	1	33	86
	Other Paper	14	100	10	83	7	100	14	100	10	100	1	33	86
	Plastic Bags	14	100	10	83	7	100	14	100	10	100	1	33	86
	Plastic Bottles	14	100	10	83	7	100	14	100	10	100	1	33	86
	Diapers	4	29	6	50	0	0	11	79	2	20	0	0	30
	Glass	14	100	10	83	7	100	14	100	10	100	1	33	86
	Cans	14	100	10	83	7	100	14	100	10	100	1	33	86
	Batteries	2	14	3	25	0	0	9	64	2	20	0	0	21
5	What Recycling Project does your country have?													
	Recycling is Progressive (we are advanced)	13	93	0	0	4	57		0	8	80	0	0	38
	Recycling is "mandatory" (people feel they should)	13	93	8	67	7	100	14	100	10	100	0	0	77
	Tree Planting Campaigns	13	93	8	67	7	100	11	79	10	100	0	0	73
	Petitions	14	100	11	92	7	100	14	100	10	100	1	33	88
	School Recycling Programs	14	100	11	92	7	100	14	100	10	100	2	67	93
	None / Unsure	0	0	0	0	0	0	0	0	0	0	0	0	0
6	What do you think people can do to use less paper?													
	Paperless Billing	14	100	12	100	7	100	14	100	10	100	1	33	89
	Downloading Books	14	100	12	100	7	100	14	100	10	100	1	33	89
	Downloading Magazines	14	100	12	100	7	100	14	100	10	100	1	33	89
	Reading Online	14	100	12	100	7	100	14	100	10	100	1	33	89
	Recycle More	14	100	12	100	7	100	14	100	10	100	1	33	89
	Awareness Programs	14	100	12	100	7	100	14	100	10	100	3	100	100
TOTAL			85		70		81		82		85		28	72

CONTINENT: ASIA						UNITED ARAB EMIRATES						
	COUNTRY	INDONESIA		MALAYSIA	SINGAPORE	UAE			QATAR		TOTAL	
	Number of Subjects per Country	5		8	4	2			2		21	
1	Do you think recycling will help stop Deforestation?	4	80	7	88	3	75	2	100	1	50	79
2	How can the Paper Industry Help stop Deforestation?											
	Sustainable Crops	3	60	6	75	2	50	0	0	0	0	37
	Sustainable Tree Plantations	5	100	8	100	4	100	2	100	2	100	100
	Bamboo instead of trees	5	100	6	75	3	75	0	0	0	0	50
	Unsure	0	0	0	0	0	0	0	0	0	0	0
3	Do you Recycle?	5	100	8	100	4	100	2	100	2	100	100
4	What do you Recycle?											
	Newspaper	5	100	8	100	4	100	2	100	2	100	100
	Magazines	5	100	8	100	4	100	2	100	2	100	100
	Other Paper	5	100	8	100	4	100	2	100	2	100	100
	Plastic Bags	5	100	8	100	4	100	2	100	2	100	100
	Plastic Bottles	5	100	8	100	4	100	2	100	2	100	100
	Diapers	2	40	0	0	0	0	0	0	0	0	8
	Glass	5	100	8	100	4	100	2	100	2	100	100
	Cans	5	100	8	100	4	100	2	100	2	100	100
	Batteries	1	20	0	0	0	0	0	0	0	0	4
5	What Recycling Project does your country have?											
	Recycling is Progressive (we are advanced)	0	0	0	0	0	0	0	0	0	0	0
	Recycling is "mandatory" (people feel they should)	2	40	0	0	0	0	0	0	0	0	8
	Tree Planting Campaigns	2	40	6	75	2	50	1	50	2	100	63
	Petitions	3	60	7	88	2	50	1	50	2	100	70
	School Recycling Programs	3	60	6	75	2	50	1	50	2	100	67
	None / Unsure	0	0	0	0	0	0	0	0	0	0	0
6	What do you think people can do to use less paper?											
	Paperless Billing	4	80	8	100	4	100	2	100	2	100	96
	Downloading Books	4	80	8	100	4	100	2	100	2	100	96
	Downloading Magazines	4	80	8	100	4	100	2	100	2	100	96
	Reading Online	4	80	8	100	4	100	2	100	2	100	96
	Recycle More	5	100	8	100	4	100	2	100	2	100	100
	Awareness Programs	5	100	8	100	4	100	2	100	2	100	100
	TOTAL		71		73		69		65		69	69

CONTINENT: AUSTRALIA												
	COUNTRY	AUSTRALIA		TOTAL								
	Number of Subjects per Country	7		7								
1	Do you think recycling will help stop Deforestation?	7	100	100								
2	How can the Paper Industry Help stop Deforestation?											
	Sustainable Crops	3	43	43								
	Sustainable Tree Plantations	7	100	100								
	Bamboo instead of trees	5	71	71								
	Unsure	0	0	0								
3	Do you Recycle?	7	100	100								
4	What do you Recycle?											
	Newspaper	7	100	100								
	Magazines	7	100	100								
	Other Paper	7	100	100								
	Plastic Bags	7	100	100								
	Plastic Bottles	7	100	100								
	Diapers	0	0	0								
	Glass	7	100	100								
	Cans	7	100	100								
	Batteries	0	0	0								
5	What Recycling Project does your country have?											
	Recycling is Progressive (we are advanced)	3	43	43								
	Recycling is "mandatory" (people feel they should)	3	43	43								
	Tree Planting Campaigns	5	71	71								
	Petitions	5	71	71								
	School Recycling Programs	6	86	86								
	None / Unsure	0	0	0								
6	What do you think people can do to use less paper?											
	Paperless Billing	7	100	100								
	Downloading Books	7	100	100								
	Downloading Magazines	7	100	100								
	Reading Online	7	100	100								
	Recycle More	7	100	100								
	Awareness Programs	7	100	100								
	TOTAL		75	75								

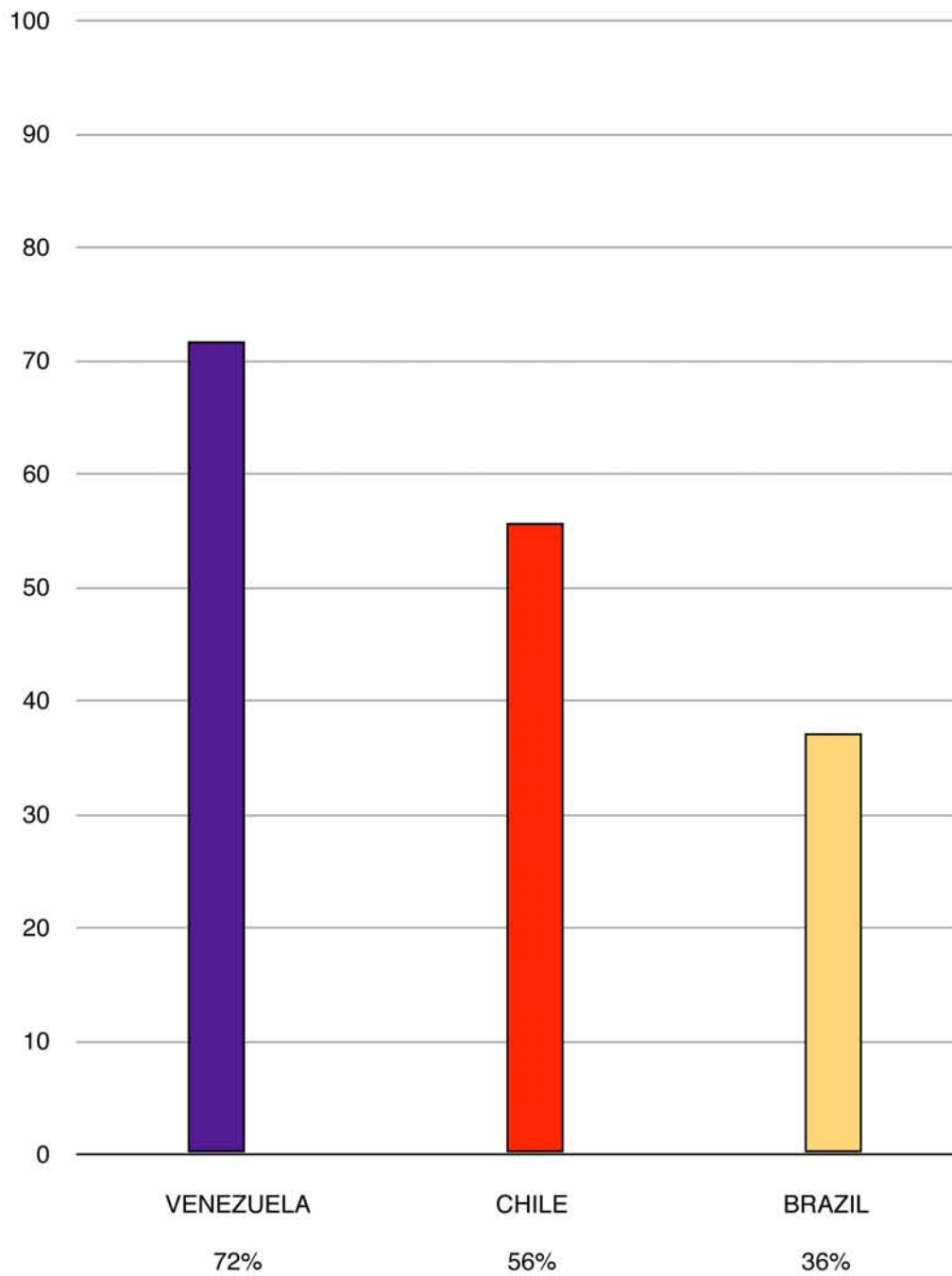


TOTAL AVERAGE POSITIVE RESPONSES PER CONTINENT (%)



