



National Certificate of Educational Achievement
TAUMATA MĀTAURANGA Ā-MOTU KUA TĀEA

Exemplar for Internal Achievement Standard Geography Level 2

This exemplar supports assessment against:

Achievement Standard 91246

Explain aspects of a geographic topic at a global scale

An annotated exemplar is an extract of student evidence, with a commentary, to explain key aspects of the standard. It assists teachers to make assessment judgements at the grade boundaries.

New Zealand Qualifications Authority

To support internal assessment

	Grade Boundary: Low Excellence
1.	<p>For Excellence, the student needs to explain, comprehensively, aspects of a geographic topic at a global scale.</p> <p>This involves:</p> <ul style="list-style-type: none"> • fully describing a spatial or temporal pattern of the geographic topic using geographic terminology and concepts • fully explaining the factors and/or processes that contribute to this pattern • fully explaining, showing insight, the significance of the topic for people. <p>The student has fully described a spatial pattern of malaria, using geographic terminology.</p> <p>The quality of the description is shown through the extension of the overall linear pattern (1). Detail is provided through descriptions of concentrations within the linear pattern and evidence that the line is broken (2). Reference to topics with similar spatial patterns adds fullness to the description (3).</p> <p>The student fully explains the two most significant factors contributing to the spatial pattern (climate and poverty). Discussion of climate and lack of sanitation interacting to contribute to the pattern (4) provides evidence of depth of understanding. Several poverty indicators contributing to the spatial pattern have been explained. The strength of this explanation is how pattern continues to form an integral part of the response (5). Global statistical evidence (6) supports the explanation.</p> <p>Access to international/regional aid to implement eradication programmes is used to explain breaks in the linear pattern (7). Altitude and periods of drought were also discussed as a cause for breaks in the linear pattern.</p> <p>For a more secure Excellence, the student could make more effective use of the evidence on the maps and the poverty cycle, and include additional supporting statistical evidence (5).</p>

Global topic is Malaria.

The student evidence included maps of Malaria Distribution, Climate Regions and Global Poverty Rates and a detailed poverty cycle.

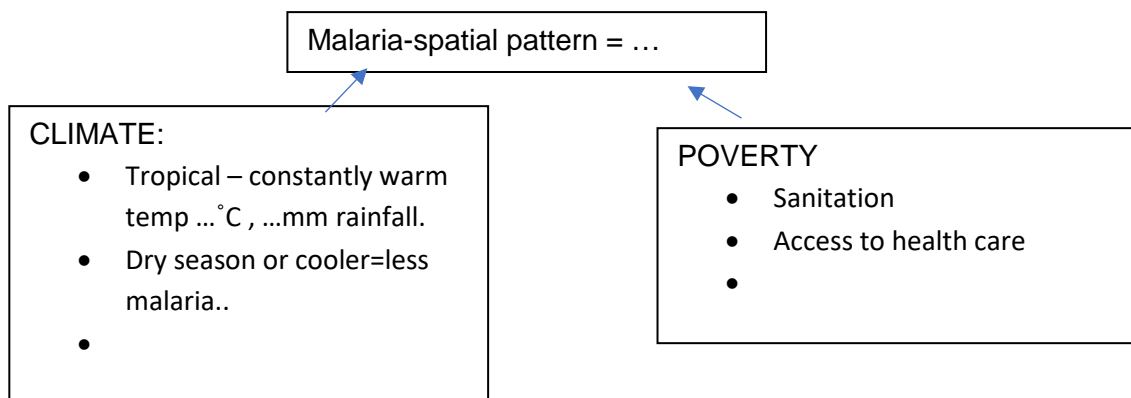
Spatial pattern:

Transmission of malaria forms a linear/banded spatial pattern generally between the Tropic of Capricorn and the Tropic of Capricorn, covering equatorial and tropical environments. The line appears unbroken and is made up of 3 distinct concentrations. (1)

The largest concentration on the linear band is in the central region of Africa. As shown on the map this concentration extends further south than the others reaching south of the Tropic of Capricorn into Madagascar, Mozambique, and northern Namibia and Botswana. The northern edge of this concentration follows the edge of the Sahara Desert. A significant characteristic of this concentration is that it has approximately 86% of all malaria cases and more than 90% of all deaths caused by malaria. (2)

The South Asian concentration is more widespread and pushes the linear band further to the north... The South American concentration is almost all south of the equator... When the concentrations are examined closely it is evident that they each show areas not affected by malaria and this breaks the linear pattern. For example, ... where environmental conditions such as high altitude change the climate conditions, long dry seasons and/or malaria eradication programmes have been effective. The linear band is broken in Peru because... (2)

Causes plan:



There are two key reasons for the linear pattern, climate and poverty. When comparing the malaria map with the climate map it matches the equatorial/tropical regions and on the poverty map there is a match with the highest rates of poverty. The linear band across the equatorial region clearly shows a relationship with tropical climate characteristics of consistently warm temperatures (18+ °C) and high rainfall (...mm). This factor also explains the dramatic fall in malaria rates in the cooler regions further north and south... (3)

A high malaria rates forming the concentrations on the linear band are related to less economically developed regions such as the central region of Africa, Amazon...

