DARWIN’S NIGHTMARE

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Synopsis

The Great Lakes region of Africa, famed for its national parks, unique wildlife, lakes and the snow-capped Mount Kilimanjaro, is the setting for this story. In the 1960s a small number of Nile Perch (*Lates Niloticus*) was released into Lake Victoria. These giant fish, which can grow to 200kg and two metres in length, proved to be very effective predators. They multiplied rapidly and out-competed the local fish species, extinguishing many of them. Its main attractions as an eating fish are its abundance, ease of catching (with a variety of techniques, both high and low technology), large size and very palatable boneless white flesh.

This fish became popular in Europe, the USA and Japan. Factories sprang up to help meet the growing demand and the number of boats and people involved in the industry increased substantially. While some people prospered as a result of this trade, the benefits were not spread evenly. The Nile Perch fillets are transported around the world, but the local fishers cannot afford to buy it. *Darwin’s Nightmare* (Hubert Sauper, 2005) examines the impacts of the increased trade of fish and increased contact with the outside world.

We are introduced to a range of real-life characters who tell their stories. We see them in their daily lives working, living and surviving in often very difficult and challenging conditions. This is not an easy film to watch but it gives us an insight into a world of which most of us have little knowledge. Many of the images that it presents and the people that you meet will remain with you long after the viewing.

Themes

While on the surface, the film is about the impact of the release of Nile Perch into the waters of Lake Victoria, it addresses many more issues that are affecting the African continent today. These include:

- The economic, environmental and social impacts of introduced species.
- The International Arms Trade and the countries involved.
- Globalization of world trade and its impacts on people and economies.
- Contrasts in living conditions between developed and developing countries.
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- Contrasts in living conditions between developed and developing countries.

Suitability

The film would be suitable for use in senior secondary and tertiary classes in Geography, Economics, Religious Education (ethics), Biology, Media Studies, and English. There would need to be some background information given about the location in which the film is set, the prevalence of HIV/AIDS in Africa and some of the recent African conflicts. Some scenes in the film are a little confronting and teacher guidance may be needed. The pace is slow in parts, some scenes have subtitles and the film is shot using a hand-held camera, often at night.
with its population of lions, hyenas, wildebeest, zebras, cheetahs, giraffes and gazelles.

- Olduvai Gorge: Sometimes described as the birthplace of humans, two-million year-old fossils of Homo habilis and Homo erectus have been found here.

### Population Characteristics of Tanzania compared to Australia:

*(See Item 2: Source: World Population Data Sheet)*

The population of the countries within Lake Victoria’s basin is about 30 million people. This population is one of the densest and poorest rural populations in the world, with human population density in the basin being well over 100 people per square kilometer. The population in the catchment countries, Tanzania, Kenya and Uganda has been increasing at the rate of three to four per cent per year and is expected to double within the next twenty years.

### Activities

1. Identify three main differences in the population characteristics between Tanzania and Australia.
2. Use evidence from the film that illustrates these differences.
3. Use evidence from the film that helps to explain these differences.
4. Describe the differences in life-style between a young person growing up in Mwanza, based upon the evidence from the film and someone of the same age living in your neighbourhood.
5. What are the implications for the countries of this region and for Lake Victoria if the population continues to increase?

### LAKE VICTORIA

Lake Victoria is the world’s second largest freshwater lake measured by surface area (68,870 square kilometres) and the eighth largest lake by volume. It has a shoreline of approximately 3,500 kilometres and a volume of 2,760 cubic kilometres.

Lake Victoria has suffered the highest rate of vertebrate species extinction recorded for any lake ecosystem, with approximately 200 fish species being driven into extinction since 1960.

Lake Victoria, through its single outlet to the north, the Victoria Nile, provides fresh water for the mainly desert countries of Sudan and Egypt. The lake touches the Equator in its northern reaches and is bordered by the countries of Tanzania, Uganda and Kenya. These countries control forty-nine percent, forty-five per cent, and six per cent of the lake surface, respectively.

### FROM TOP: ITEM 2; ITEM 3

In addition to fishing, economic activities in the basin include agriculture, livestock, forestry, tourism, floriculture, hydropower generation, and transport. Crops grown in the basin include maize, cotton, sisal, tobacco, beans, sugarcane, and coffee.

Lake Victoria is an international body of water because it is owned and controlled by more than one country. Human activities have placed pressure upon the lake’s ecosystem and it has become severely degraded over the last forty years. These problems include:

- Loss of native fish species, as a result of introducing the Nile Perch
- Half of the lake’s floor suffers from lack of oxygen for several months of the year.

The causes of some of these problems are caused by natural events and human activities.