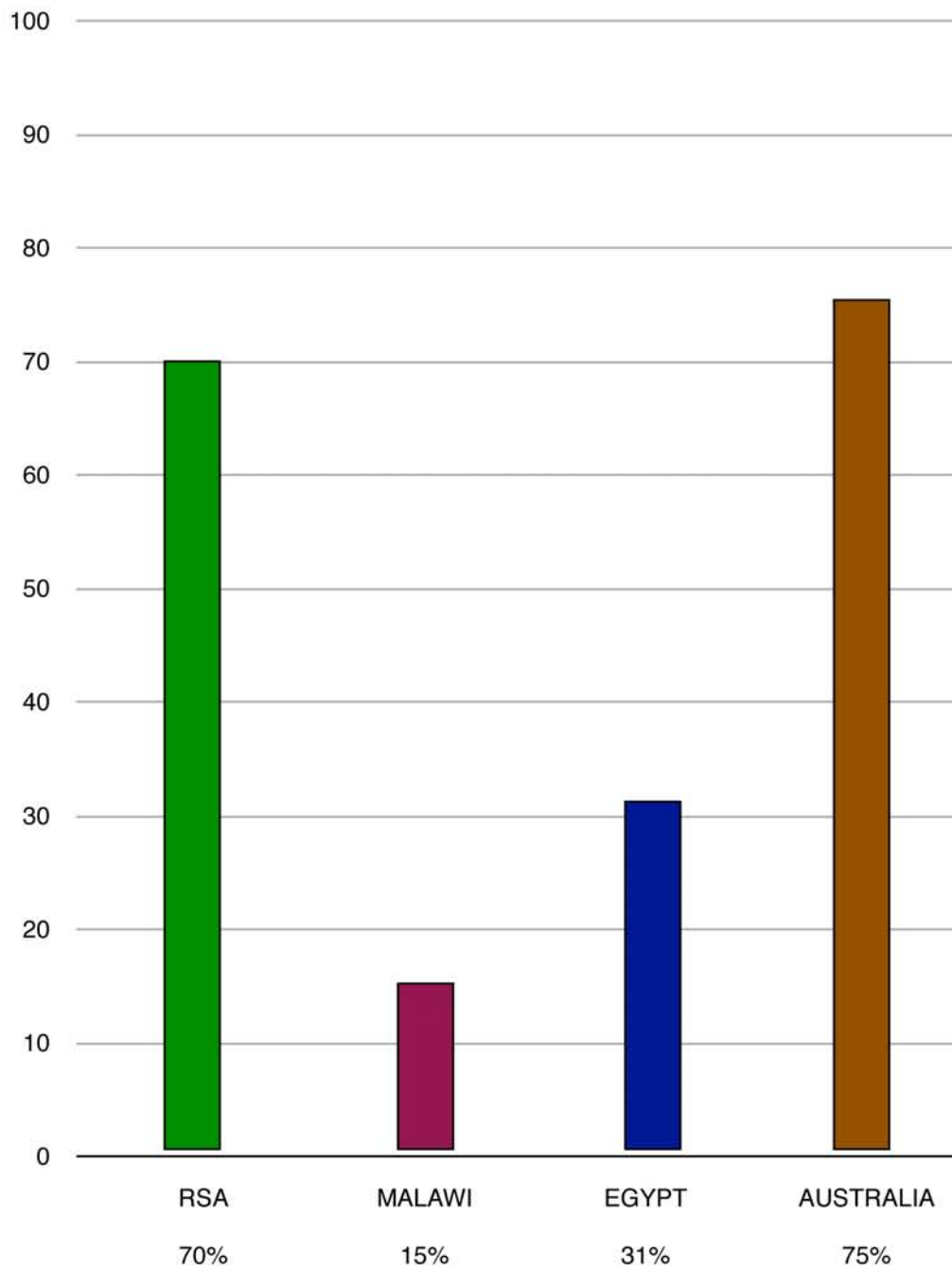
NORTH AMERICA

TOTAL AVERAGE RESPONSES PER COUNTRY



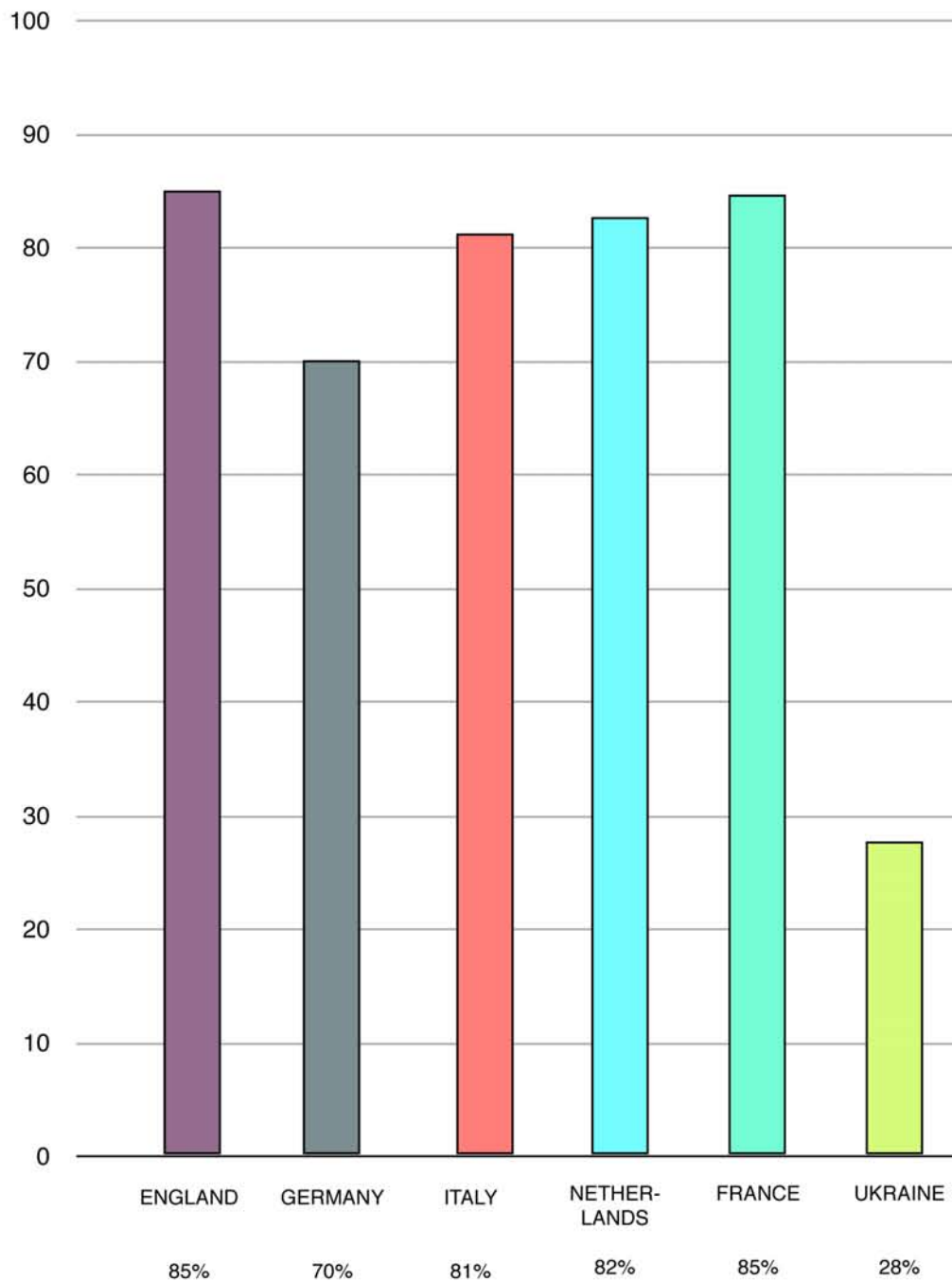
SOUTH AMERICA

TOTAL AVERAGE RESPONSES PER COUNTRY



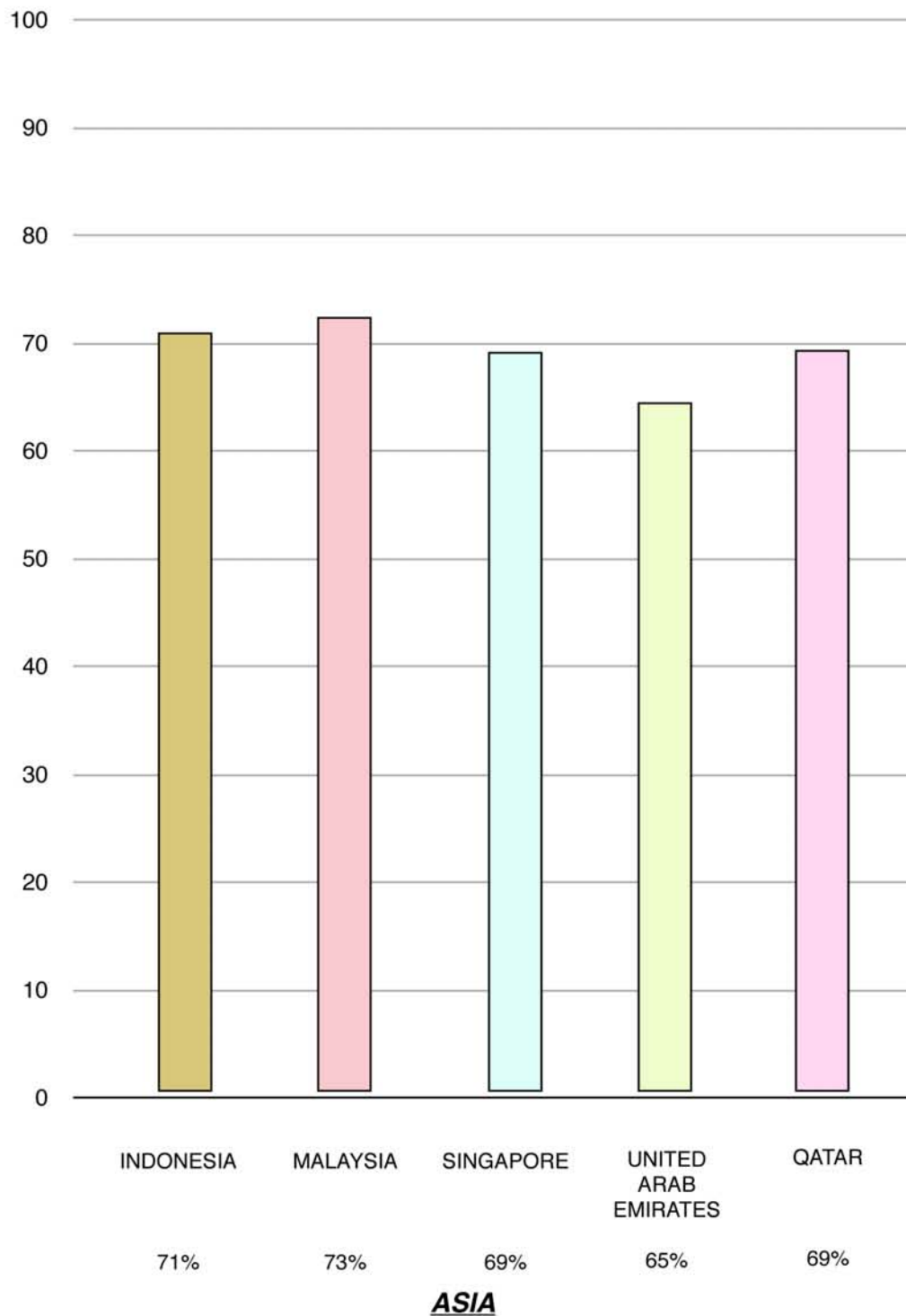
AFRICA & AUSTRALIA

TOTAL AVERAGE RESPONSES PER COUNTRY

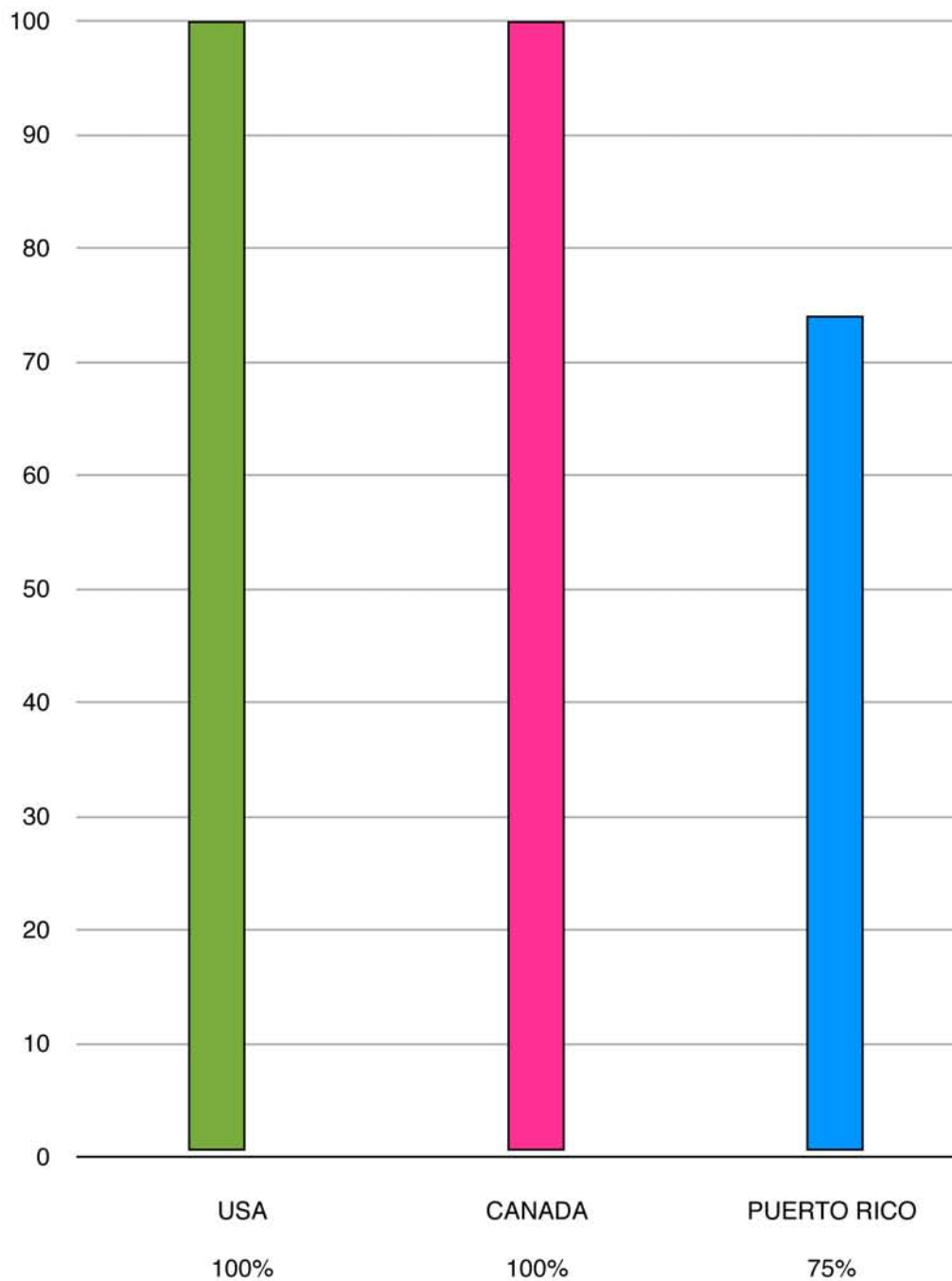


EUROPE

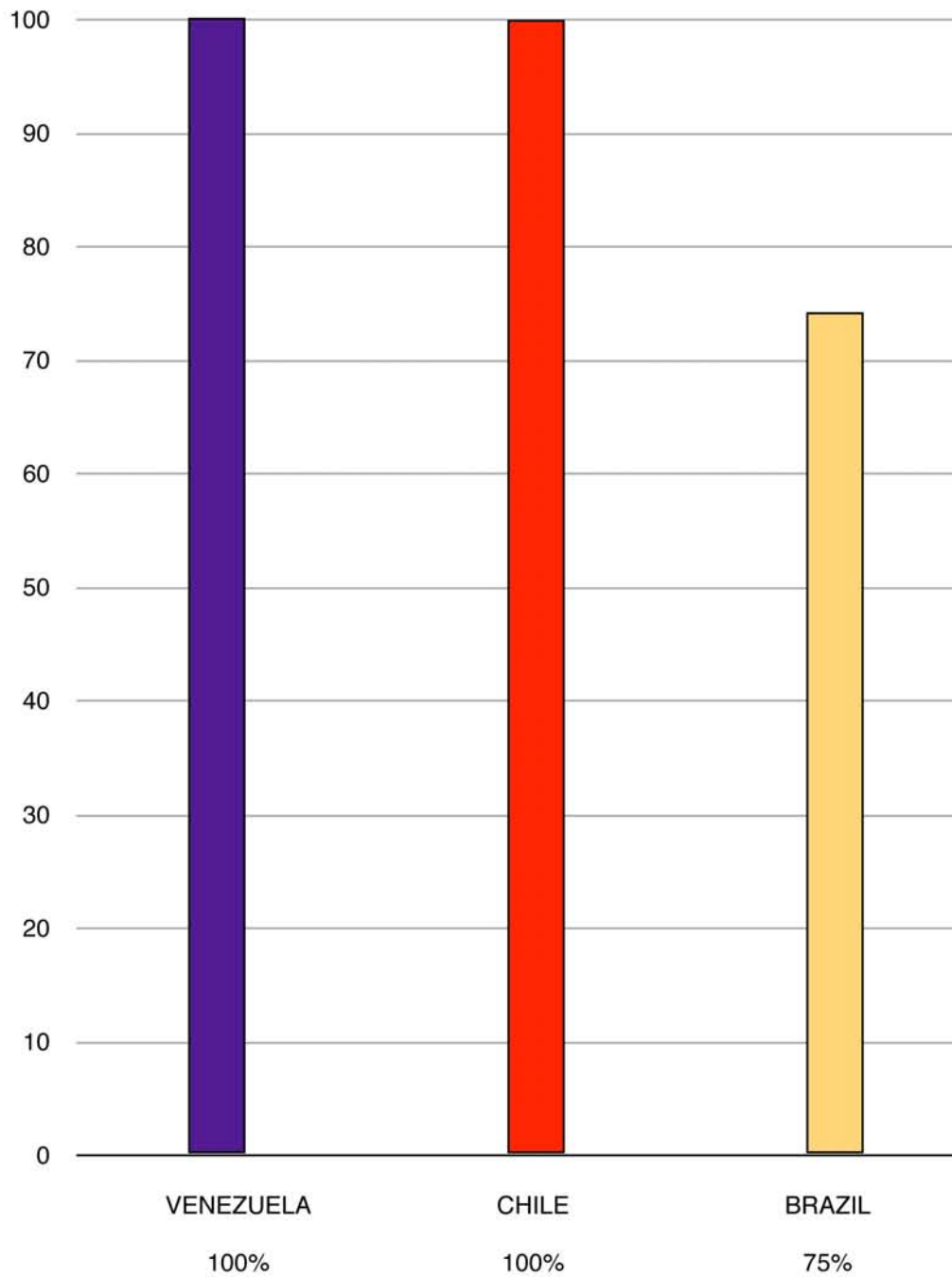
TOTAL AVERAGE RESPONSES PER COUNTRY



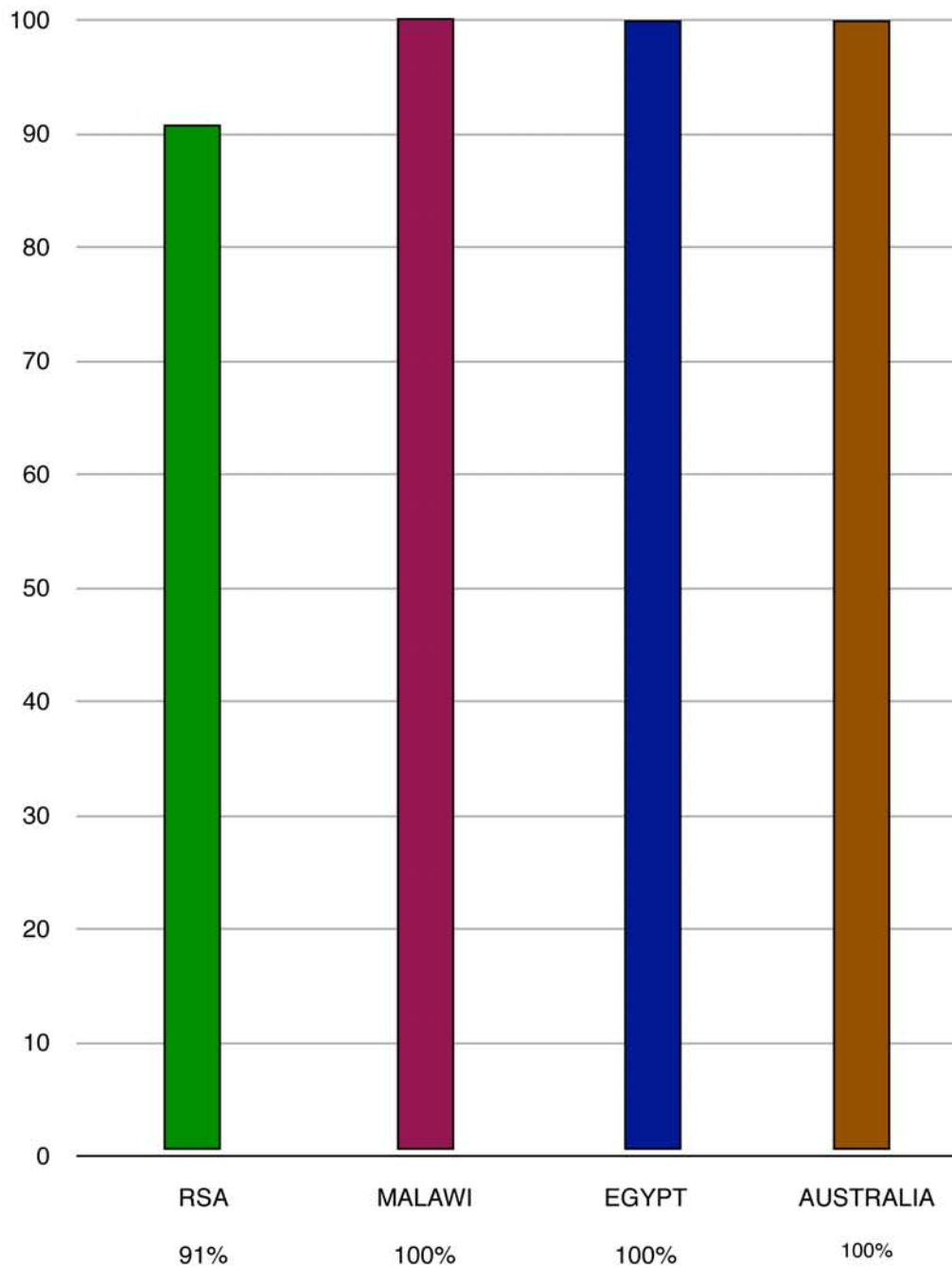
TOTAL AVERAGE RESPONSES PER COUNTRY



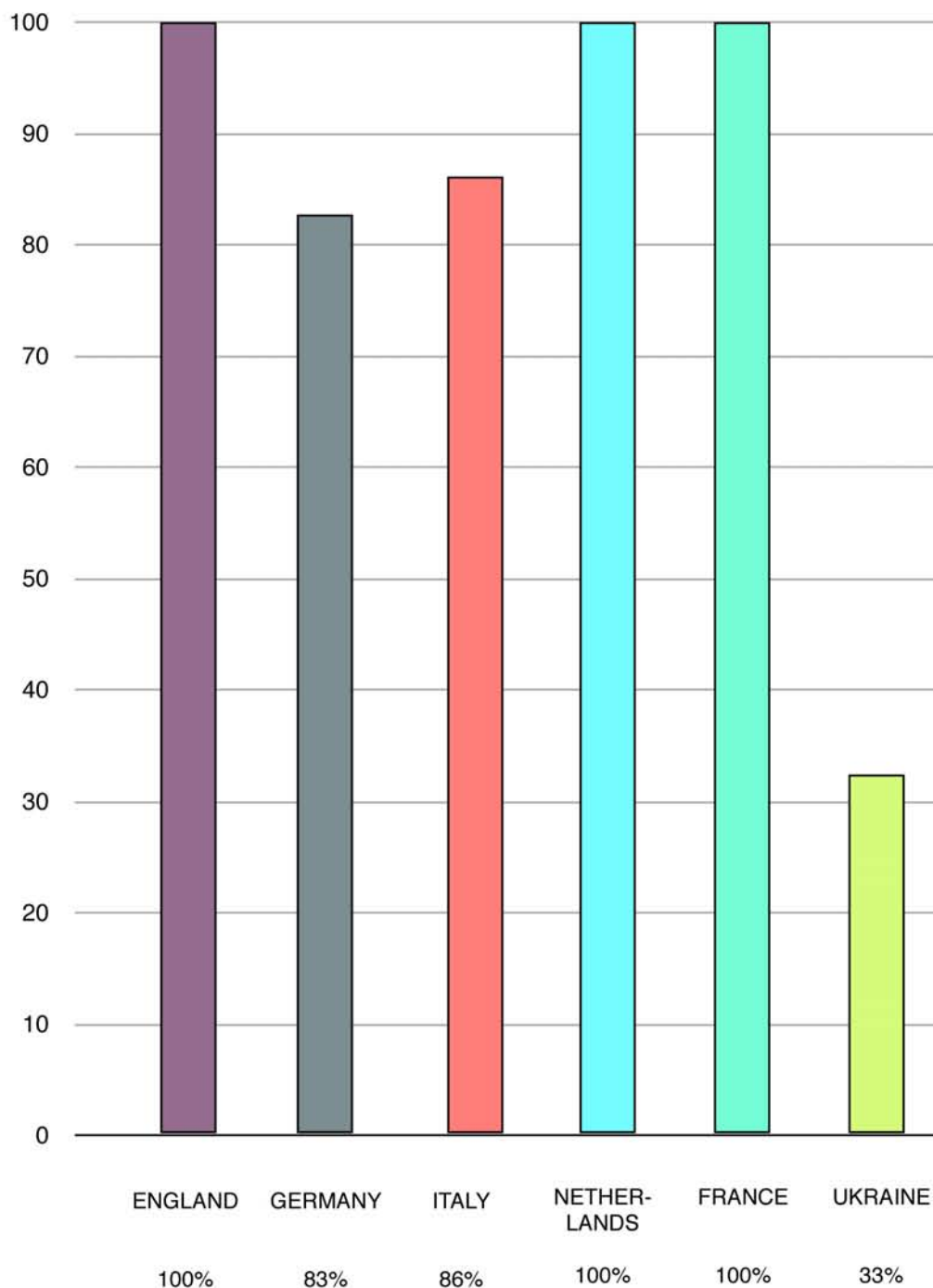
NORTH AMERICA
TOTAL AVERAGE RESPONSES PER COUNTRY:
Will recycling help stop Deforestation?



