This annexure consists of 12 pages.
SOURCE 1.3

[Image: Map showing weather patterns with labels for high pressure system, Cape Town, and South Africa.]

[Source: SA Weather Service]

SOURCE 1.4

[Image: Diagram illustrating updrafts, downdrafts, and hailstone paths.]

[Source: Google Image]
The town of St. Pierre lay peacefully at the foot of Mount Pelee in the West Indies. Mount Pelee towered over the town. Although the people knew that Mount Pelee was a volcanic mountain, few looked upon it with concern. The young people laughed at the elders when they spoke about it erupting 50 years before. Yes, Old Pelee was dead, no longer to be feared, but a friend. Suddenly in the spring of 1902 Mount Pelee came to life. There was a terrible explosion that rocked the town and tore a gigantic hole in the side of the mountain. A flood of boiling mud and glowing cinders swept down the mountainside into the town. In a matter of minutes the town was on fire and half buried. Ships in the harbour caught on fire and people burnt to death. The town remains in ruins.
SOURCE 2.2

![Diagram of Atmosphere Layers](Source: Google Image)

SOURCE 2.3

**BEEF CATTLE CAUSE MORE EMISSIONS THAN CARS – REPORT**

by Ben Kage

Rising petrol prices and global warming issues have spurred an interest in clean cars, but a report by the United Nations suggests that the real culprit is not the car, but the cow. The world's surging cattle herds are the greatest threat to the planet.

'Cattle farming not only destroys rainforests, uses enormous quantities of fresh water and results in the inhumane treatment of animals, it also increases the destruction of the planet's atmosphere,' Adams said.

The clearing of vegetation for grazing, the use of fertilisers for feed, and transportation of the product is responsible for 9 percent of all carbon dioxide emissions. While carbon dioxide is the most common greenhouse gas, the gasses released from cattle herds and manure emit more than one-third of all methane, a greenhouse gas that warms the world 20 times faster than carbon dioxide. Livestock also produce ammonia, a primary cause of acid rain. Cattle emit 18 percent of the greenhouse gases that cause global warming, which beats the emissions from all transportation combined.

It is also a major cause of deforestation, the report states, as a fifth of the world’s pastures are being turned into deserts by overgrazing. Cows also require a massive amount of water – it takes about 9 900 litre of water to produce a little less than one litre of milk.

[Source: Google]
SOURCE 2.4

[Image: A major earthquake in South Africa is a real possibility but there is no way of predicting when it might occur. Durban has been singled out as the area of greatest concern in the event of an earthquake on the continent. A major fault line starts underground at Port Shepstone and runs north through KwaZulu-Natal.]

SOURCE 2.5

**EARTHQUAKE IN SA A MATTER OF TIME**

*Pouza van der Fort*

A major earthquake in South Africa is a real possibility but there is no way of predicting when it might occur. Durban has been singled out as the area of greatest concern in the event of an earthquake on the continent.

A major fault line starts underground at Port Shepstone and runs north through KwaZulu-Natal.

Dr Hartnady from Umvoto Africa, a company that specialises in earth science research and consultancy, said that earthquakes occur when the tectonic plates of the Earth's crust move, slide, shear and grind against each other.

The intervals between major earthquakes of magnitudes greater than seven ranged between 500 and 1 000 years, he said. In some parts of the East Africa rift system, the last major quake might have occurred 1 000 years ago. The next time might be due anytime soon.

'It is not a question of if, but when and it could even be tomorrow,' said Hartnady.
SOURCE 2.6


SOURCE 3.2

SOURCE 3.3

We have serious problems!

- Poor transport
- Rapid population growth
- Poor housing
- High infant mortality rates
- High birth rates
- High death rates
- High rate of adult illiteracy
- Poor diet
- Low GNP – a ‘poor’ country
- Low level of energy consumption
- Most people find work in primary activities, with few in secondary or tertiary jobs
- Many people per doctor and few hospitals
- Low life expectancy
- High proportion of population live in rural areas and few in urban settlements

[Source: Google Image]

SOURCE 3.4

We have serious problems!