- Over fishing
- Siltation from the erosion of deforested catchments,
- Industrial pollution
- Urban run-off

Locate Mwanza on the satellite map of Lake Victoria.

*(See Item 3: Satellite Map of Lake Victoria)*

**Mwanza**: Mwanza is the second largest city in Tanzania, located on the southern shore of Lake Victoria. It is the economic centre of the lake region. It has many industries and a busy port handling the
coffee, cotton and tea grown in the fertile western part of the country.

Globalization: A term used to describe changes in international trade and cultural exchange. There has been increasing trade and flows of goods across borders and investment as a result of falling trade barriers and interdependence between countries. There has also been closer contact between different parts of the world.

Charles Robert Darwin (1809-1882) was a British naturalist who achieved lasting fame as the originator of the theory of evolution through natural selection. He developed his interest in natural history while studying first medicine, then theology. Darwin’s five-year voyage on the Beagle brought him eminence as a geologist and fame as a popular author. His biological observations led him to study the transmutation of species and develop his theory of natural selection in 1838. Fully aware of the likely reaction, he confided only in close friends and continued his research to meet anticipated objections, but in 1858 the information that Alfred Russel Wallace now had a similar theory forced early joint publication of Darwin’s theory.

Survival of the fittest: Survival of the fittest is a phrase that is shorthand for an idea relating to competition for survival or predominance. Originally applied to economics by Herbert Spencer, Spencer drew parallels with Charles Darwin’s theories of evolution by what Darwin termed natural selection. The phrase is essentially a metaphor and is often felt to be unhelpful - biologists almost exclusively use natural selection in preference.

European Union: The European Union or the EU is an intergovernmental and supranational union of twenty-five democratic European countries, known as member states who are committed to working together for peace and prosperity. The European Union was established under that name in 1992 by the Treaty on European Union or the Maastricht Treaty. The member states of the EU are: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Germany, Greece, Finland, France, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, The Netherlands, United Kingdom.

Colonization: Colonization takes place when one group of people claims ownership of the territory already occupied by another group of people. The more powerful group then proceeds to govern the less powerful by imposing their own laws, customs, language, and values upon the people they deem their ‘inferiors’. The result is a population comprised of colonizers (members of the ruling group) and the colonized (the ruled). During the eighteenth and nineteenth centuries, Africa was colonized by the European countries; Great Britain, France, Spain, Portugal, Belgium and Germany who claimed large areas of Africa for themselves.

Sub-Saharan Africa: Africa south of the Sahara. This is the term used to describe those countries of Africa that are not part of North Africa or some areas of West Africa.

The exact position of the dividing line between the two regions is not clearly defined because of discontinuous and blurred break-points between national boundaries, ecologies and ethnicities. However, according to one classification of the two regions, sub-Saharan Africa includes forty-eight nations. Forty-two of these nations are on the African mainland. In addition, four island nations in the southwest Indian Ocean (Madagascar, The Comoros, Mauritius, and Seychelles) and two island nations in the Atlantic Ocean (Cape Verde and São Tomé
and Príncipe) are considered part of sub-Saharan Africa.

TOPICS

The economic, environmental and social impacts of introduced species

The presence of the Nile Perch started to be noticed in Lake Victoria in the mid 1980’s. Australians would be familiar with this type of story as our history is full of similar stories about exotic species (including rabbits, Cane Toads, foxes and Prickly Pear) being introduced with many wide-ranging unforeseen effects. The Nile Perch, however, proved to be a very valuable source of export revenue for the people who could harvest this resource. The fish’s white, filleted flesh was highly prized in foreign markets.

Lake Victoria Fishing

Lake Victoria supports what may be the most productive freshwater fishery in the world. Annual fish yields exceed 500,000 tons, with a value of US$400 million.

The lake’s fisheries are currently dominated by three commercial species: the Nile Perch, (over eighty per cent of the fish in the lake), tilapia and dagaa. Tilapia is the only indigenous fish species left as food for the local communities in Mwanza region and many parts of Tanzania.

Originally, Nile Perch in Lake Victoria was only caught for consumption by the locals who lived around the lake. However, over the last fifteen years, it has been in heavy demand for domestic consumption in European and Asian countries. Overfishing in many of the traditional fisheries in the global oceans forced consumers of fish in the developed countries to look for new sources. The number of fishers grew and factories sprang up around the lake to skin, trim and fillet and freeze the catches of Nile Perch and dispatch them by air to markets in Europe, the USA and Japan.