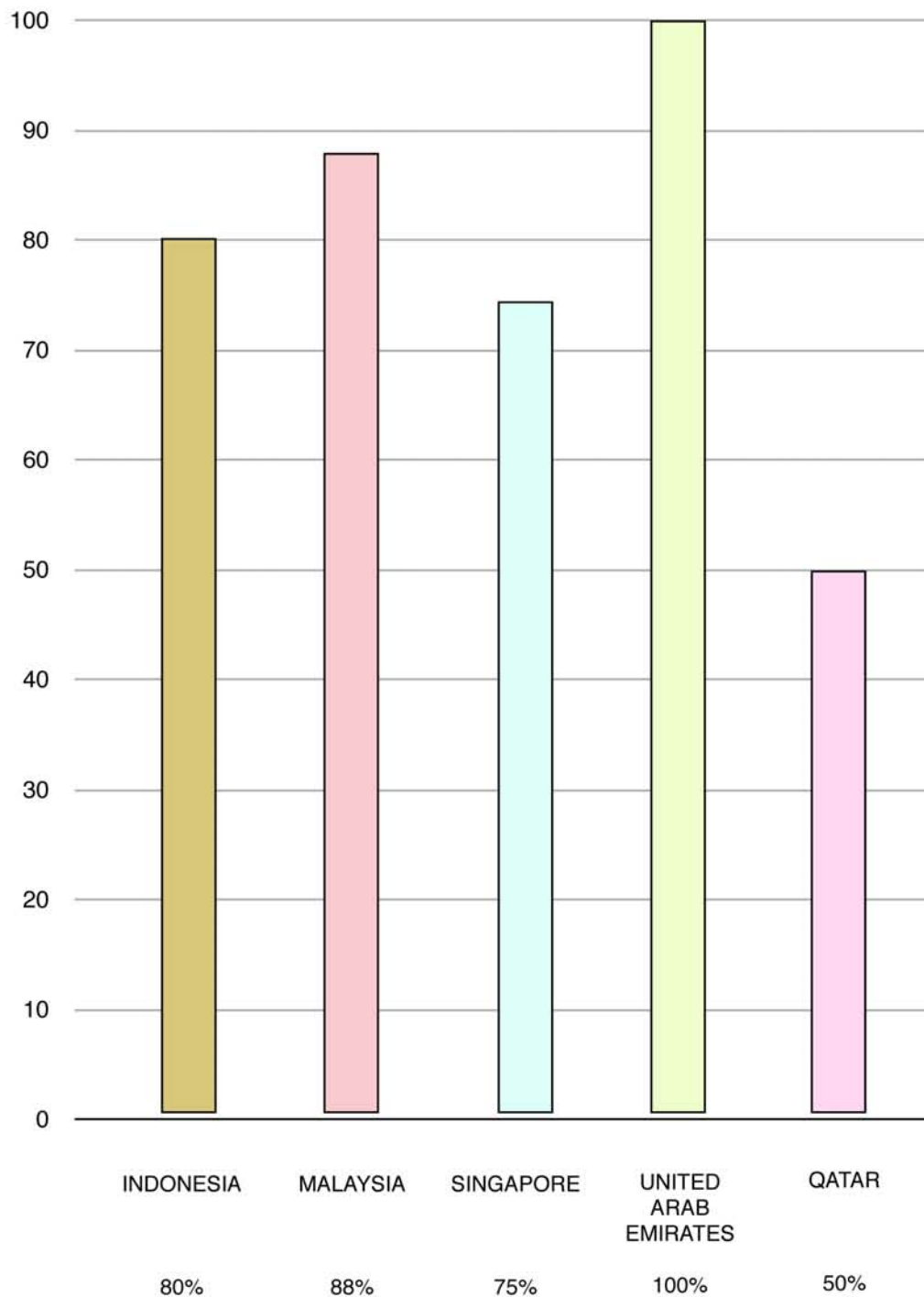
SOUTH AMERICA
TOTAL AVERAGE RESPONSES PER COUNTRY:
Will recycling help stop Deforestation?



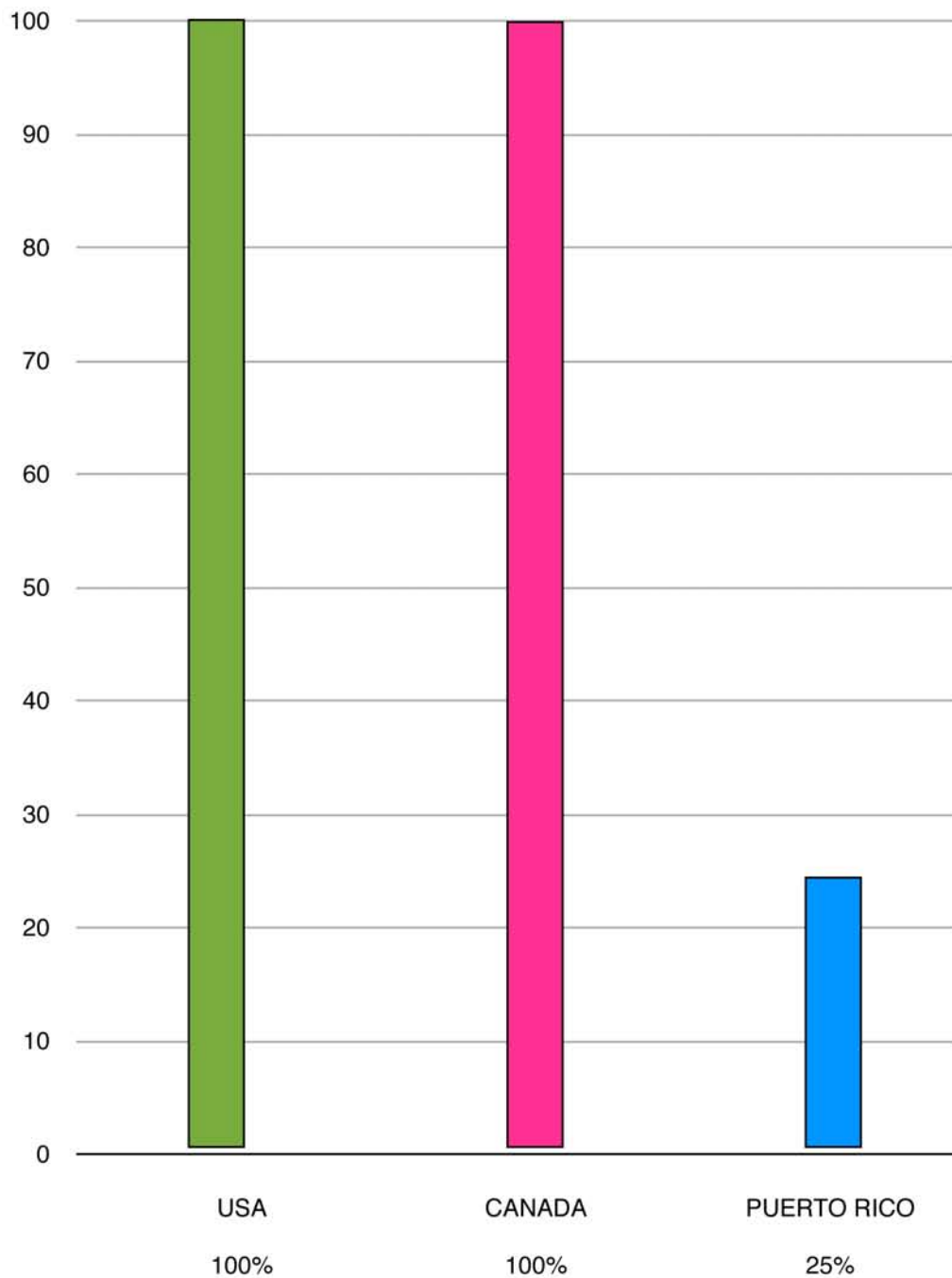
AFRICA & AUSTRALIA
TOTAL AVERAGE RESPONSES PER COUNTRY:
Will recycling help stop Deforestation?



EUROPE
TOTAL AVERAGE RESPONSES PER COUNTRY:
Will recycling help stop Deforestation?

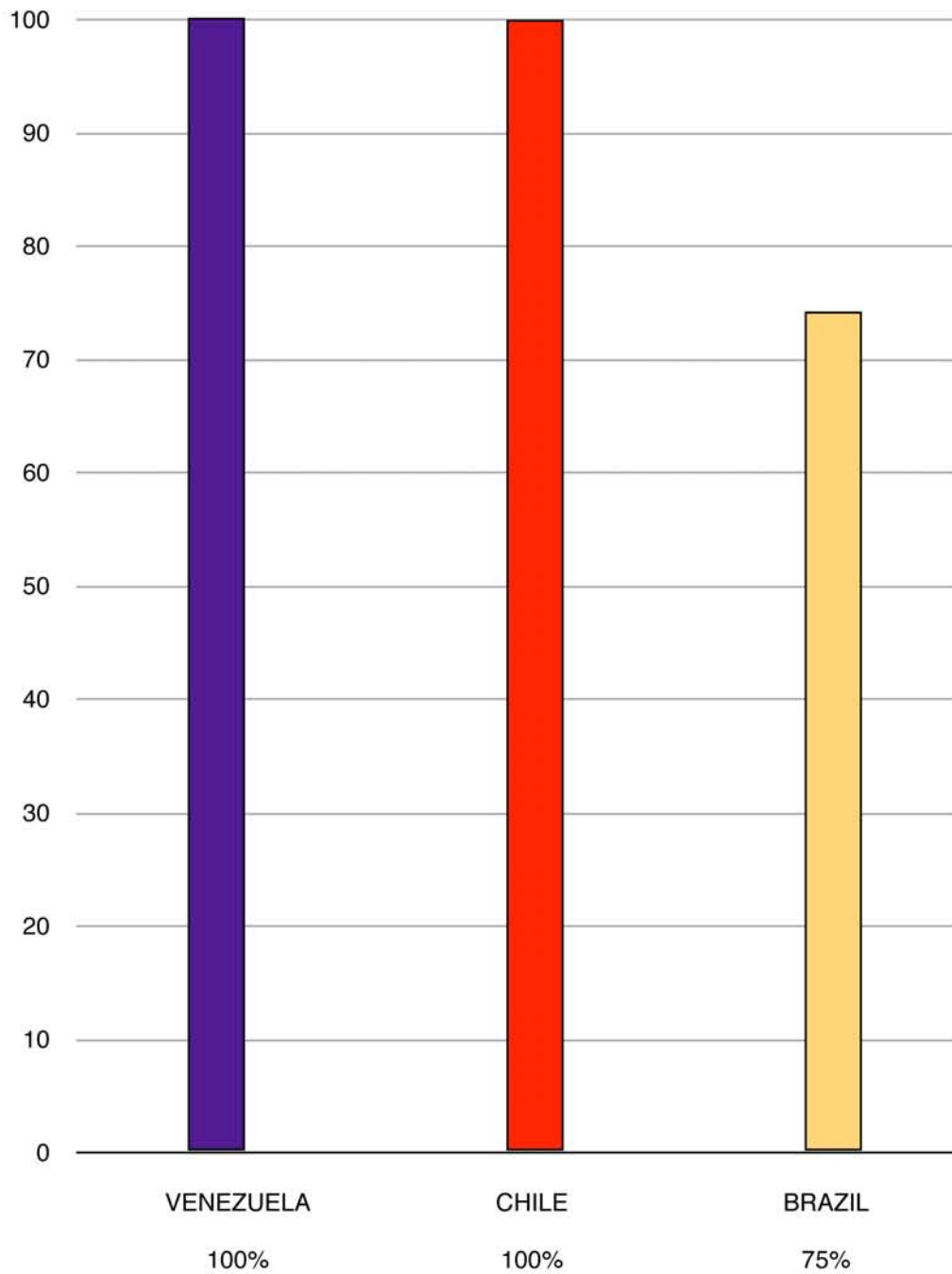


ASIA
TOTAL AVERAGE RESPONSES PER COUNTRY:
Will recycling help stop Deforestation?



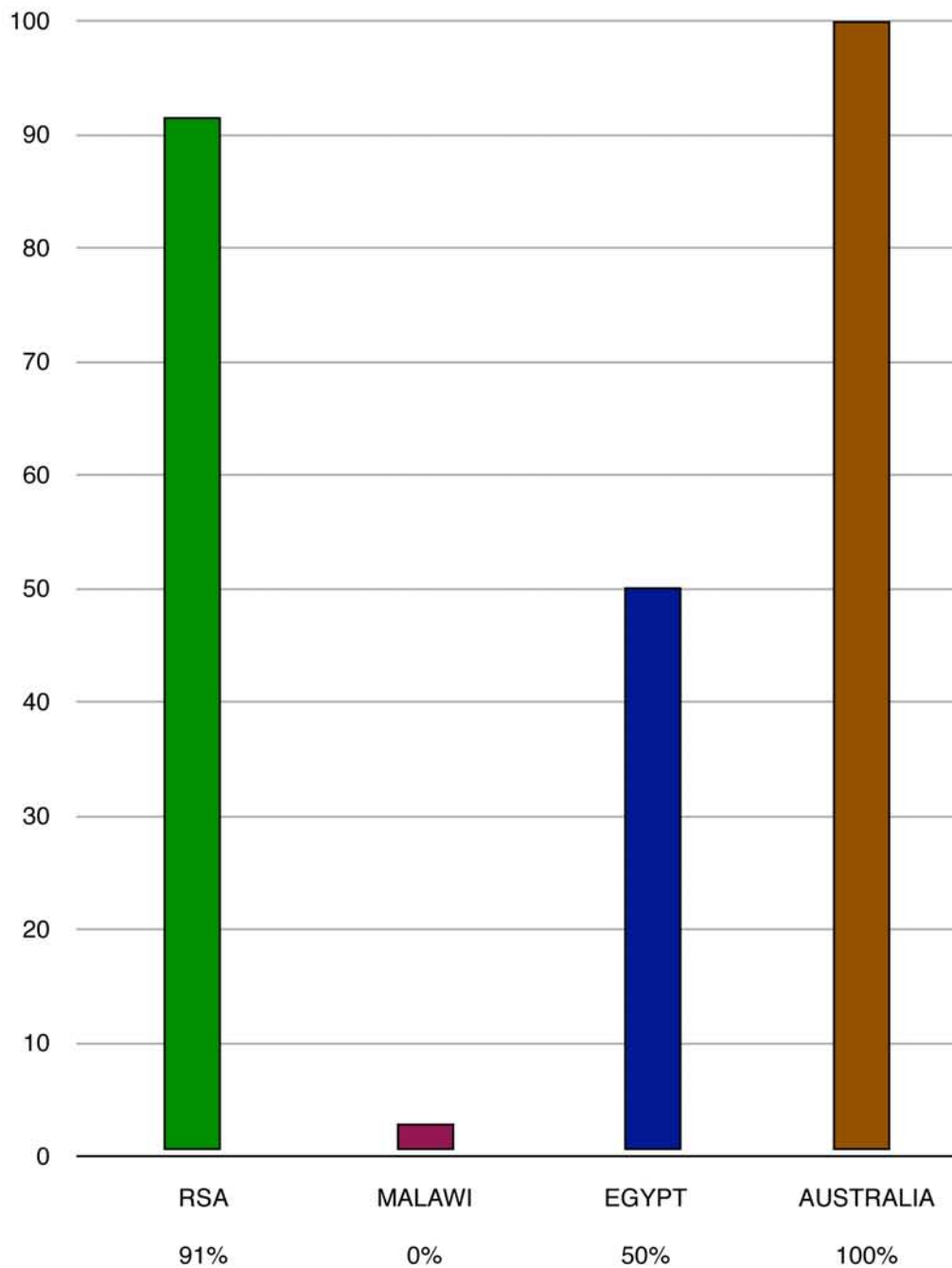
NORTH AMERICA

TOTAL AVERAGE RESPONSES PER COUNTRY: Do you recycle?



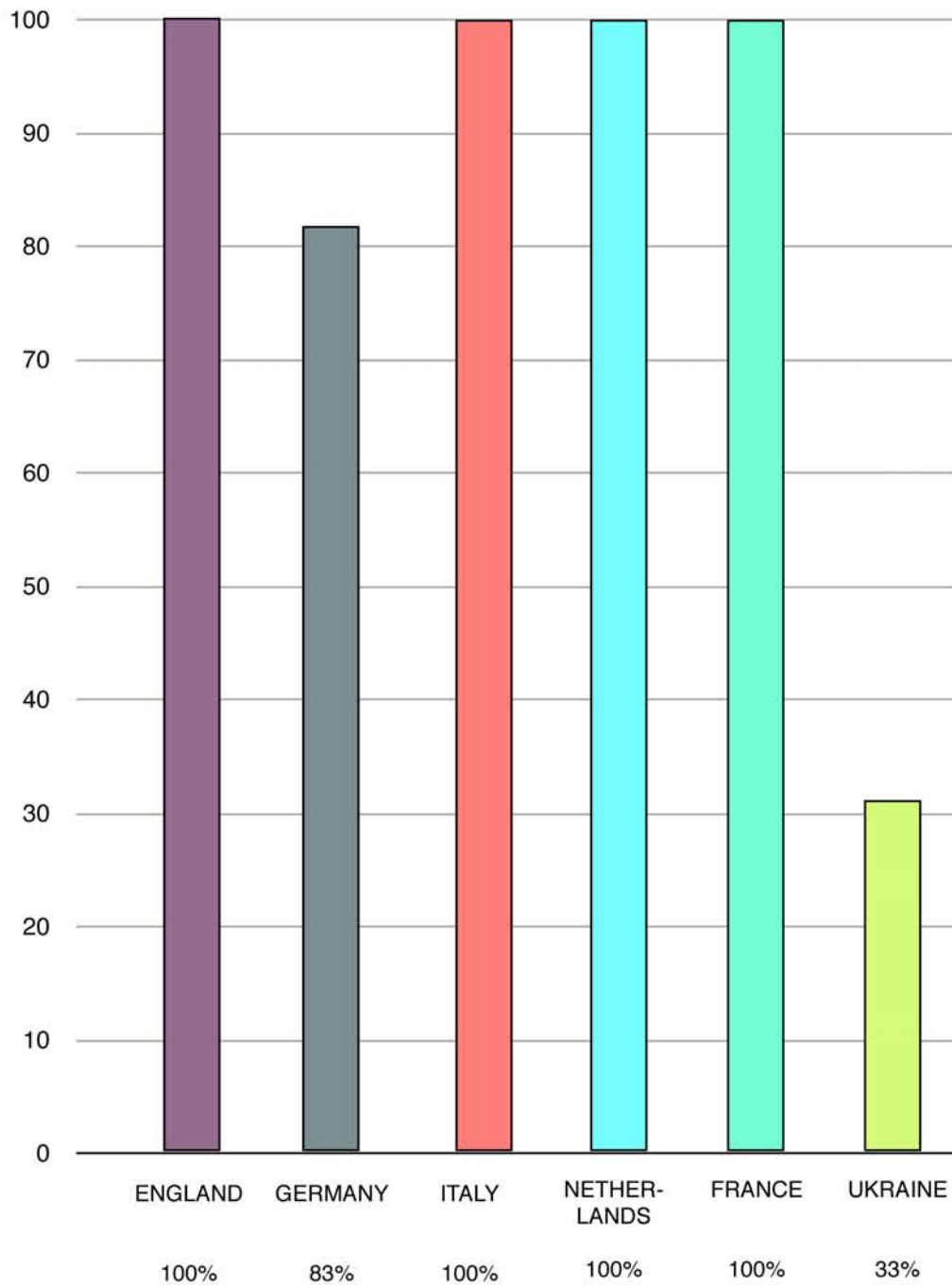
SOUTH AMERICA

TOTAL AVERAGE RESPONSES PER COUNTRY: Do you recycle?