5

In these less economically developed nations, most of the people live below the poverty line... and in communities where infrastructure is poorly developed and health care and education often limited if accessible at all. Most countries within the linear band formed by malaria transmissions also have limited funds to improve the situation. The average national investment in health care for countries forming the Central African concentration was..., in the Indian subcontinent it was ... From this how much would be available for targeting malaria?

5

Poverty in the regions forming the linear band through the equatorial and tropical regions results in communities being left vulnerable to Malaria. Of the 738 million people globally, who lack access to clean water, 35% are living in the Central Africa concentration where approximately 49% of the population lives on less than \$1.25 a day.

6

In regions where rainfall is high and sanitation not developed there is an increase of stagnant water and in the warm tropical environment this attracts the infected mosquitos and is a breeding ground for Malaria... 98% of malaria deaths occur in 35 countries concentrated in tropical and sub-tropical regions, of these 30 are in the Central African concentration and the remaining 5 are in the South Asia concentration..

4

6

Investment in programmes to eradicate malaria can explain some of the breaks in the linear pattern. International and regional organisations like WHO, USAID and AMI (Amazon Malaria Initiative)... often fund and monitor the eradication programmes. Countries that have contributed to the break in the linear band include Belize, El Salvador, Ecuador, Surinam, Peru, Botswana, Malaysia... Belize is a member of AMI and no deaths due to malaria have been reported since 2006...

7

	Grade Boundary: High Merit
2.	<p>For Merit, the student needs to explain, in depth, aspects of a geographic topic at a global scale.</p> <p>This involves:</p> <ul style="list-style-type: none"> • describing, in detail, a spatial or temporal pattern of the geographic topic using geographic terminology and concepts • explaining, in detail, the factors and/or processes that contribute to this pattern • explaining, in detail, the significance of the topic for people. <p>This student has described a spatial pattern of global rain forests using geographic terminology and supporting global evidence. The annotations added to a resource map provide an overview of the pattern at a global scale (1), and show a clear understanding of the concept of 'pattern'. In-depth understanding is shown through descriptions of specific characteristics of the wider pattern (2).</p> <p>The detailed explanation of the significance of rainforests covers tribes, commercial interests, and society at large (3). The in-depth explanation relating to indigenous people (4) is supported with detailed reference to specific groups.</p> <p>To reach Excellence, the student could more fully describe the spatial pattern by describing the gaps in the linear pattern that have resulted in the concentrations, for example the gaps along Western South America and Eastern Africa.</p> <p>A full explanation of the significance of the topic could include further development of other ideas to reflect the quality provided for the section on indigenous people. For example, the student could provide detailed evidence of the significance of commercial logging as a contributor to economic growth (5) for specific rainforest countries, and rates of deforestation in named rainforests (6).</p>

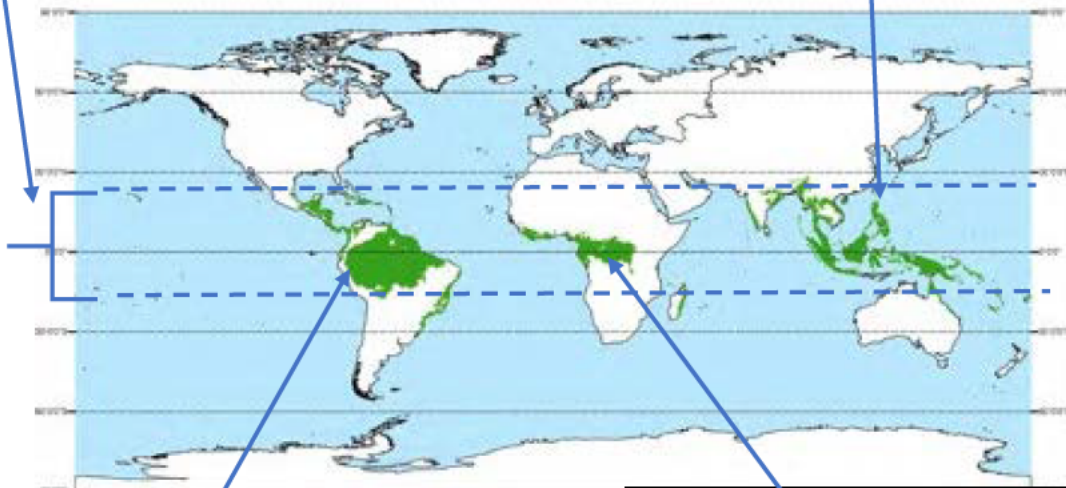
Global distribution of Tropical rainforests

①

Rainforests form a **linear pattern** across the equator. There are 3 main **concentrations** of rainforest.