While there was a plentiful supply of Nile Perch, supplies of the fish that the local fishers had traditionally relied upon for their food had been reduced by the Perch. The Perch became for the local fishers a luxury beyond their reach. They had become too expensive and valuable for them to eat. They were for the export market, which would bring higher prices and foreign currency into the country.

Due to the boom in Nile Perch exports, many more people who were never fishermen moved from their farms in rural areas on a full time or part time basis, to the lake’s edge in order to cash in on what was seen as a lucrative industry. Fishing in developing countries is described as ‘a job of last resort’.

It has been suggested that this increased competition may have pushed some traditional fishermen to use destructive and illegal fishing methods to sustain their level of income and food requirements.

One of the most disturbing scenes in the film shows what some of the local population have to do if they wish to have any of the Nile Perch. A woman is shown working her way through the vast open-air drying racks containing the discarded fish carcasses. The camera moves to her face and we see that where her right eye should be is an empty socket. She is dressed in rags and she explains that the strong ammonia fumes generated by the rotting fish have caused her to lose her sight. Decomposing heads and skeletons of the fish are all that remain. The local people have to make do with the leftovers and compete with flies, scavenging birds and maggots. Maggots squirm around her muddy toes as she works hanging and removing scraps that elsewhere would be considered unfit for human consumption. However, she claims that she is better off here than working on her farm. ‘Before this I was normal farmer.’ ‘I am better off.’

Activities

1 Why are the fishers and the people working in the fish market so poor?
2 Where have many of them come from?
3 Why do you think she feels better off here?
4 What must conditions be like on the farm in the rural areas for some of these people?
5 Fishing in developing countries has been described as a job of last resort. Why do you think this is the case?
6 Does the film support this opinion?
7 How are the fishers portrayed in this film?

(See Item 7: Open Air Fish Market on Lake Victoria (site not specified). Source: http://www.iucn.org/themes/wetlands/lakevictoria.html)

The film shows us a factory that has been established in Mwanza by Tanzanian-born Indians. The fish factory workers earn US$50 to US$150 a month and this is a valuable supply of jobs in a region with high unemployment. Traditional fishers using traditional low-technology methods catch the fish and supply the factory. Most of the
fishing is done from small canoes, using either paddles or outboard motor power. Fishers usually use drift nets set overnight although some fish are caught with baited longlines. This modern, spotless factory processes the Perch fillets and they are loaded upon huge Russian planes bound for the European, Middle Eastern, North American, Japanese and Australian markets. The planes leave Mwanza every day carrying a load of fifty-five tons of processed fish. While this food is exported to wealthy counties, Tanzanians in the interior are living on the brink of famine and have to rely on international aid for survival.

A number of fish processing plants have been established around the lake, mainly since 1990. These include eleven in Uganda, twelve in Kenya and eleven in Tanzania, including the one shown in the film. They were built in response to the growth in demand for fish from the global fish market. As supplies of fish from traditional marine sources dwindled, new sources of fish were found. The fishing industry generates US$1 billion annually and the fish also provided work for as many as 30,000 workers. Others reliant on the fishing industry include: traders, shopkeepers, boat builders and net makers. Including the dependent families it is thought that the fishing industry on Lake Victoria supports several hundred thousand people, although it is difficult to gain accurate statistics.

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While some workers obtain work in the processing and packing factory, some of the street kids melt down the broken packaging from the factory and sniff the fumes to help them escape temporarily from their situation.

Activities

1. What are the impacts of introduced species? What plants and animals have been introduced into Australia? What have the results been? What Australian plants and animals have been introduced to other parts of the world? What have the results of these introductions been?
2. Why were the Perch introduced to Lake Victoria?
3. What impact has this introduction had on the ecology of the lake and the fishing patterns of the local fishers?
4. What is ironic about the shots of the planes taking fish out of Tanzania to Europe and the news of famine in parts of Tanzania?
5. Research the Potato Famine of Ireland in the 1850s. While thousands were starving, food was being exported.
6. What are the costs and benefits of the fish-producing factory in Mwanza? Who benefits? Who misses out on the benefits? The factory is shown as being a great achievement, exporting 500 tons of fish per day. How many people does it employ?

Markets For Lake Victoria Fish

Europe, with the notable exception of UK, is an important market for Nile Perch. Spain and Portugal are markets for both fillets and headed and gutted Nile Perch while Italy, Germany, Austria, France, Belgium and the Netherlands are now stable markets for fillets. The new member countries such as Slovenia, Hungary and Poland could also become markets for Nile Perch in the near future.