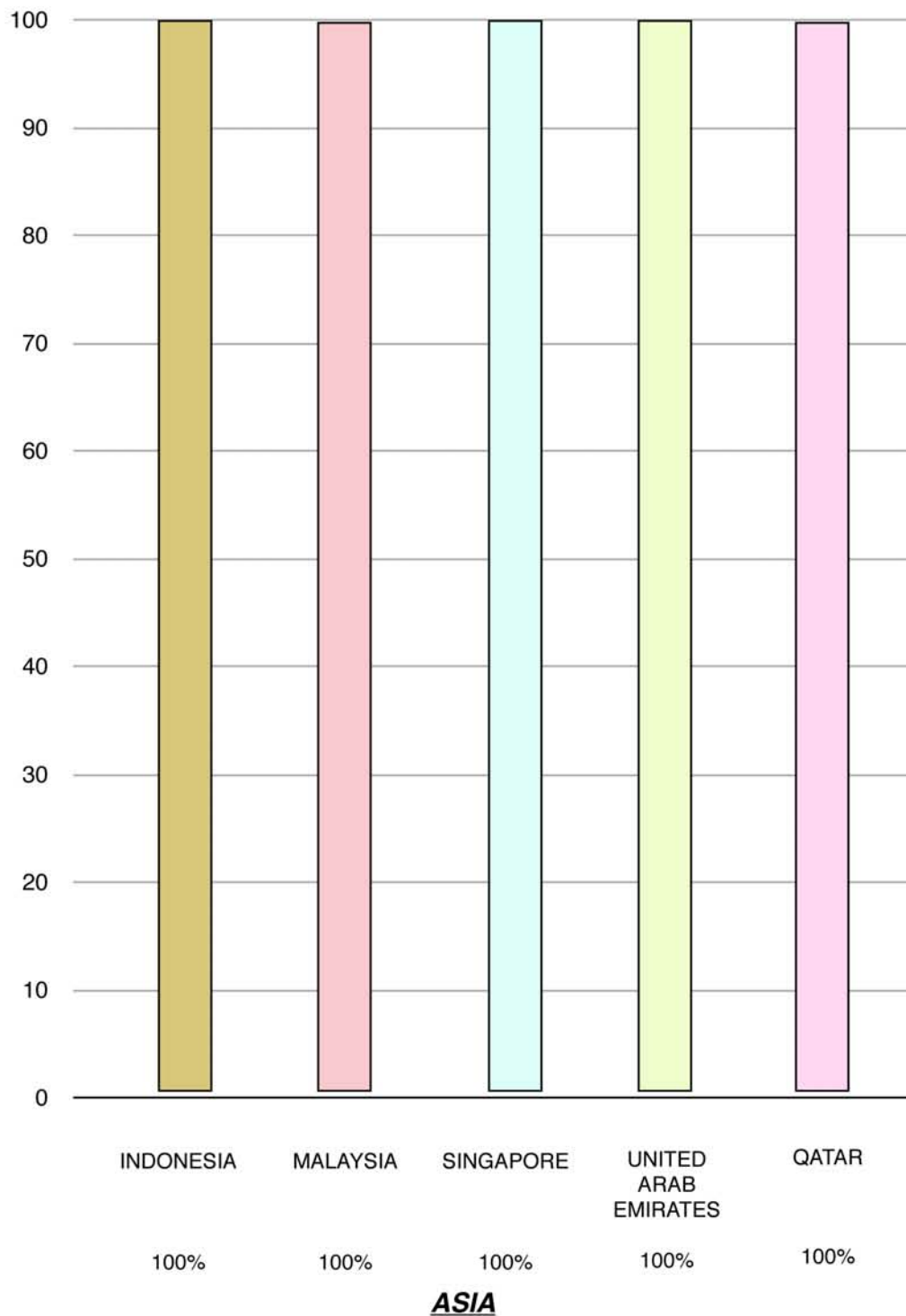
AFRICA & AUSTRALIA

TOTAL AVERAGE RESPONSES PER COUNTRY: Do you recycle?



EUROPE

TOTAL AVERAGE RESPONSES PER COUNTRY: Do you recycle?



TOTAL AVERAGE RESPONSES PER COUNTRY: Do you recycle?

Appendix 2: Research Data Charts: South African Survey



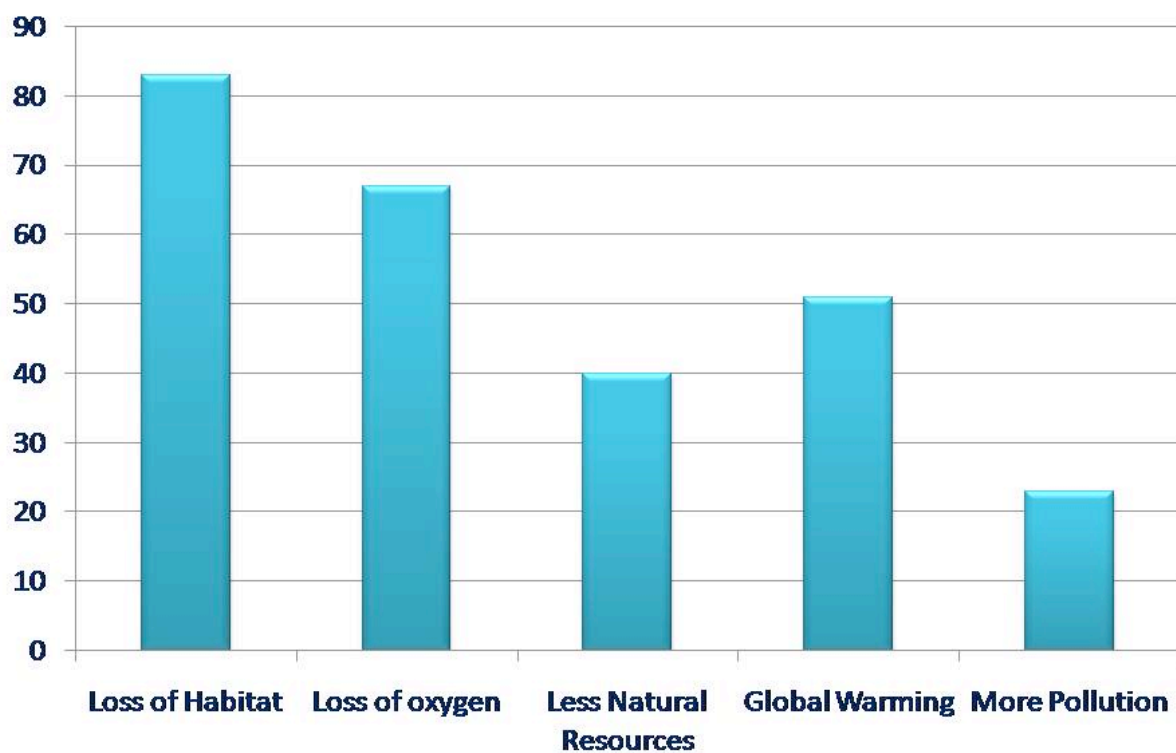
SOUTH AFRICAN QUESTIONNAIRE

	South African Survey	150	%
1	(yes only) Are you aware of the problem Deforestation?	133	89
2	What do you think can be affected by deforestation?		
	a Loss of Habitat	125	83
	b Loss of Oxygen	100	67
	c Less Natural Resources	60	40
	d Global Warming	77	51
	e More Pollution	35	23
3	Why are trees important?		
	a Provide Habitat	125	83
	b Oxygen	130	87
	c Sponge up Carbon Dioxide	73	49
	d Protect Nature & Wildlife	64	43
	e Protect the Ground (erosion)	22	15
4	(yes only) Do you think the water cycle can be influenced by cutting down trees?	140	93
5	What do you think is the cause of Deforestation?		
	a Cutting down trees for paper	88	59
	b Population Growth	102	68
	c More space for Human Activities	75	50
	d Palm-oil Plantations	25	17
6	(yes only) Do you know what renewable energy is?	124	83
7	(yes only) Do you think that being a vegetarian can help prevent deforestation?	50	33
8	(yes only) Do your family reduce, reuse, recycle?	92	61
9	If so, what?		
	a Paper	92	61
	b Glass	92	61
	c Plastic	92	61
10	(yes only) Do you think that the three R's can help stop Deforestation?	150	100
11	(yes only) Do you think the following can be recycled in RSA?		
	a Envelopes	150	100
	b Gift Wrap	135	90
	c Magazines	140	93
	d Newspaper	150	100
	e Cardboard	150	100
	f Candy Wrappers	100	67
	g Tissues	150	100
	h Milk Cartons	150	100
	i Dog Food Bags	100	67
	j Foil	125	83
	k Paper Towels	150	100
12	How can someone use less paper?		
	a Read books on the internet	25	17
	b Use both sides of the paper	88	59
	c Write in pencil, then you can correct mistakes easy	12	8
13	Which country do you think recycles the most?		
	a USA	115	77
	b UK	10	7
	c Netherlands	25	17
14	(yes only) Do you do anything else to save the environment?	75	50
15	What?		
	a Saving Electricity	50	33
	b Planting Trees	25	17