S.E Asia forms the eastern **edge of the linear pattern**. The forests in this area are quite **dispersed** due to the geography of islands. Most of this forest is in Indonesia and Malaysia, but forest clearance is occurring very fast.

②



The largest **concentration** is the Amazon Basin which extends into 8 countries and covers about 40% of the South American continent.

Following along the line is the rainforests of Central Africa. This forest extends into 6 countries but most of it is in DRC.

The rainforests extend in linear pattern across the globe between the tropics but as shown on the map it is not a continuous line. In South America and Asia the line extends as far as the Tropic of... Africa has a much narrower rainforest area only about 10° North and South...

②

CAUSES:

Latitude and a range of climatic factors and processes were explained in detail as contributing to the pattern.

Significance of the topic for people

The rainforests are significant for a range of groups including **indigenous tribes, commercial interest groups and the wider global community**. Significance can be based on how the forests are used and our dependence on them, for example, **basic needs like food and shelter, valuable timbers, medicines** etc. But forests are also important because of the **influence they have on global climates**.

③

Indigenous tribes inhabit all the major rainforest, these groups include the **Matis and Waorani tribes in the Amazon, Mbuti and BaAka Pygmies in ...** These peoples have a sustainable perspective and a vast knowledge of the qualities of the rainforest ecosystem... The forests tribes tend to live in small

④

groups and are often nomadic as this ensures minimal impact on the forests... The canopy is not disturbed as it is needed to protect the people, undergrowth plants and animals from the sun, this practice also encourages fast regeneration... Foods include "bush meat", honey, fruit ... The indigenous people such as the Waorani in the Amazon and BaAka of the Central African Republic use forest products to construct a range of tools. For hunting bows, arrows, nets, darts... The darts are made from a sharpened rib of a palm leaf, this is dipped in poison from a poisonous frog, beetle or plant. The quiver for the darts is made from bamboo and cotton from the kapok tree... Shelter is also provided from rain forest materials...The Pygmies in Central Africa make huts like igloos from saplings and leaves, the bows, arrows and nets used for hunting are made from materials of the forest... Culture and traditions are largely intertwined with the rainforest with many tribes believing that in death they become forest animals... Even as the forest people begin to harvest the forest for more commercial reasons they use more sustainable practices like in Indonesia they use the natural strength of elephants for logging instead of using industrial machines and selectively log rather than clear felling...

Rainforests are significant as a source of income for many developing nations, with timbers like Mahogany and teak in high demand for ... Commercial logging provide employment ...

5

One quarter of all current medicines have been derived from species living within these tropical rainforests

Tropical forests are of global importance due to their large impact on the climate. Tropical rainforests act as a 'carbon sink' meaning that they absorb carbon dioxide from the atmosphere. Rates of deforestation globally are currently high. Through this removal of trees, there is less conversion of CO² to O² through photosynthesis, further increasing CO² levels... Greenhouse effect... The rise in global temperature...sea levels rise...upset the balance of global ecosystems...

6

	Grade Boundary: Low Merit
3.	<p>For Merit, the student needs to explain, in depth, aspects of a geographic topic at a global scale.</p> <p>This involves:</p> <ul style="list-style-type: none"> • describing, in detail, a spatial or temporal pattern of the geographic topic using geographic terminology and concepts • explaining, in detail, the factors and/or processes that contribute to this pattern • explaining, in detail, the significance of the topic for people. <p>This student has described the spatial pattern of deforestation in detail, through reference to characteristics of the linear pattern, such as peripheral, corridor and pockets (1). The global evidence used for these different patterns continues to support the wider global linear pattern (2).</p> <p>Relevant causes are explained in detail as contributing to the corridor pattern in the Amazon and larger concentrations in Africa and South East Asia. The explanation provides a range of evidence including more recent causes such as logging, along with the more traditional causes like shifting cultivation (3).</p> <p>For a more secure Merit, the student could ensure that they develop the explanation of the causes with a focus on the pattern, rather than explaining the general causes for deforestation (4). This section also needs to show the use of more specific detail, such as statistical evidence for rates of deforestation, return times of shifting cultivators, or size of areas that have been converted to plantation etc.</p>