Statistics for individual European countries:

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fillets in 1999, during the EU ban on imports from Kenya, Uganda and Tanzania, and the recovery in the following years. In 2003, total imports into the EU reached a new record of 45,000 tonnes, with Belgium and Netherlands as the main importers. Total value of fillet imports from the three Lake Victoria countries can be estimated at 170 million in 2003, which was a decline from 196 million in 2002.

In 2003, prices collapsed due to competition from cheap catfish (basa) from Vietnam on the European market. Fresh fillets exports to the EU have grown impressively during the past years to reach 36,200 tonnes in 2003. Improved flight connections – very often fresh Nile Perch fillet exports are transported with dedicated charter flights – and better handling throughout the distribution chain are key elements behind the increase in fresh fillet exports.

1 Describe the trends in fish production and exports of Nile Perch to the European Union (EU) countries.
2 Suggest why the EU banned imports of fish from Lake Victoria in 1999.
3 Which scenes in the film indicate that this ban was lifted and that trade resumed?
4 Examine Tables 1, 2 and 3 and suggest the impacts that this ban would have had on the people in the Lake Victoria region who depend upon the fish.
5 Tanzania is the main exporting country of Nile Perch fillets to the EU, accounting for sixty per cent of total EU imports of the product. Uganda has a share of thirty per cent in total export value, while the remainder originates in Kenya. Before the ban, in 1997, exports were about equally distributed among the three countries. Tanzania was the first one to comply with EU requirements after the ban, while it took Uganda a bit longer, and Kenya was behind for a long period.

Suggest why the EU may have placed a ban on the import of fish from Lake Victoria.

Is there any evidence from the film to suggest why Tanzania may have increased its share of the EU market?

Future Fishing

The future supplies of Nile Perch may not be as plentiful and future generations around Lake Victoria may be deprived of fish yields since the Maximum Sustainable Yields (MSY) of most stocks have been exceeded. The Maximum Sustainable Yield is the amount of fish that can be taken from a fishery each year with the fishery remaining sustainable for the future.

The Kenya Marine and Fisheries Research Institute (KEMFRI) claimed that current fishing trends were no longer viable or sustainable, as the annual MSY of the Nile Perch was 222,200 metric tonnes yet current yield was 231,000 tonnes. Fishers are fishing more but catching fewer fish each time. Over-fishing and the predatory nature of Nile Perch have led to the decline of other species. There are concerns that the fish in Lake Victoria are being fished at an unsustainable rate.

The growing export of Perch may be having an impact upon the fish’s population.

Increasing numbers of fishers placed increasing pressure on the Perch population and currently it is being over-fished. It has been estimated that if the largest export fishery for Nile Perch is lost, the communities along the lake stand to lose between US$270-520 million.

(See Item 11: Summary of changes in fisheries in Tanzania 2000-2002)

There has been increased fishing effort, i.e. changes in technology and more fishers are going out more frequently in search of fish. However, there has been a decline in the catch per unit effort (CPUE), i.e. the number of fish caught each time a fisher goes out fishing. The mean size of the fish caught is decreasing. There has been an increase in the number of fishers and boats involved and unrestricted access to the waters of the lake. Illegal fishing practices and improved nets with smaller mesh size have also contributed to the situation. This mirrors the situation that has occurred over the last fifty years in many of the world’s marine fisheries.

Activities

1 Describe the trends in the number of fishers between 2000 and 2002 (the latest figures available) in Tanzania.
2 What factors may have contributed to this trend?
3 What are the implications for the future for the fishers on Lake Victoria if this pattern of increasing numbers of fishers were to continue?
4 Describe the types of technology available to fishers on Lake Victoria.
5 What impact do you think this level of technology might have on the size of catches that may be taken?
6 Suggest what might happen in the future to the size of catches if the number of boats with outboard motors were to increase?
7 What additional information, besides the type of propulsion, would you need to know about the boats before you could make an accurate prediction?
8 What are the implications for the future if these predictions about reduced catches of Nile Perch are accurate?
9 Who will suffer and who will benefit?
10 What might happen to the ecosystem of the lake?
11 What might happen to the stocks of native fish in Lake Victoria?

HIV/AIDS

The HIV virus, which causes AIDS, spreads very rapidly. In 2000, 3.8 million new HIV-infections were reported in sub-Saharan Africa alone, 10,500 per day. Thirteen per cent were children and the largest number of cases impacted upon the economically important group of 15 to 45 year-olds. In Africa, transmission of AIDS is largely through heterosexual activity. In the USA the ratio of infected men to women is more than 10 to 1, while in Africa the rates are almost identical. The movement of the migrant labour system, especially in the south, truck drivers on the African transport routes, refugees, armies and rebels roaming the countryside help to spread the virus.
**Activities**

Examine the two graphs above and answer the following:

1. What percentage of Tanzanian adults was living with HIV/AIDS in 2003?
2. What do you think is meant by the term ‘Sub-Saharan Africa’? You may need to consult a map of Africa from your atlas.
3. Where does Tanzania rank in this list of countries?
4. Which country has had the greatest number of people living with HIV/AIDS?
5. How many Tanzanians are living with HIV/AIDS?
6. Which three countries in this region have the smallest percent and smallest numbers of people living with HIV/AIDS?
7. Consult your atlas and indicate what these three countries have in common.