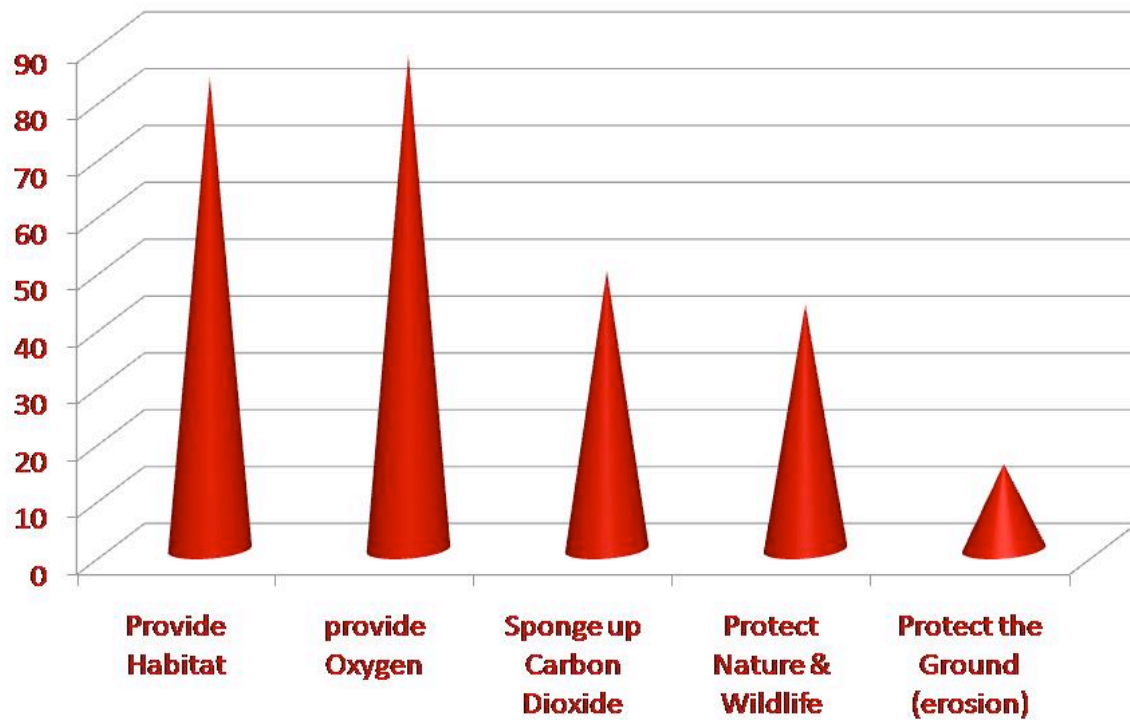


Are you aware of the
problem deforestation?
Q1

**What can be affected by deforestation?
(%) Q2**

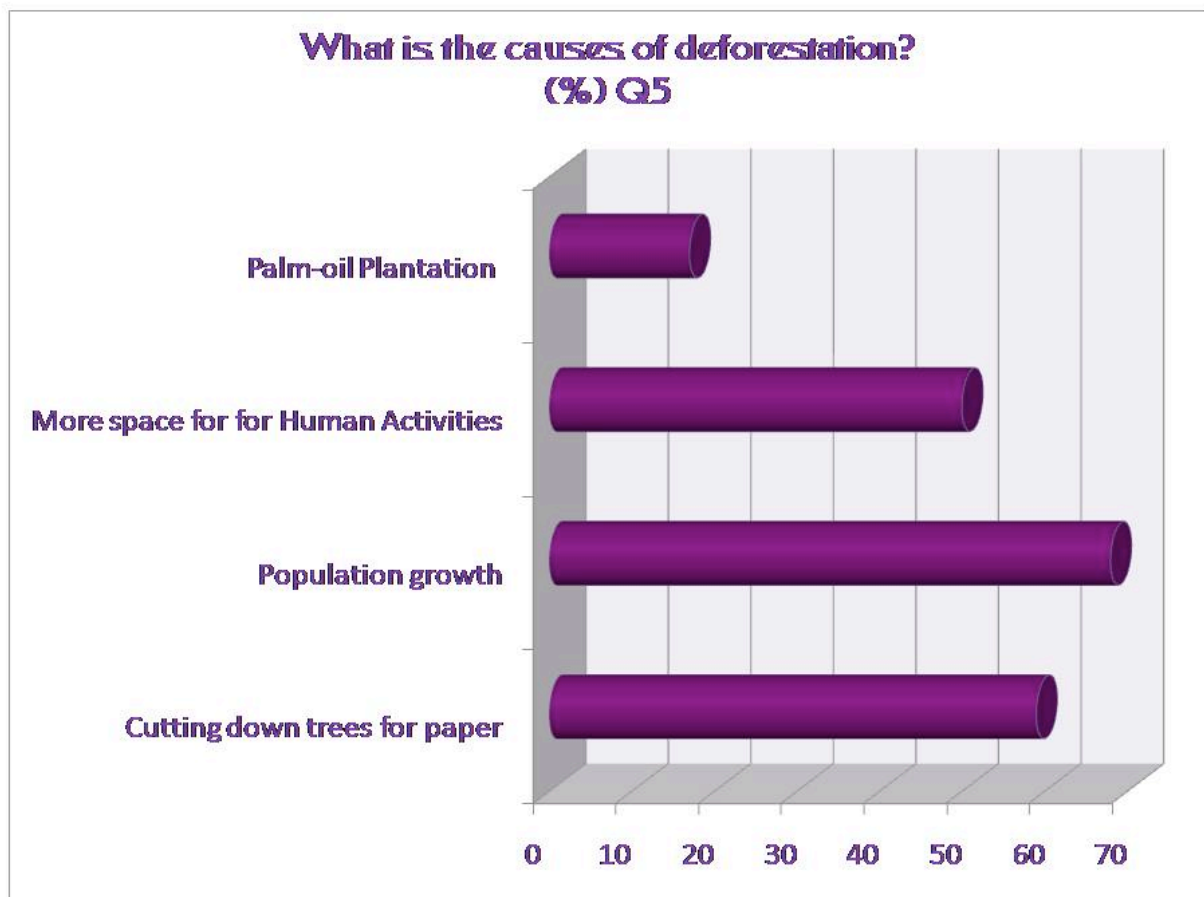


Why are trees important? (%) Q3



Can the water cycle be
influenced by cutting
down trees?
Q4

93%



**Do you know what
renewable energie is?**
Q6

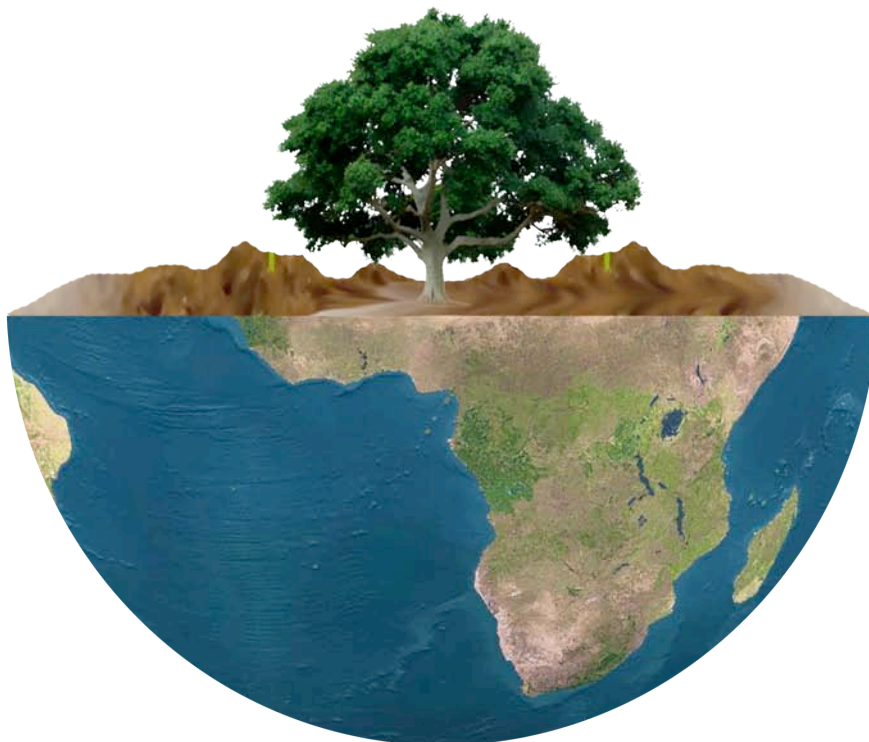
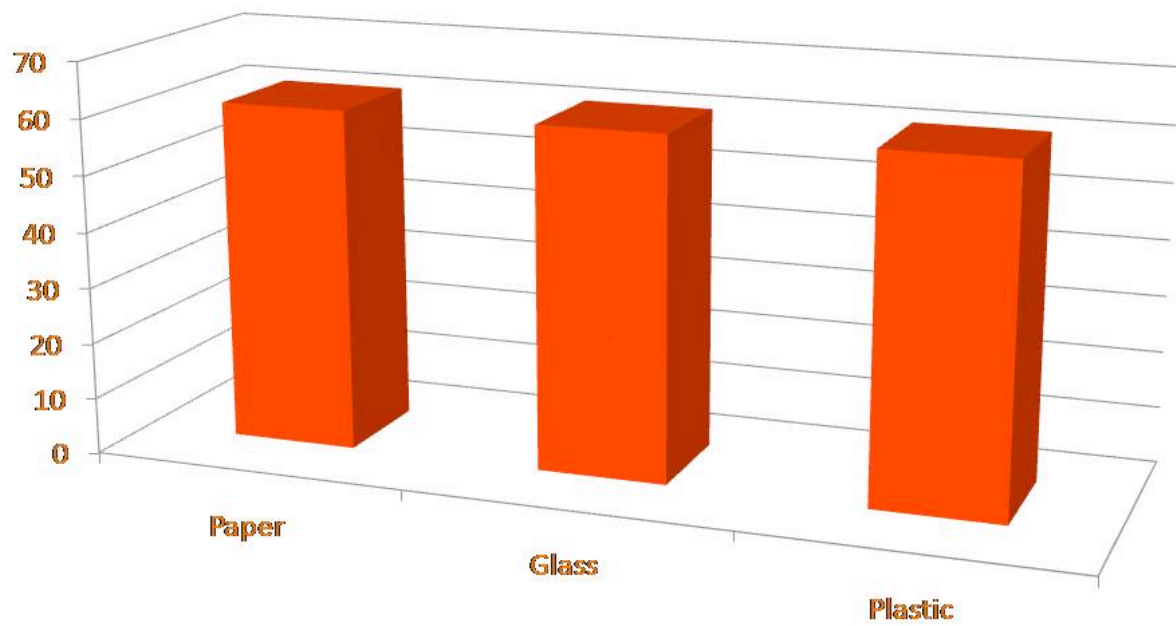


**Do you think being a vegetarian can help
prevent deforestation?**
Q7

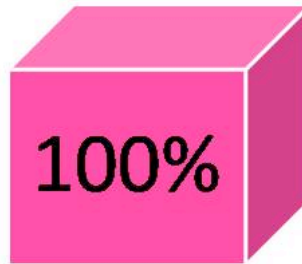
**DO YOUR FAMILY
REDUCE, REUSE, RECYCLE?**
Q8



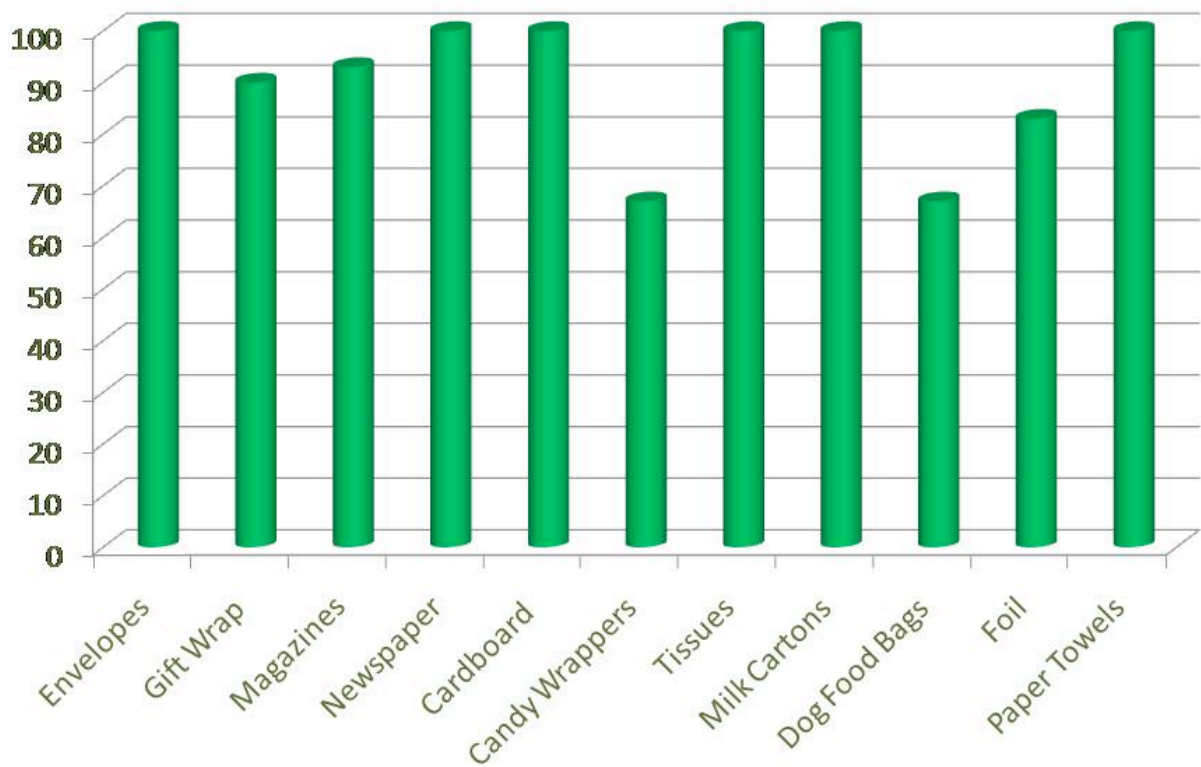
What do you Recycle? (%) Q9



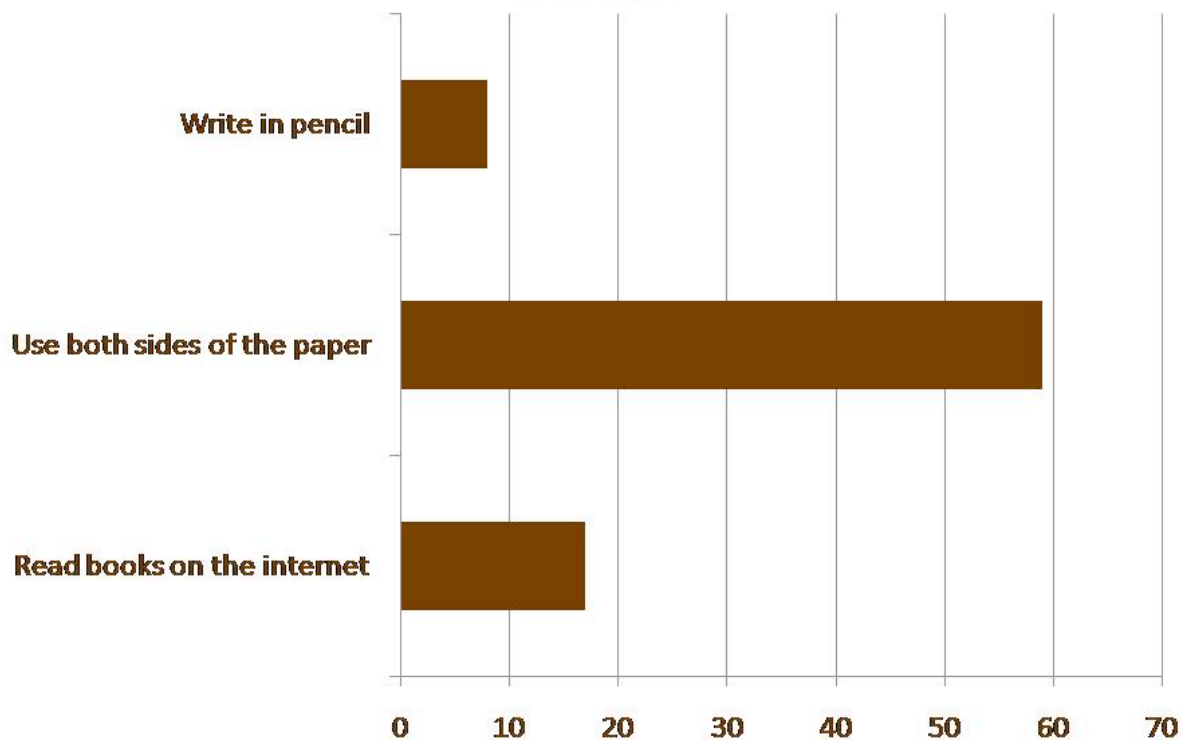
Can the three R's help
stop deforestation?
Q10



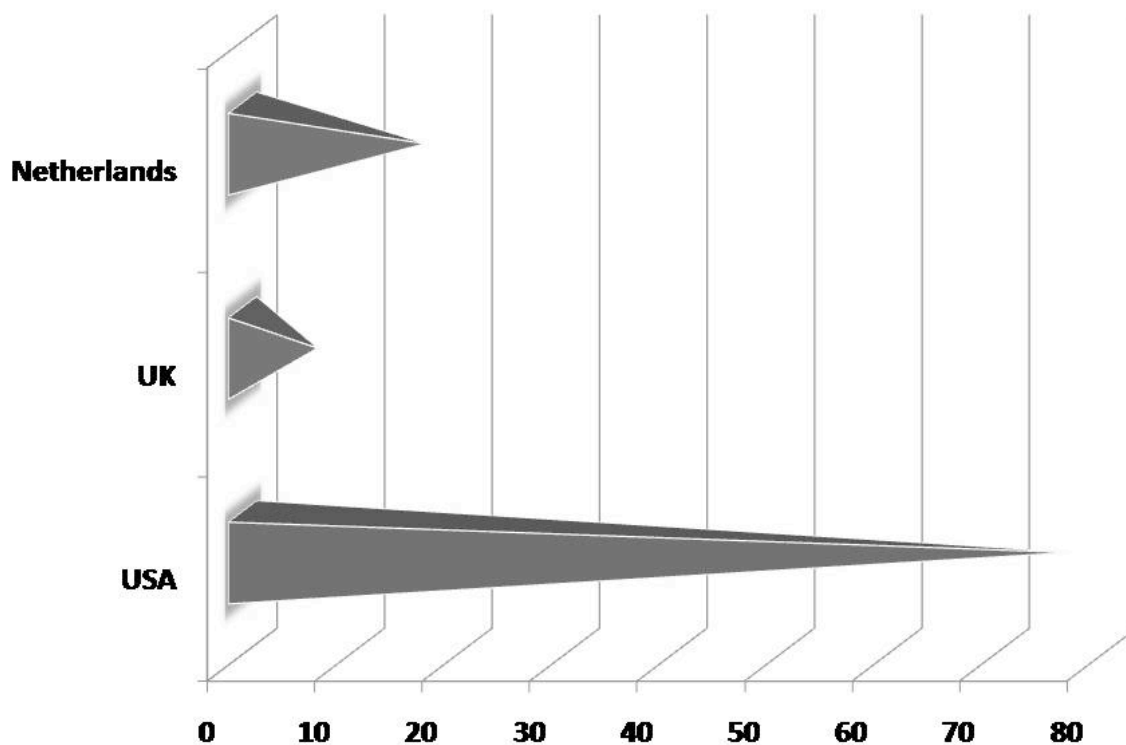
**CAN THIS BE RECYCLED IN RSA?
(%) Q11**



How can someone use less paper? (%) Q12



WHAT COUNTRY RECYCLES THE MOST? (%) Q13

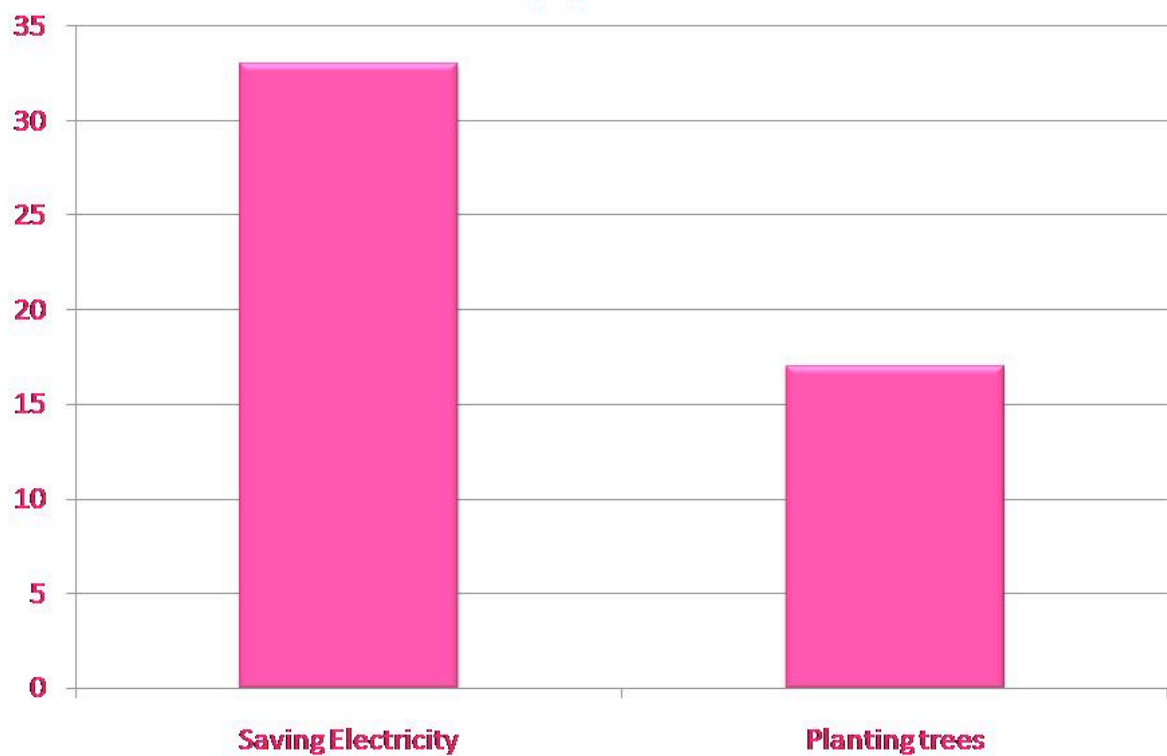


DO YOU DO ANYTHING ELSE TO
SAVE THE ENVIRONMENT?

Q14

50%

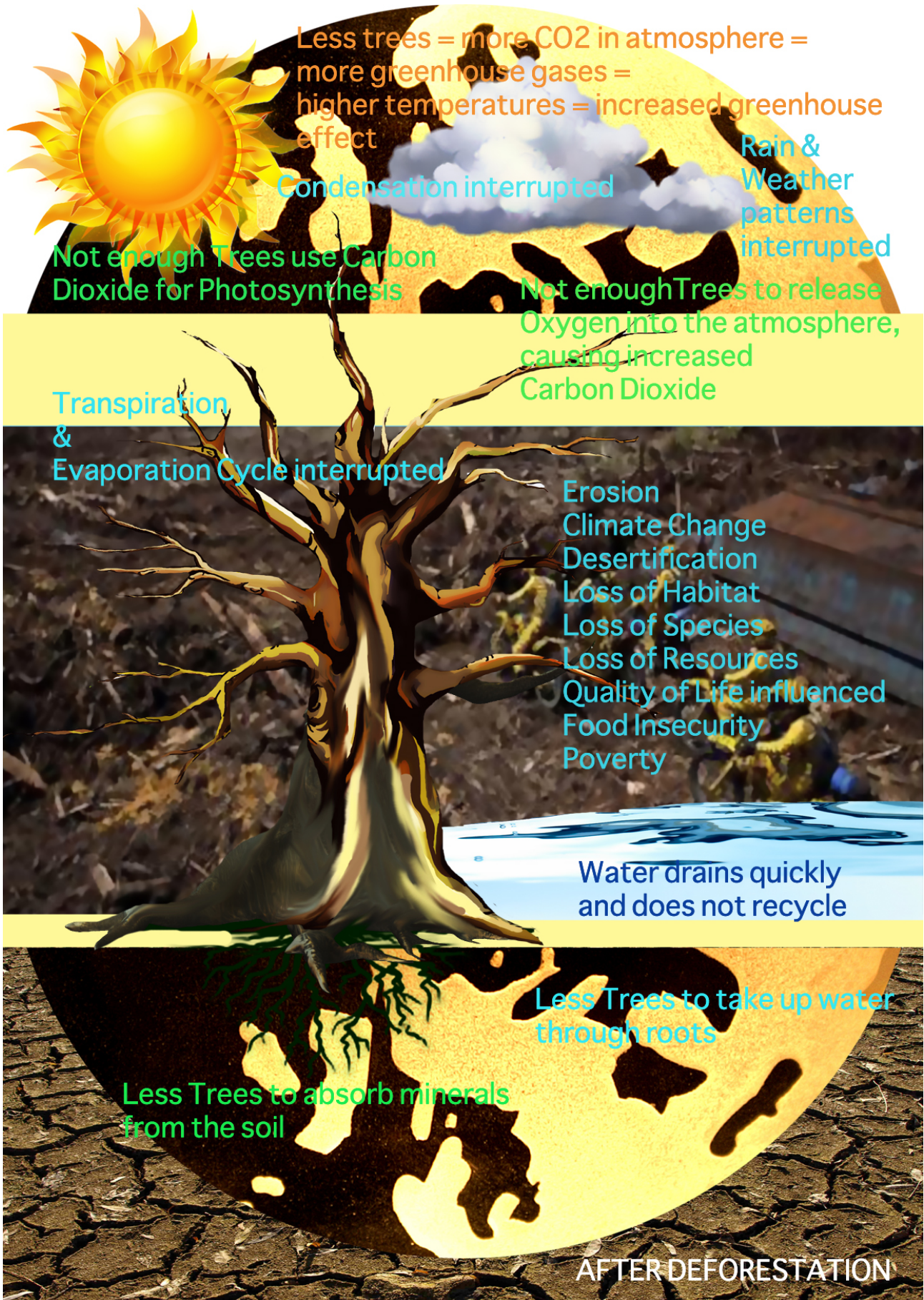
What do you do to save the environment?
(%) Q15



Appendix 3: Environmental Diagrams







EFFECTS OF DEFORESTATION

CAUSES OF DEFORESTATION:

CONSTRUCTION

Forests are cleared to accommodate expanding urban areas.