[Source: Google Image]
SOURCE 3.5

Oceans are full of wonders. It is very important to the survival of humans.

What about the exploitation of oceans by humans?

Illegal dumping  Oil leaks

(Source: Google Image)

SOURCE 3.6

RIPPLE EFFECT OF EXPLOITING FISH STOCKS

Kamcilla Pillay
Marine biologists predict that fish stocks will be depleted by 2050, upsetting the delicate balance of the world’s oceans. The loss of fish will have a domino effect (an effect on one level will affect the next level) where other species are affected, for example whales will have a shortage of food.

This is made worse by the increasing death of coral reefs. Corals store carbon, and this will have an impact on the climate. There is a serious need to investigate other means of harvesting fish.

(Source: Daily News, June 2011)
SOURCE 4.1

SOURCE 4.2
SOURCE 4.3

**HIV/AIDS IN SOUTH AFRICA**

Among the estimated 40 million people with HIV/AIDS around the world at the end of 2001, the cast majority, 28 million, lived in sub-Saharan Africa. The virus has spread at such a rapid rate in South Africa that the country is home to more HIV-positive people than any other nation.

**Deaths from HIV/Aids**

HIV/AIDS killed more people in South Africa during 2001 than in any other country.

**Child mortality**

Child mortality in South Africa as a result of HIV/AIDS is likely to grow even worse this decade.

**Deaths from HIV/Aids, in thousands:**

<table>
<thead>
<tr>
<th>Country</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Africa</td>
<td>360</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>200</td>
</tr>
<tr>
<td>Kenya</td>
<td>190</td>
</tr>
<tr>
<td>Nigeria</td>
<td>170</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>160</td>
</tr>
<tr>
<td>Tanzania</td>
<td>140</td>
</tr>
</tbody>
</table>

**Deaths per 1 000 births by age 5:**

<table>
<thead>
<tr>
<th>Year</th>
<th>With HIV/AIDS</th>
<th>Without HIV/AIDS</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>120</td>
<td>66</td>
<td>186</td>
</tr>
<tr>
<td>2010</td>
<td>147</td>
<td>48</td>
<td>195</td>
</tr>
</tbody>
</table>

[Source: Google]

SOURCE 4.5

**HUNDREDS LEFT DESTITUTE**

Shocked residents started counting the cost of this week's floods in the Limpopo town of Hoedspruit. Hundreds of families have been left destitute after severe flooding in the area. Trees were uprooted and cars swept away like toys. A large portion of a road washed away when a dam wall broke. Electricity and water supplies were disrupted and farms destroyed. 600 mm of rain fell in 48 hours. This has been attributed to a tropical low-pressure system in the area. Major relief efforts are under way.

[Source: Sunday Times, January 2012]
**SOURCE 4.6**

### DEMAND FOR WATER: 1996 AND 2030

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>% CONTRIBUTION TO GDP</th>
<th>1996 (106 m³ a⁻¹)</th>
<th>2030 (106 m³ a⁻¹)</th>
<th>PERCENTAGE INCREASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban and Domestic</td>
<td>-</td>
<td>2 171</td>
<td>6 936</td>
<td>219,5%</td>
</tr>
<tr>
<td>Mining and Industrial</td>
<td>37%</td>
<td>1 598</td>
<td>3 380</td>
<td>111,5%</td>
</tr>
<tr>
<td>Irrigation and Forestry</td>
<td>6%</td>
<td>12 344</td>
<td>15 874</td>
<td>28,6%</td>
</tr>
<tr>
<td>Environmental</td>
<td>-</td>
<td>3 932</td>
<td>4 225</td>
<td>7,5%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>-</td>
<td>20 045</td>
<td>30 415</td>
<td>51,7%</td>
</tr>
</tbody>
</table>

[Source: Google]