How might this affect the spread of HIV/AIDS?

Examine the Table: HIV/AIDS in Tanzania and complete the following:

1. How does Tanzania rate in terms of AIDS infection compared to Sub-Saharan Africa and the rest of the world?
2. How does the death rate in Sub-Saharan Africa compare with the rest of the world?
3. In which categories does Tanzania rate more highly than the global figures?
4. How does the film reflect some of the data shown in this table?
5. What are the socio-economic effects of the HIV/AIDS epidemic for the people of Tanzania, especially as the highest proportion of those infected is the young adults. Think in terms of impact on:
   - family income
   - orphans
   - food production
   - the size and viability of the work force.
   - population structure
   - future population growth

**Mwanza’s Street Kids**

HIV/AIDS has had an enormous impact on the populations of many African countries and Tanzania is no exception. The film shows the effects of AIDS with the orphaned street kids and the high death rates...
among the people, especially some of the fishers.

Some of the more disturbing images in the film relate to the depiction of the street kids of Mwanza, their struggle to find food and security, and their living conditions. In Tanzania as in many other parts of the world, there are large numbers of street kids, especially boys. Causes of homelessness are many, including being orphaned because of AIDS, fleeing poverty and violent homes, and coming to the city in search of work.

In 1992, in recognition that something needed to be done to assist the growing number of homeless children, the Kuleana Centre for Children’s Rights was established in Mwanza. Its goal was to help some of these homeless children with housing, health and education and to assist them in reintegrating back into the community.

(Activity) Using a search engine, research their recent work on the Internet. Their address is: Kuleana Centre for Children’s Rights, PO Box 27, Mwanza, Tanzania e-mail: Kuleana@raha.com

Africa’s Resources and the Global Arms Trade.

Africa is a continent that is rich in natural resources, but it also has a long history of those resources being exploited for the benefit of others with few if any benefits going to the traditional owners of the land on which these resources have been found. Darwin’s Nightmare suggests that the Nile Perch is another example of this resource exploitation. Other examples of African resources that are being exploited, sometimes illegally are oil, gold, the mineral coltan (for use in mobile phones), timber, diamonds and ivory. In some cases the development and trade in these resources have led to violence, warfare, criminal activity and the illegal importation of arms.

While Tanzania has been peaceful, there have been numerous wars in Africa since the end of the Second World War, many of which have been close to Tanzania. Conflicts arise through a combination of factors, social, political and economic. Some of the major ones have been:

- Sudan: Civil war since 1984 between the north and the south and in the western region of Darfur.
- Democratic Republic of Congo: Ethnic violence 1997 and on-going.
- Uganda: Rebels of the Lord’s Resistance Army (LRA) have for seventeen years battled the Ugandan government.

The Great Lakes area including Tanzania is thought to be a region through which
illegal arms are smuggled into the area to enable these conflicts to continue. It is also a region from which contraband resources like coltran and diamonds are moved. The money raised from the sale of these resources, helps to keep these conflicts going.


In order to fight these wars, the African countries need sophisticated modern weapons and ammunition, which have to be imported from the more developed countries. Arms trafficking is a crucial link in this chain. According to the New Internationalist, perhaps only 120 people are responsible for most of the small arms going to Africa. The resource commodities are often sold or swapped for illegal arms shipments going the other way. Shipping and aviation companies have also played a crucial role. In October 2002, a UN expert panel issued a report on the exploitation of natural resources in the Democratic Republic of Congo, which alleged that there were connections between the atrocities committed there and eighty-five businesses
operating in Europe, Asia and North America. It showed how coltan among other substances was smuggled into Dubai and then on to other trading centres in Europe. If it can happen with coltan, it can also happen with fish.

These figures help to give some idea of the scale of the problem of small arms especially in Sub-Saharan Africa

The firearm stockpile for sub-Saharan Africa (forty-four countries) is estimated at less than 30 million firearms.

- **Deadly trade.** Despite the relatively small size of the arms market, the prevalence of weak and non-existent states, rebel movements and endemic civil violence make the sub-Saharan African gun trade deadly.