CROPS

Forests are cut down to clear land to grow crops.

FEEDING LAND

Forests are cleared for feeding land for animals such as cows.

MONEY

Deforestation is the cheapest way to clear land areas.

PALM OIL

Forests are cleared to make space for palm-oil plantations.

EFFECTS OF DEFORESTATION:

EROSION OF SOIL

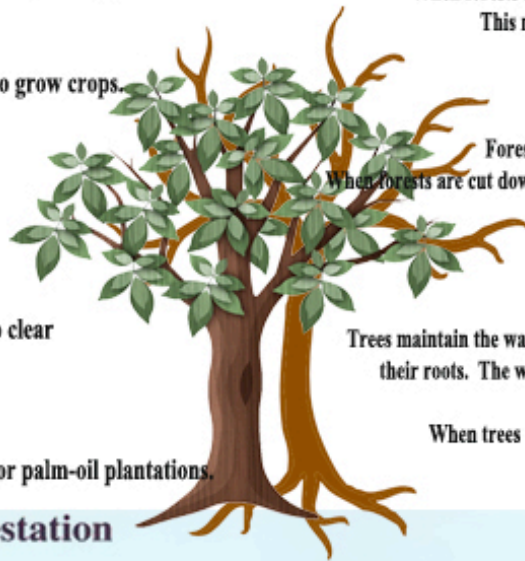
When forests are cleared the soil is exposed to the sun. This makes the soil dry and nutrients are lost.

FLOODING & DROUGHT

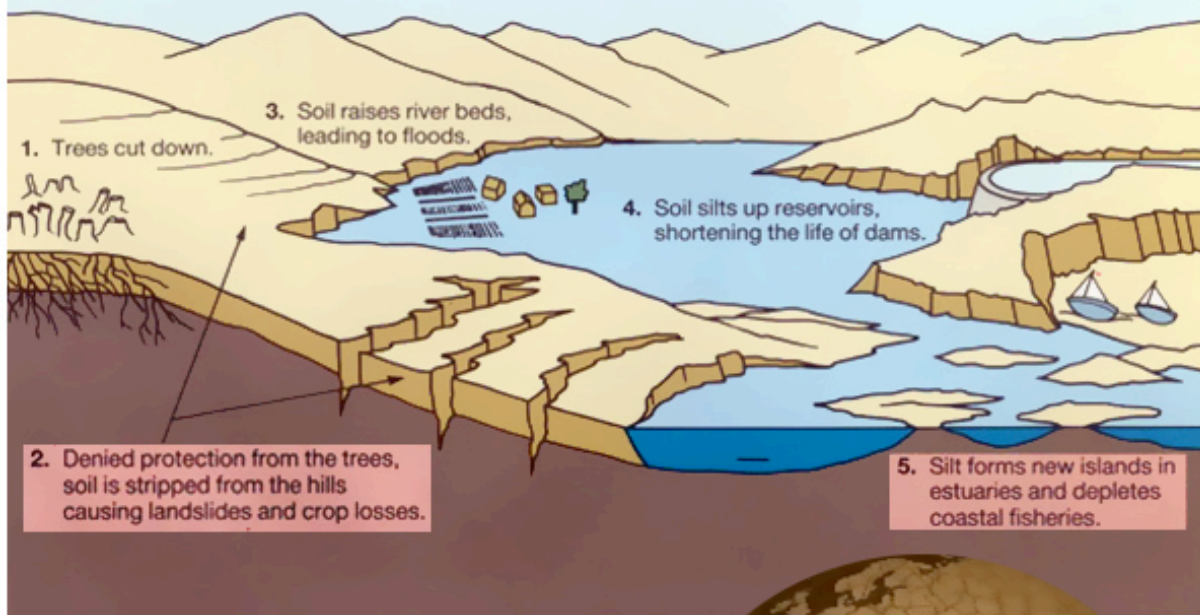
Forests absorb and store water when it rains. When forests are cut down, regulation of water flow is disrupted. This leads to either floods or drought.

WATER CYCLE

Trees maintain the water cycle when they draw up water from their roots. The water is released into the atmosphere and circulates in the ecosystem. When trees are cut down the climate gets hotter and drier and the water cycle is disrupted.



The effects of deforestation



Some after-effects of Deforestation:

Species influenced

Habitat influenced

Water Cycle influenced

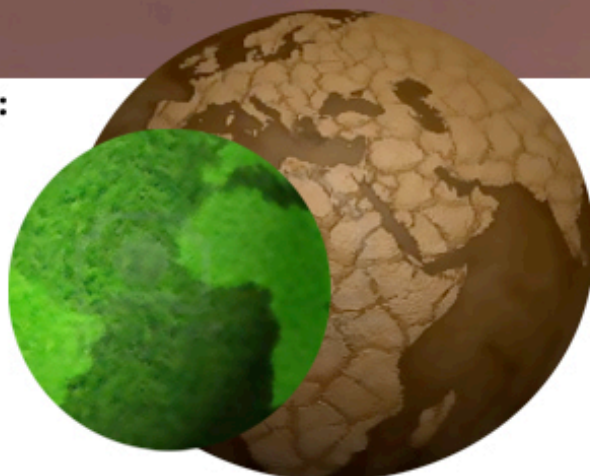
Global Warming increases

Soil Erosion

Rainfall influenced

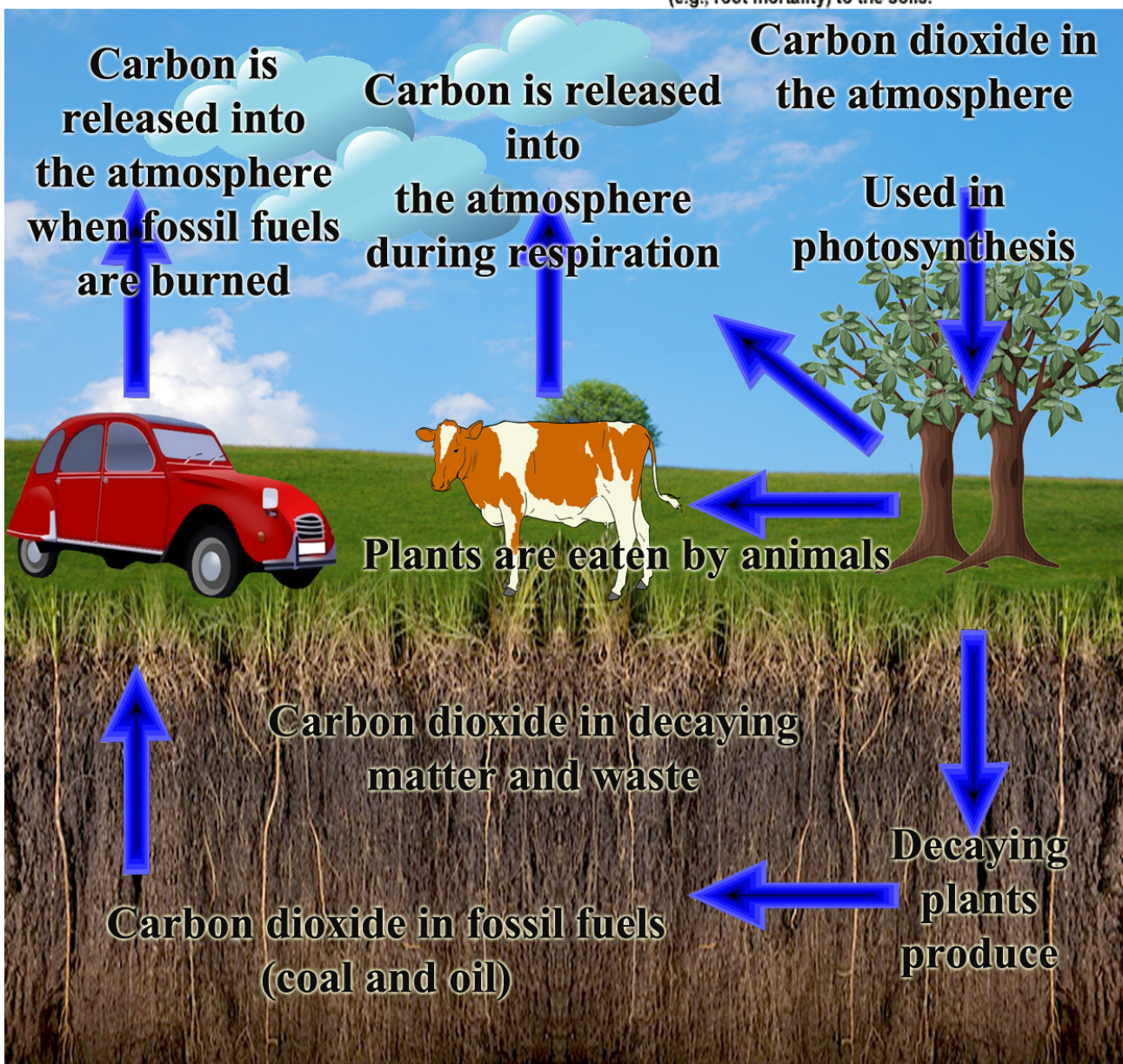
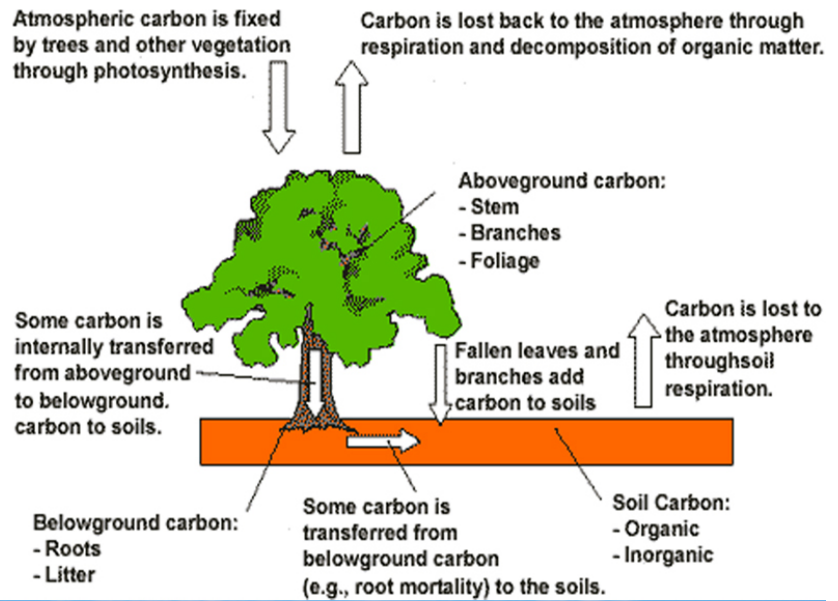
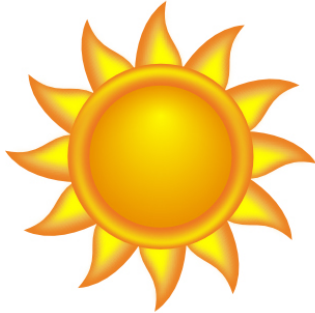
Less medicine for Illness

Carbon Cycle influenced





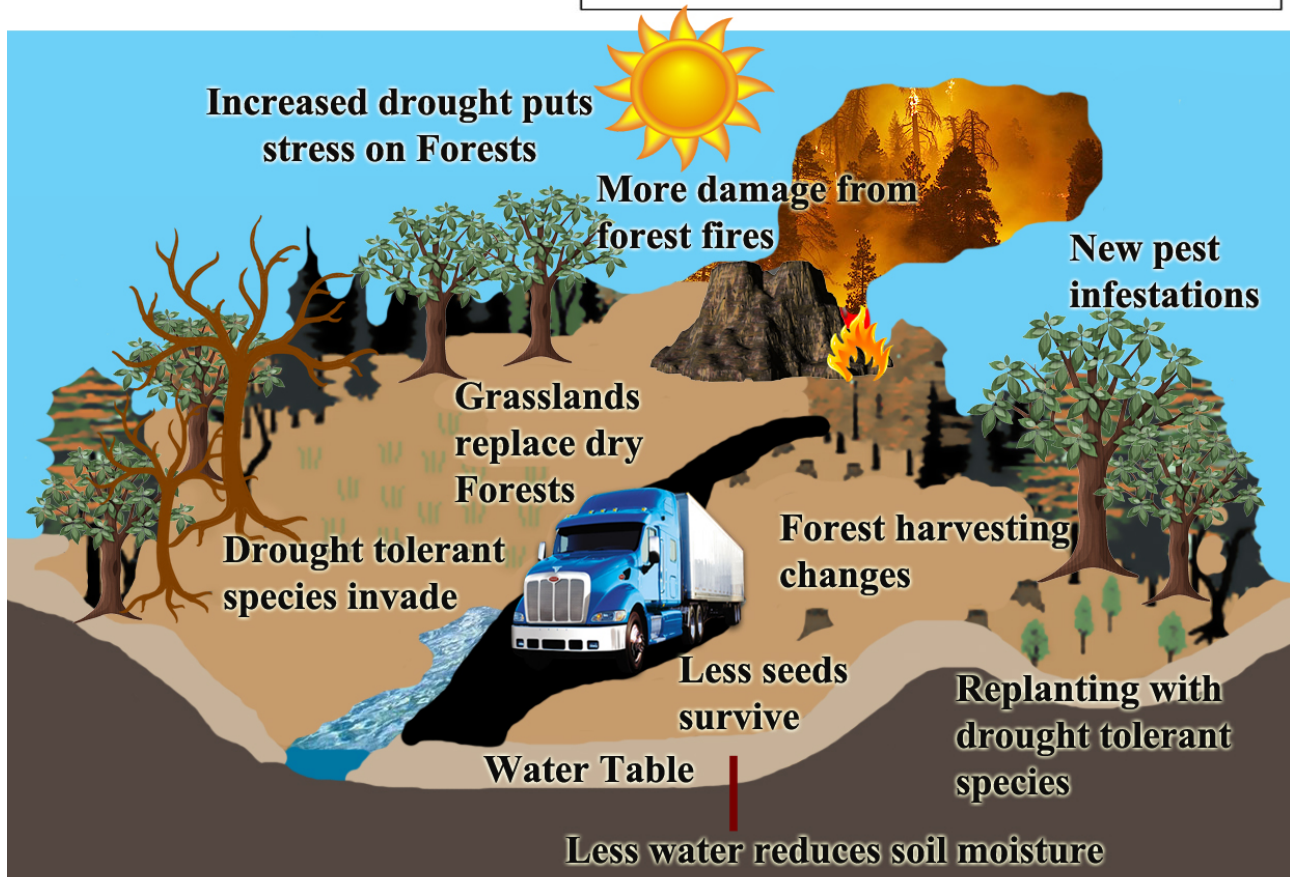
THE EARTH'S CARBON CYCLE



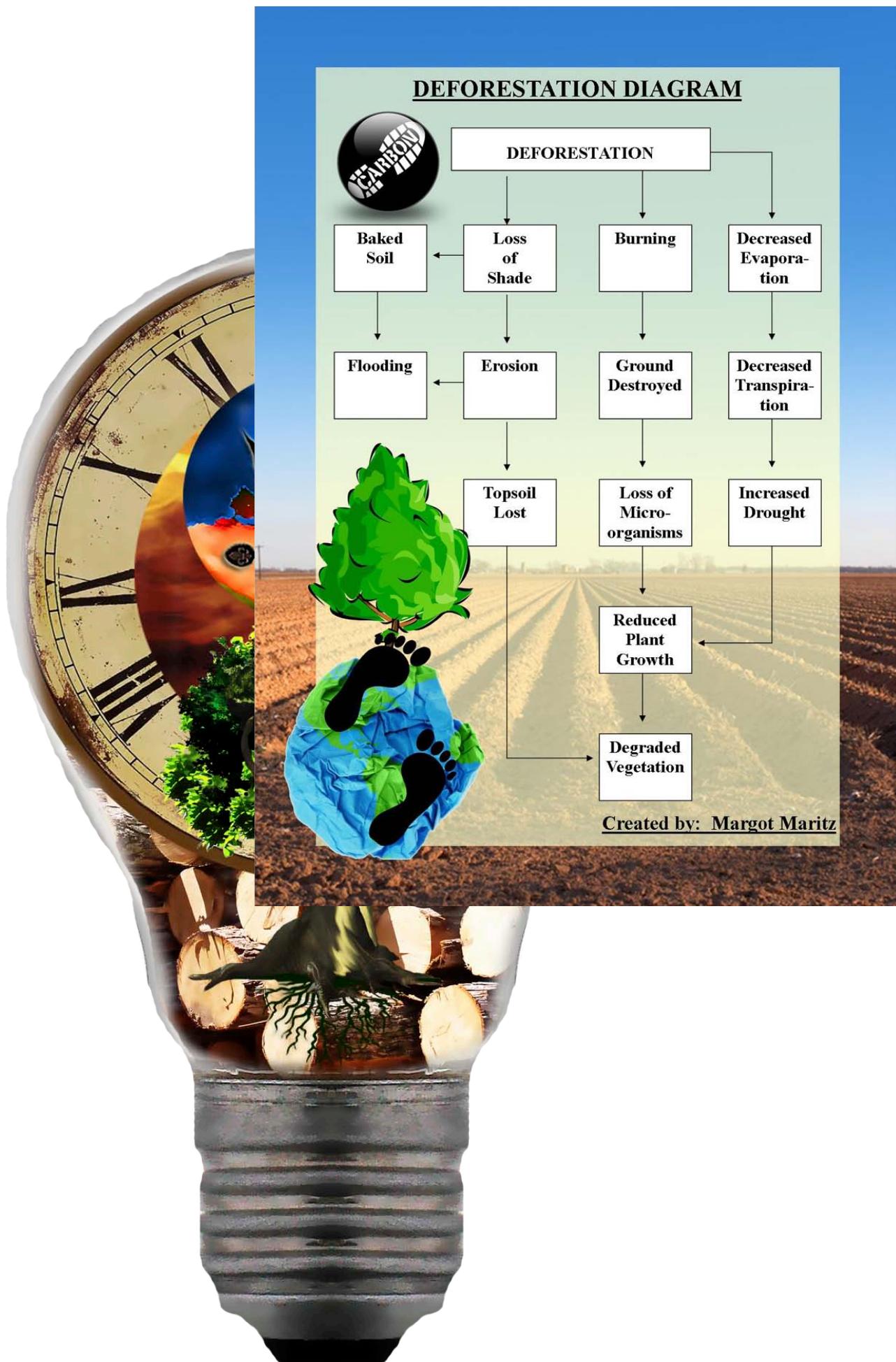
HOW CLIMATE CHANGE INFLUENCES FORESTS IN RETURN

Climatic Changes	Ecosystem Effects	Consequences for Forests
Warmer air temperatures	<ul style="list-style-type: none"> ⬆ Water uptake from trees ⬇ Soil moisture 	<ul style="list-style-type: none"> ⬆ Drought ⬆ Invasive species ~ Forest species shifts
Lower average precipitation	<ul style="list-style-type: none"> ⬆ Water stress ⬇ Stream flow ⬆ Susceptibility to pests and pathogens 	<ul style="list-style-type: none"> ⬆ Wildland fire ⬆ Tree mortality ⬇ Wildlife habitat ~ Forest species shifts
Higher average precipitation	<ul style="list-style-type: none"> ⬇ Water stress ⬆ Flooding ⬆ Soil erosion 	<ul style="list-style-type: none"> ⬇ Water quality ~ Forest species shifts
Change in precipitation patterns	<ul style="list-style-type: none"> ~ Water stress ~ Wet and dry periods 	<ul style="list-style-type: none"> ~ Water availability ~ Forest species shifts