- **Smuggling.** Illicit and smuggled weapons may rival the number of legal weapons in sub-Saharan Africa. It is estimated that eighty to ninety per cent of illegal small arms start off in the legal trade. The illegal trade in small arms could be worth up to US$10 billion per year.

- **Small arms.** Most small arms sold to sub-Saharan Africa appear to be cheap, second-hand weapons from sources that are difficult to trace, mostly originating in Central and Eastern Europe or in Asia. Russia is a major supplier of small arms to African countries.

- **The big exporters.** The world’s most powerful countries are also the world’s biggest arms suppliers. France, Russia, China, Britain and the US together account for eighty-eight per cent of the world’s conventional arms exports. These countries are also the five permanent members of the United Nations Security Council. In the last four years the US, Britain and France earned more income from arms exports to Africa, Asia, the Middle East and Latin America than they provided in aid. Military spending in sub-Saharan Africa averages US$9.8 billion; in 2001 Angola spent 3.1 per cent of GDP on the military compared with 2.7 per cent on education; Sierra Leone spends 3.6 per cent of GDP on the military and 1 per cent on education. Below are graphs showing the expenditure on arms.

### Human cost

(See Item 16)

- Since the end of the Cold War, ninety per cent of those killed in conflict have been non-combatants, compared with fifteen per cent at the beginning of the century.
- Children account for at least half of all civilian casualties.
- Beyond its direct cost in human lives, conflict can undermine economies, destabilize governments, damage infrastructure, disrupt social service delivery and provoke mass movements of people.
- Forced migration: according to the UNHCR, ‘armed conflict is now the driving force behind most refugee flows’ as people are forced to flee their homes. There are some 13 million refugees and asylum-seekers worldwide – Africa is host to a quarter of them.
- More than 14 million people face hunger due to present or recent conflicts globally.
- Today, as many as 300,000 children under eighteen serve in government forces or armed rebel groups, some as young as eight years-old.
- In some militaries of sub-Saharan Africa more than half the soldiers are HIV-positive.


Throughout *Darwin’s Nightmare*, the question is posed ‘What do the planes bring to Africa?’ While they are taking the fish away, it does not make sense economically to fly such long distances in such large planes with no cargo on board. The initial answers are vague, mentioning equipment.

In the film we see the Russian pilots unwilling at first to admit that they are bringing in arms in their empty planes and returning with cargoes of fish. By bringing a cargo of arms to Africa, they are able to make a profit on both legs of their journey. Similarly during the African slave trade, traders were able to capture slaves in West Africa and take them to the New World of North and South America and the Caribbean. Having unloaded the slaves, the ships could then return to their European ports with cargoes of sugar, tobacco and cotton.

### Activities

1. One writer has suggested that ‘globalization has added a key dimension to contemporary warfare-armed groups from some of the world’s most remote places can be directly linked to the commerce in the technological heartland of metropolitan society’ Explain what you think this means.

2. Is this supported by what you have seen in the film?

3. Examine the map of Tanzania, the map showing the conflict in The Democratic Republic of Congo and the list of recent wars in Africa above.
- Which countries close to Tanzania have experienced unrest in recent years?
- Identify the natural resources that are located in this region.
- What evidence is there from the map that there has been serious unrest in this region?

4. From this information, suggest why Mwanza would be a suitable location for the delivery of arms.

5. Why do you think that Sauper keeps asking the Russian pilots what they are
Why is this issue of illegal arms trading such an important issue in Africa today?

Research one of the recent wars that have occurred, or may still be occurring, in Africa. Outline the causes, the groups involved, the costs of the conflict, the involvement of outside countries or organizations.

In 2003, military spending in the world reached US$956 billion. High income countries account for seventy-five per cent of the world’s military spending with only twenty-six per cent of the world’s population.

Activities

1. Describe the global pattern of movement of arms throughout the world.
2. Why are countries involved in the arms trades?
3. What are the impacts of this trade on different groups of people?

However, amid this conflict, there are signs of hope. In 1999, a fifth of all Africans, lived in war-torn countries. Today, there are no major wars, but there are a number of hot spots. Peace talks are ceasefires are under way in Sudan.

AFTER VIEWING THE FILM

1. How did you feel after watching the film? What were your reactions, your emotions?
2. The film begins and ends with images of the plane flying over lake Victoria. Explain what you think the point of these scenes is.
3. Which images from the film had most effect on you? Choose one of these images and write about it, describing your feelings at the time.
4. Write a review of this film. Outline the main ideas of the film and indicate whether you would recommend it and to whom. In your review, refer to the film’s structure, its pace, the way in which it tells the story, the characters.
5. Write a letter to a friend telling them about the main ideas contained in the film. Choose two or three images from the film that had an impact upon you and describe these images and the impact that they had on you.