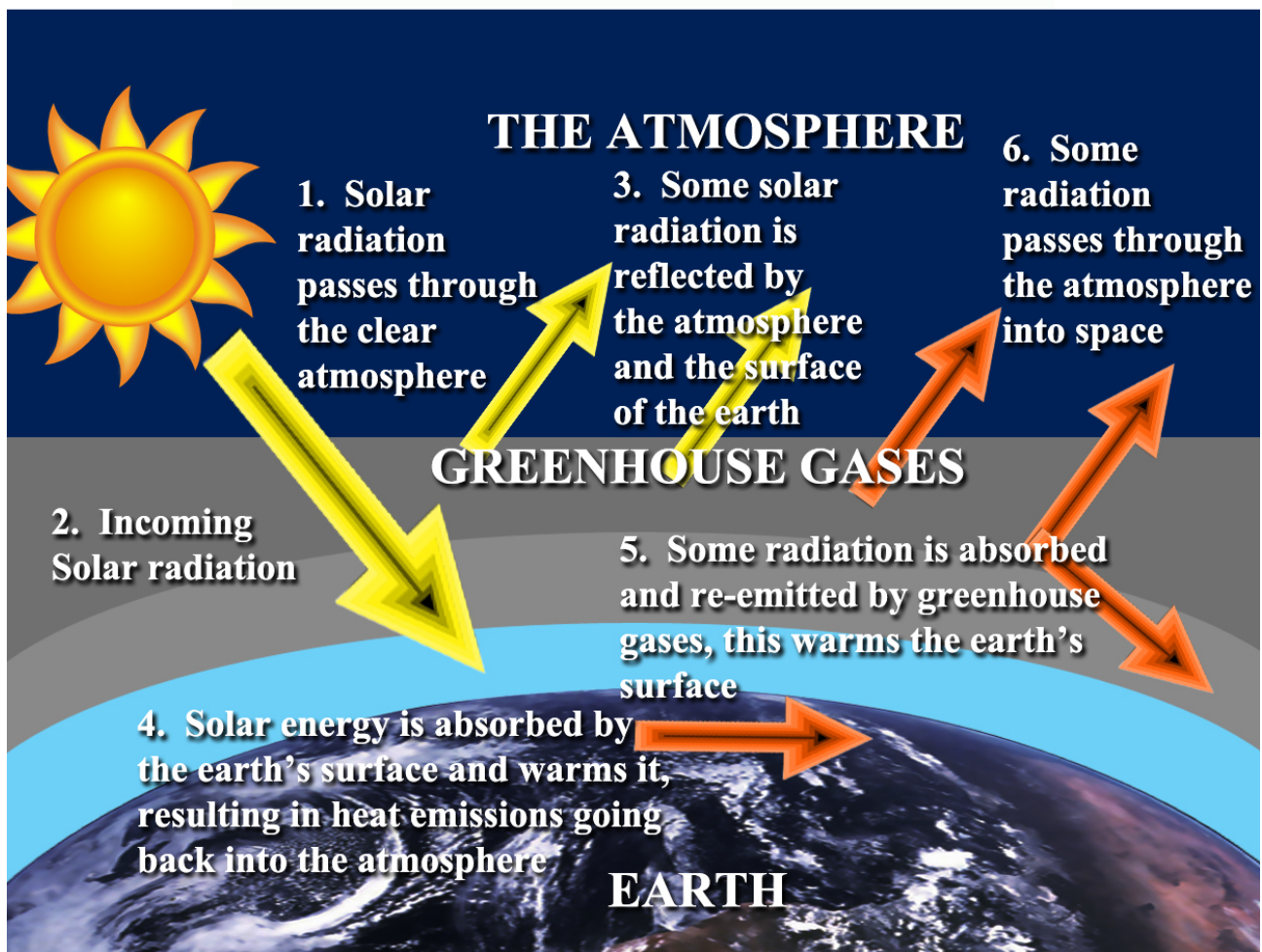
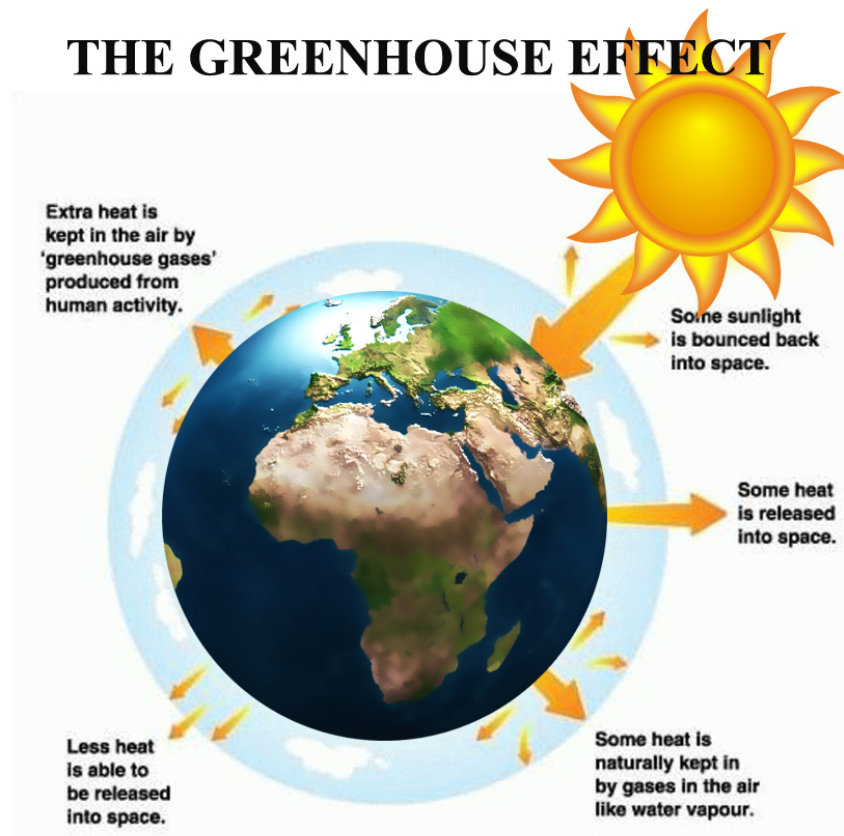
Climatic changes, their effects on ecosystems, and consequences for forests.
 ⬆ = likely increase, ⬇ = likely decrease, ~ = likely change

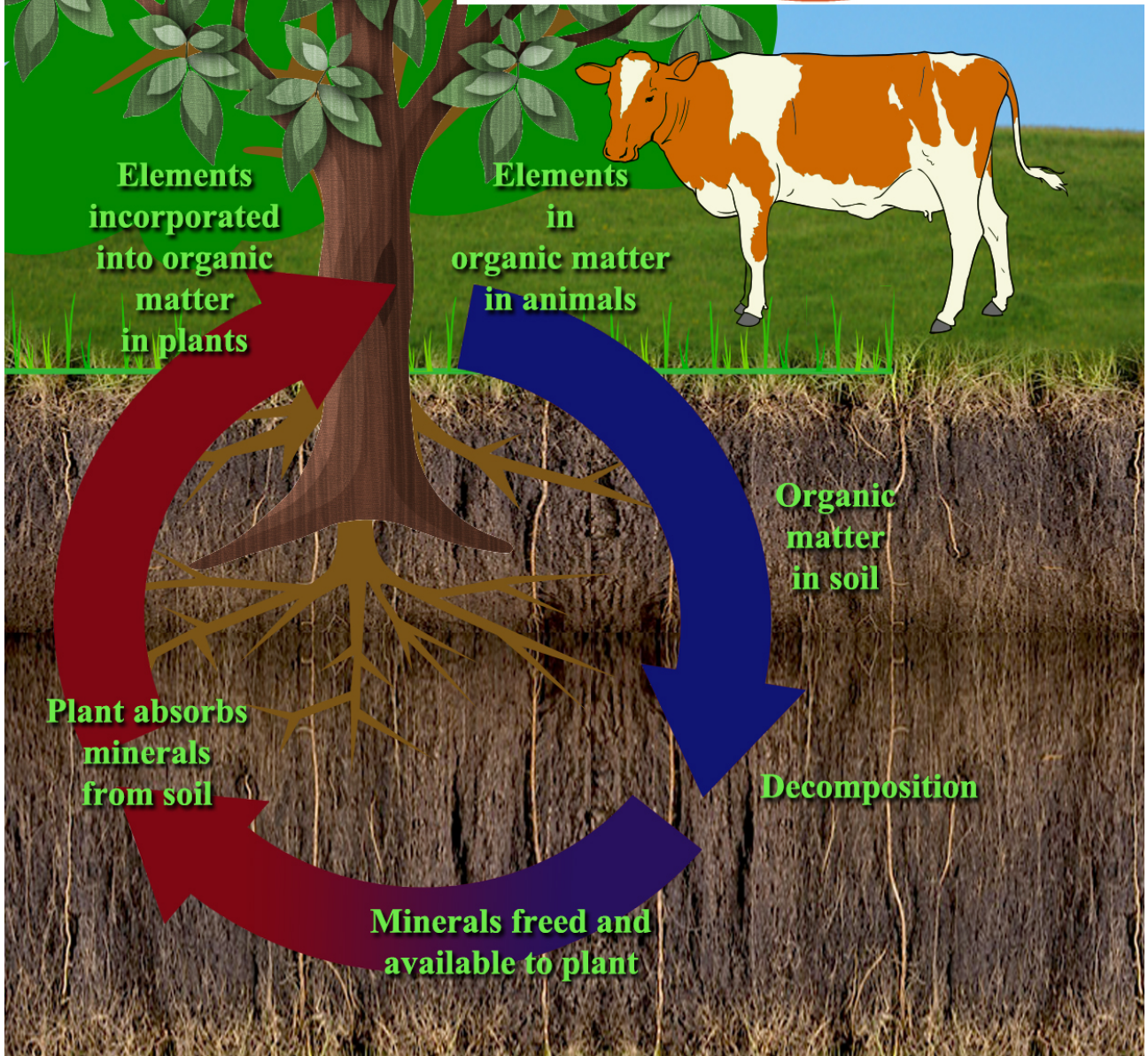
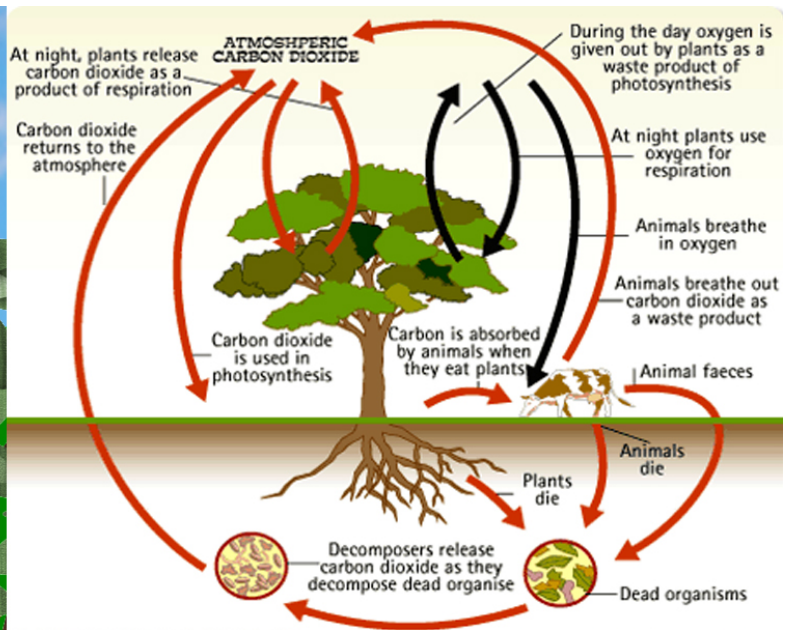
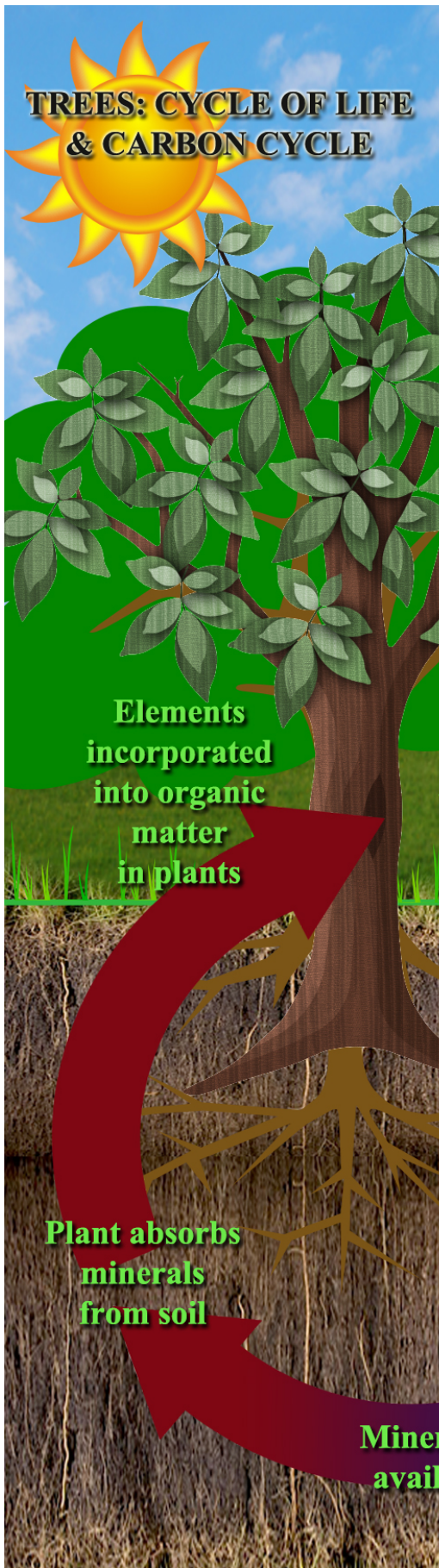


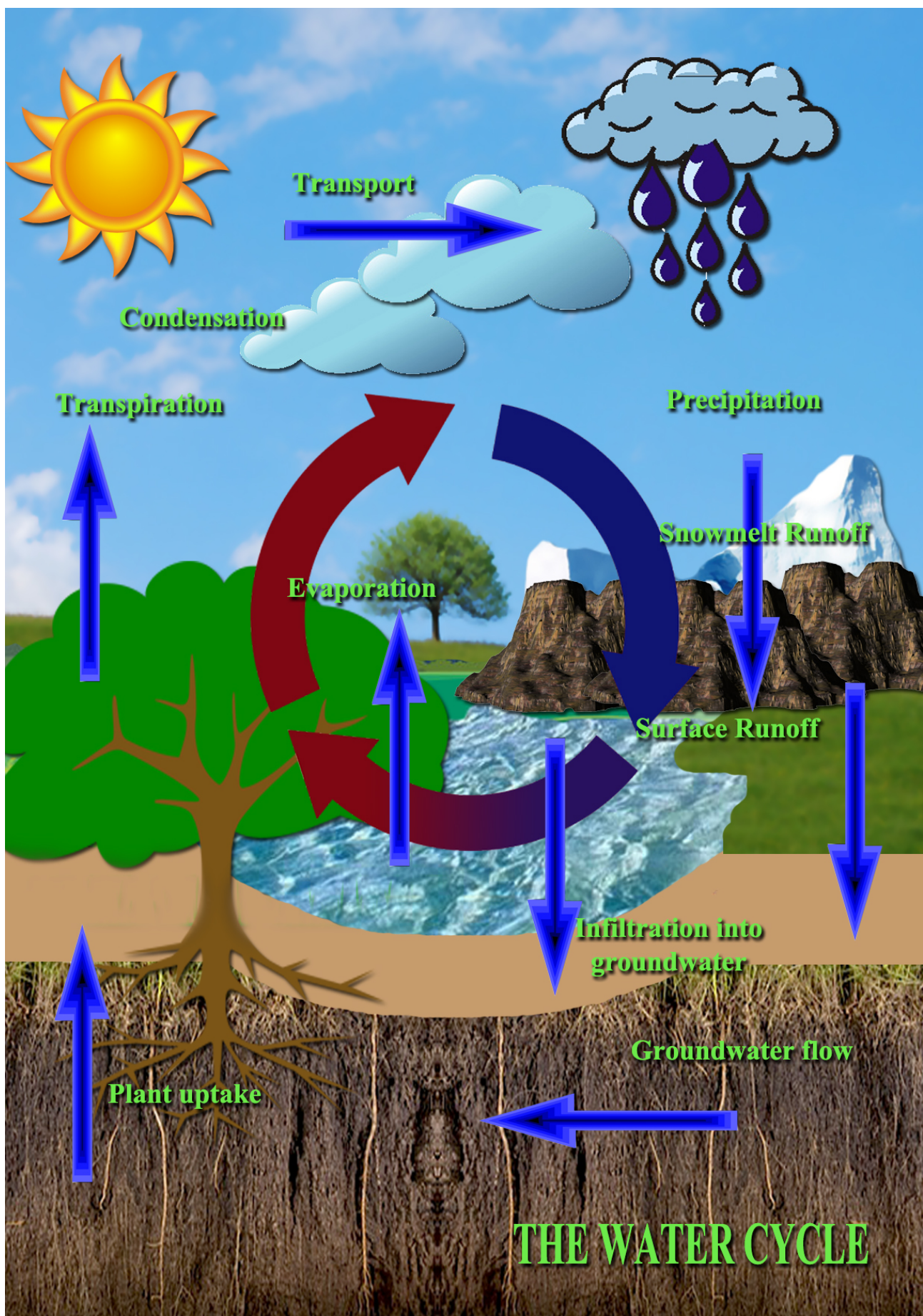
The effects of Climate Change on Forests