Reflections and Discussions

1. What should we know about our food, where it comes from and the conditions under which it is produced?
2. What should we know about our clothes and other consumer items, e.g. mobile phones, in terms of the conditions under which they were produced?
3. After watching this film, if you saw Nile Perch in your supermarket, would you think twice about buying it? Give reasons to support your answer.
4. What can consumers do about this situation?
5. The film was a great success in France where 300,000 tickets were sold, especially in the southwest where the filmmaker Sauper lives. In Bordeaux, citizens protesting succeeded in having Nile Perch removed from the supermarket shelf. What are the implications of this? What effects might these boycotts have on the trade fish but also on the livelihoods of the Tanzanians involved in the fish trade. Sauper suggests that a better option is to sign a petition persuading Western countries to stop selling guns to African countries.

- Which do you think would be more effective?
- Give reasons to support your answer.
6. The London-based Marine Stewardship Council issues labels that can be placed on products that come from...
sustainable fisheries around the world. Products from the fisheries will carry a special label, designed for commercial packaging and restaurant menus, to let consumers know they are buying seafood from a sustainable source.

- Research the work of this organization.
- Do you think that a system like this could work for the Nile Perch?

7 What can people living in wealthy countries do to help improve the living conditions of people in poorer countries?

8 What is meant by the term globalization?
- In what ways has the trade in Nile Perch become globalized?
- How does globalization affect you in your everyday life? Think in terms of food, clothes and entertainment.

9 One of the Russian pilots when speaking about his job highlights the impact of the arms trade says: ‘Children in Angola receive weapons on Christmas day; European children receive grapes. That’s business! But I wish all children could receive grapes.’

- Describe the patterns of trade between Africa and Europe. There are 500 tons of fish exported each day to Europe.
- What do the locals eat?
- What is ironic about the trade, food (fish) for guns?

10 What does the investigative journalist at the end of the film suggest that Europeans should do to improve the conditions for African people?

11 At the ecological conference on Lake Victoria shown in the film, what concerns are expressed by two of the delegates?
- Why do you think this would be the case?

12 Film Characters. Complete the following table.

<table>
<thead>
<tr>
<th>Person/Group</th>
<th>Description of the Characters</th>
<th>Your Reaction to the character</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tanzanian prostitutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Russian Pilots</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mwanza homeless kids</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watchman at the Fish Research Institute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jonathon the artist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The delegates from the EU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The woman from the country working in the open-air fish market</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Indian owners of the fish-processing factory.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Richard Mgamba, the investigative journalist</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The priest burying the AIDS victims</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13 Complete the following table: Compare the living and working conditions for people in Mwanza and where you live.

<table>
<thead>
<tr>
<th>Mwanza</th>
<th>The area where you live</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airport</td>
<td></td>
</tr>
<tr>
<td>Streets</td>
<td></td>
</tr>
<tr>
<td>Shops</td>
<td></td>
</tr>
<tr>
<td>Fish Processing Factory</td>
<td></td>
</tr>
<tr>
<td>Fishers</td>
<td></td>
</tr>
<tr>
<td>Watchman</td>
<td></td>
</tr>
</tbody>
</table>

14 The Lonely Planet Guide to Tanzania describes Mwanza in this manner. ‘Although the region receives relatively few visitors, it has numerous attractions, including two intriguing museums. Scenic rolling terrain, good fishing and the serene Rubondo Island Nation-
al Park, an ideal place for bird-watching and relaxing. Although very dusty in the dry season, and muddy during the rains, Mwanza is a fairly attractive place set among hills strewn with enormous boulders.’

a) To what extent does this description of Mwanza match the picture that is shown in the film?
b) Write your own description of Mwanza based on what you have seen in the film.
c) Why do you think that the filmmaker chose not to depict some of the more attractive parts of Mwanza in *Darwin’s Nightmare*?
d) How objective do you think this film is?

What other information would you like to see included before you could make a decision?

15 Select one of the characters in the film.
a) Imagine that you could interview them.
b) What questions would you like to ask this character?

16 Examine the trickle-down effect of releasing Nile Perch into Lake Victoria on the following: Draw a flow chart/present this using a graphic organizer.
a) The lake’s ecosystem
b) The people who live around the lake and depend upon it for their livelihood
c) The movement of people into the lake’s region looking for work
d) The increase in the number of AIDS cases
e) Increase in trade between Tanzania and the rest of the world
f) The arms trade

17 Indicate the ways and to what degree the following people are linked to the exploitation of the Nile Perch resources.
- The prostitutes
- The pilots
- The factory owners and workers
- The displaced farmers from the interior of Tanzania who have moved to the Lake
- The woman in the outdoor fish market
- The night-watchman at the Research Institute

18 The film-maker Hubert Sauper claims that he ‘tried to transform the bizarre success story of a fish and the ephemeral boom around the “fittest” animal into an ironic frightening allegory of what is called the New World Order’.
a) What is an allegory?
b) What is the New World Order?
c) The Nile Perch is the “fittest” fish in Lake Victoria, who does Sauper suggest is the fittest in the bigger picture?

19 Sauper claims that ‘the arrogance of rich countries towards the third world (3/4 of humanity) is creating immeasurable future dangers for all peoples.’
a) Do you agree with this statement that it could affect all peoples?
b) How does he depict this arrogance in the film?
c) What are some of the dangers that could face people because of this attitude?

20 ‘It seems that the individual participants within a deadly system don’t have ugly faces, and for the most part no bad intentions. These people include you and me. Some of us are “only doing our job” (like flying a jumbo from A to B carrying napalm), some don’t want to know, others simply fight for survival.’
(Hubert Sauper)
a) Which characters in the film is Sauper talking about?
b) What does he mean when he says ‘They do not have ugly faces’?
c) Do you agree with his comments?
d) Why are the Russian pilots reluctant to talk about their job and what they bring in to Mwanza?
e) What issues does this raise about ethics and jobs?
f) What ethical issues do these pilots face in their job?
g) Give examples of how people in other jobs may face ethical issues.
h) Why do they continue to do the job?

21 ‘Sauper does not portray the Russian pilots as villains but as people whose worst crime may be their selective intake of information about the wider ramifications of their work.’
a) Should Sauper present the pilots in a less positive manner than he does?
b) Why do you think that he chooses not to do so?

22. One of the characters in the film is the night watchman who earns $1 a day for his dangerous job.
a) What is his attitude to the prospect of a war?
b) Why does he have this attitude?
c) In what ways does he think he would be better off if there were a war?
d) If these beliefs were widely held, what would the implications be for the people of this region?
e) What could be done to change these attitudes?

23 One commentator on the film has commented that this film presents horrifying images that are comparable to those of the artists El Greco and Hieronymous Bosch. Research the paintings of these artists and the social backgrounds in which they were working and decide whether you agree with this comment.

24 During the film, there are many shots of planes that missed the take-off from Mwanza’s airport.
a) Suggest why you think these crashes may have occurred.
b) What are these crashes telling us about the market and its forces?
c) Imagine that you are a pilot or a crew member coming into Mwanza, how do you think that you would feel if you saw this wreckage strewn around the airport?

25 Supporters of Globalization suggest that with free trade between countries the forces of supply, demand and market responses are supposed to guarantee rewards to all without government intervention in regulations. Is this view supported by the picture we are given in this film?

26 What is the significance of the title of the film? Explain how Charles Darwin is associated with this situation.

**Essay topics**

1. ‘While it would appear that the film is basically about the introduction of the Nile Perch into Lake Victoria, this is actually a minor part of the film’s message.’
   Evaluate the accuracy of this statement.

2. ‘This film is unrelentingly pessimistic and offers little sense of hope for these people’. Do you agree with this statement? Are there any signs of optimism in this film?

**REFERENCES**


The opening chapter ‘The Shape of Africa’ by Jared Diamond gives a slightly more optimistic picture of the future of Africa than that portrayed in the film. The chapter ‘Living With AIDS’ examines the impact of HIV/AIDS on Africa.

‘Africa Leaps Forward’, *Newsweek* 12 July 2005. The subtitle is ‘Good News About Africa’. This article examines ways in which various African nations, including Tanzania, are trying to improve conditions for their people.


Websites

Fishinfonetwork: Globefish: Provides information about the fishing industry on Lake Victoria
http://www.globefish.org

Harvard Engineering: Very good for images of Tanzania and Mwanza
http://www.havard.engen.org/tanzania/

Population Reference Bureau
http://www.prb.org/pdf05/05WorldDataSheet_Eng.pdf

The Henry. J Kaiser Family Foundation: Very good for background information on HIV/AIDS in Tanzania
http://www.kff.org

Global Issues:

http://www.globalissues.org/

Global Witness: Global Witness is an investigative organization working to expose the link between natural resource exploitation and human rights abuses. They operate in areas where environmentally destructive trade is funding conflict or human rights violations. While it does not deal specifically with fish in Lake Victoria, it does refer to other resource issues in Africa.
http://www.globalwitness.org

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