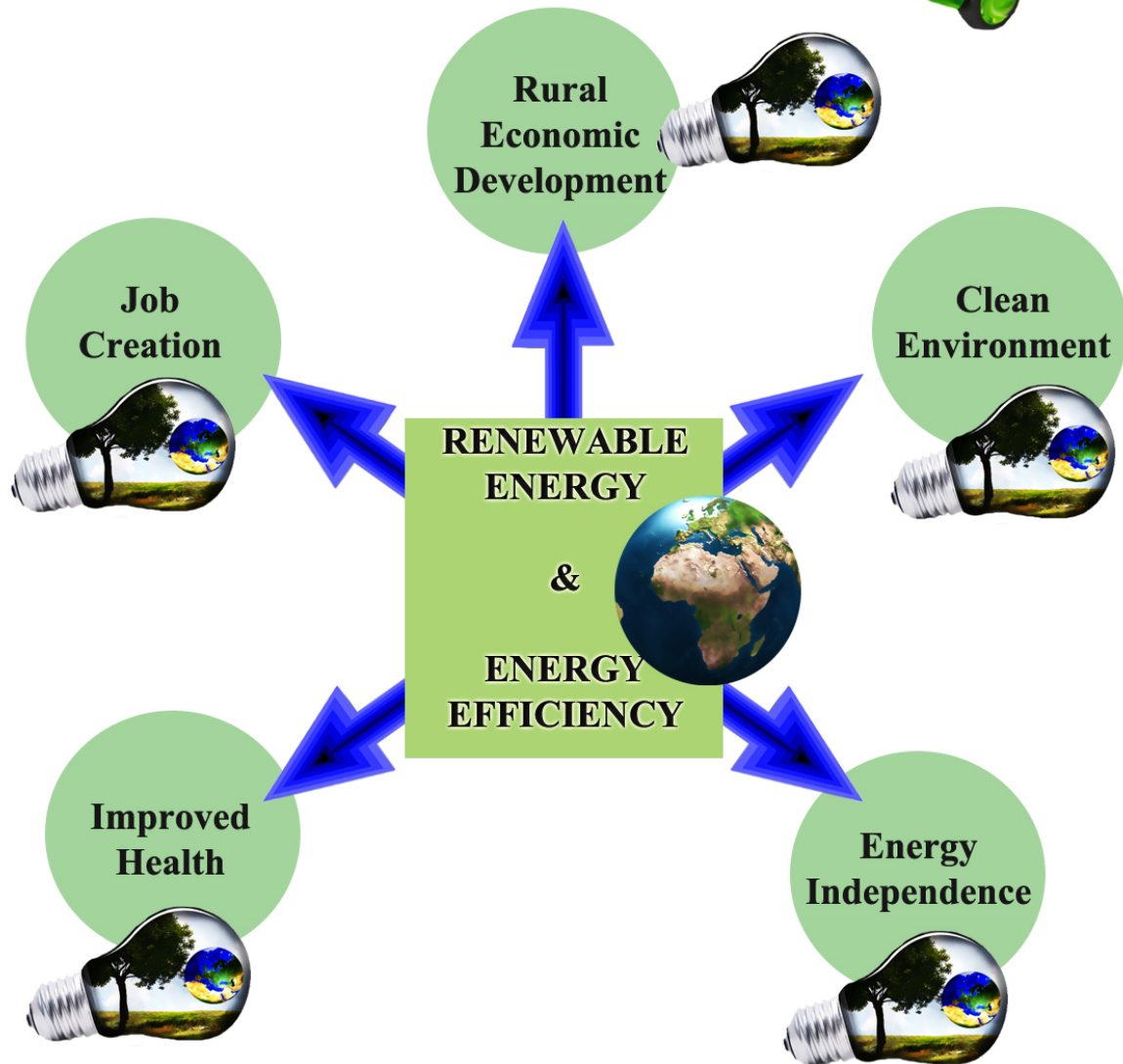
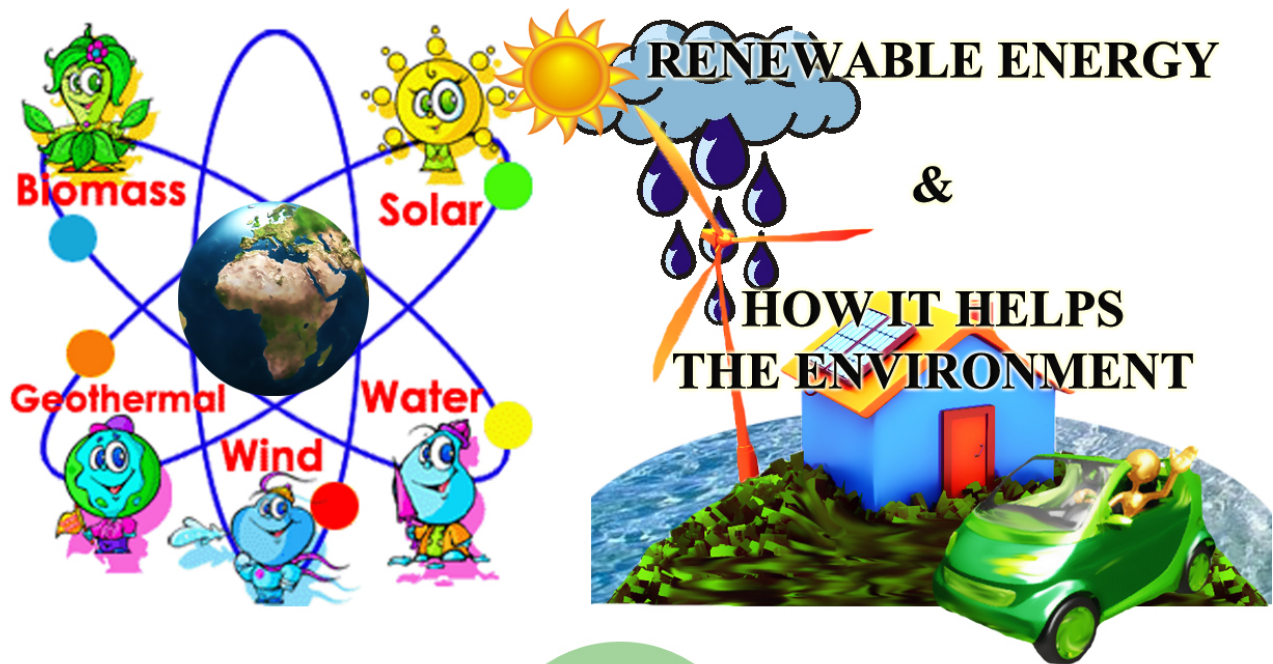


THE GREENHOUSE EFFECT









How Paper Recycling Works

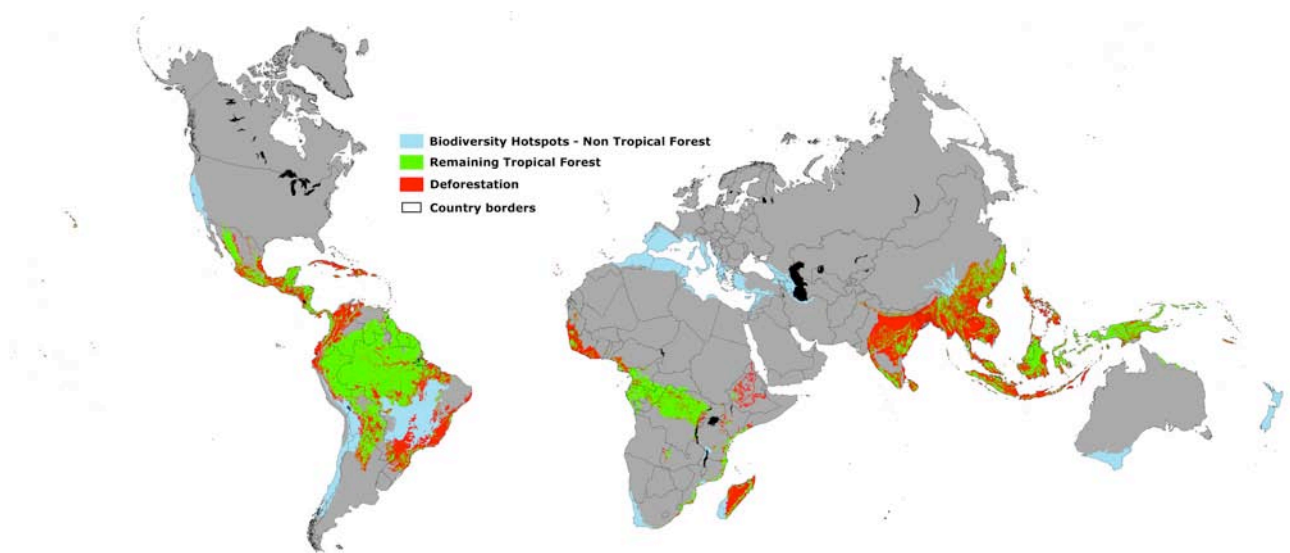
1. Paper is taken to a local collection station
2. Everything is separated and bundled based on composition
3. Bundles get sent to a recycling plant
4. The paper is tossed into a pulper, which is basically a giant blender with chemicals that dissolve paper fiber bonds while shredding it into tiny fibers
5. The watery fiber mixture, or "pulp," passes through screens which filter out chunks of dirt and glue
6. Cleaning chemicals are stirred in to remove tiny dirt, oil and other contaminants, which are then siphoned off
7. The pulp is de-inked by sticking it in a chemical solution and blowing bubbles through it (the bubbles carry the ink off with them)
8. Then the pulp is bleached
9. It's then spread onto wide screens that let the water drain off
10. Long sheets of semi-dried pulp are then put through heated pressers, which apply enough pressure to turn them into smooth sheets of paper
11. Paper is rolled up into huge rolls (weighing as much as 3 tons each!) and sent onward for cutting, packaging, and shipping



Harry Potter and the Order of the Phoenix is printed on New Leaf EcoBook 100 paper. By using this environmentally friendly paper the following was saved:

Trees - 29 640	Water - 12 417 947 gallon
Energy - 20 248 million watts	
Waste - 1 396 754 pounds	
Greenhouse Gas - 2 679 593 pounds	





Appendix 4: What can be Recycled in RSA





Welcome to The National Recycling Forum Website

[Home](#)[About the NRF](#)[Legislation](#)

PAPER AND CARDBOARD :



WHAT TO COLLECT:

- High grade: computer printouts, office paper
- Kraft paper, corrugated board, cardboard, boxes, wine boxes
- Newspapers, magazines
- Mixed paper: scrap paper, junk mail, envelopes, wine bottle sleeves, pamphlets, telephone directories.



PRODUCTS MADE FROM RECYCLED PAPER AND BOARD:

GRADES	RECYCLED INTO
Corrugated boxes	New corrugated boxes
Newspaper & magazines	Newspaper
Office paper, newspaper, magazines, printer off cuts	Bath tissue products, Kitchen and industrial paper towelling
Office paper, corrugated boxes, newspaper, carton board trims, printer off cuts	Carton board – cereal boxes, soap cartons
Newspaper, carton board trims	Moulded paper products, e.g. egg boxes

UNACCEPTABLE ITEMS:

UNSUITABLE FOR PAPER RECYCLING	REASON
<ul style="list-style-type: none">• Cement bags• Dog food bags	Contamination from the residues of the contents makes them unsuitable for recycling.
<ul style="list-style-type: none">• Disposable nappies• Plastic lined papers• Foil lined papers	The raw materials and liners required to waterproof these and similar products are not recyclable.
<ul style="list-style-type: none">• Self adhesive post-it notes• Chemically treated fax or photographic papers• Wax coated boxes (bananas, Liquid packaging, plastic or wax coated paper, e.g. Milk cartons)	Contamination from the glue and wax makes them unsuitable for recycling.
<ul style="list-style-type: none">• Food wrappings, paper towels, tissues	Contamination from general use makes them unsuitable for recycling.
<ul style="list-style-type: none">• Carbon paper	Contamination from the ink makes them unsuitable for recycling.

Appendix 5: Deforestation Images (Courtesy of Greenpeace Africa)











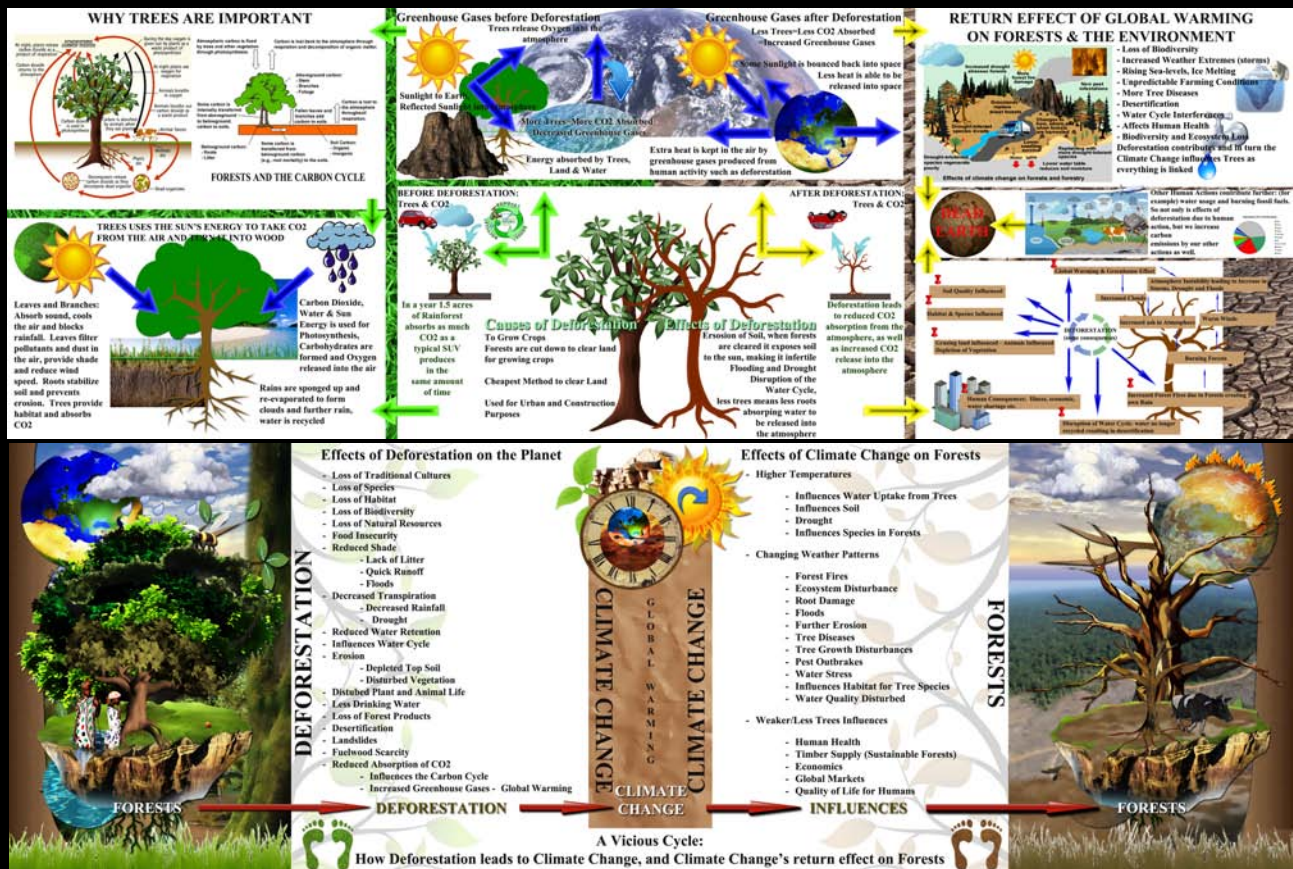








Appendix 6: Forest & Deforestation Banners



Appendix 7: LooLoo



(www.chardantissue.com)

Looloo is toilet-paper made from recycled material. It was started by Niel van Wyk. The article states that if every household in the USA alone, replaced just 1 roll of toilet paper, with recycled toilet paper, 424 000 trees would still be standing.

Their goal is to have Looloo sold in stores nationwide.

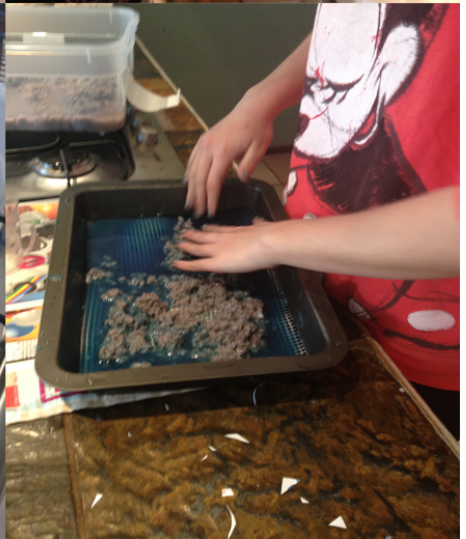
And this product is proudly South African!

This product was featured in Beyond Sustainability Quarterly, and the Editor, Charlene Heyburg was so kind as to help me with this part of the Project.



Appendix 8: My Recycled Paper Project







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