Deforestation

Spatial Pattern: The spatial pattern of deforestation follows the linear pattern of tropical forests between the tropics where the deforested areas are mostly on the peripheries of the major areas of rainforest. When examined closely the peripheral pattern shows pockets of deforestation with some areas forming inroads into the forest like corridors. This pattern can be seen in the Amazon where distinct corridors extend from the southern and eastern edges of the forest into the interior... In Central Africa the linear pattern is made up of concentrations of deforestation especially in Western Africa and Ethiopia. In South East Asia deforestation is widespread showing both concentrations in parts of Malaysia and large pockets in Indonesia.

1

2

Causes for the spatial Pattern: The pattern of deforestation is caused by people's access to the forest. The corridor pattern common in the Amazon follows roads that are used by logging companies to take the logging equipment in and transport the logs out of the forest... The Trans-Amazon Highway forms one of the major corridors of deforestation, it is about 4,000 km long and goes from ...The logging companies use heavy equipment which needs roads that won't cause them to get bogged down when there is heavy rain...

3

Most of the settlers in the forest stay close to the roads where they clear small areas for farming, continuing the corridor pattern. These settlers lack the finances or machinery to develop roads to alter this pattern. These small holders are often given government grants, this is the case in Brazil... Cheap land and government subsidies are creating increasing deforestation especially in Southern Brazil... As population grows areas for settlement become limited and ... Increasing need for food production ... expansion of infrastructure also led to deforestation.

4

If burning is used as the means of deforestation this creates larger concentrations and pockets of deforestation which can be seen in the southern Amazon, Malaysia and Indonesia. This is very common when ranchers extend their farms in to bordering forest. The pockets of deforested land in Malaysia and Indonesia is mostly used for plantations.

3

Changing forest land to agriculture is the primary cause for deforestation in the Amazon and in South East Asia. Deforestation is caused by the rising demand for a range of crops like palm oil, soy beans, cocoa, coffee etc.

4

The main cause of the concentrations in Eastern and Central Africa is a result of shifting cultivation. This concentration is often the result of population growth and people returning to cultivate land too soon...

3

The significance of deforestation for people was explained in detail including discussion of a range of ideas from hardships faced by indigenous people through to economic benefits for individuals and communities.

	Grade Boundary: High Achieved
4.	<p>For Achieved, the student needs to explain aspects of a geographic topic at a global scale.</p> <p>This involves:</p> <ul style="list-style-type: none"> • describing a spatial or temporal pattern of the geographic topic • explaining the factors and/or processes that contribute to this pattern • explaining the significance of the topic for people. <p>This student has provided a plan (1), including a map which demonstrates understanding of a spatial pattern of coffee production, and introduced causes for this pattern. Extending the description for the overall pattern “<i>The line is nucleated in...</i>”, and the use of appropriate global evidence, shows the quality expected (2). The explanation of climate includes explicit links to the pattern, demonstrating understanding of the causal relationship between tropical climatic conditions and the linear pattern (3).</p> <p>The plan shows the range of groups the student will include in the explanation of the significance of the topic. The explanation begins with the pickers/labour, and proceeds through to wider economic benefits for people. Specific global evidence is used to support the explanation (5).</p> <p>To reach Merit, the student could further describe the nucleated pattern or variations in the width of the linear pattern. A detailed explanation could consider how the equatorial and subtropical conditions create variation in the linear pattern. While temperature and rainfall statistics are provided for Brazil (4), these need to be extended to continue the focus on the coffee belt rather than an emphasis on one country.</p>

COFFEE

Global Topic - PLAN

Coffee Producing Countries - PATTERN

main producers: Brazil, Vietnam, — — — — —
 other coffee countries []

Coffee countries in each continent across the equator — Tropics = linear.

Why a Line? ① Climate < temp = Tropical
 ② Colonialism = Brazil - Portug
 Indonesia -
 Uganda -

PEOPLE? demand cold temp

- ① PICKERS - working conditions
- ② LOCALS - Pay
- ③ country - GDP
- ④ -

1

SPATIAL PATTERN:

There is a **linear pattern** of coffee production horizontally along the equator and in between the Tropic of Cancer and Capricorn. This line is known as the 'Bean Belt'. The line is nucleated in Southeast Asia (Indonesia and Vietnam), Central Africa (Ethiopia and Uganda), India, Central America and South America (Mexico, Guatemala, Honduras, Colombia and Brazil).

2

The five top coffee producers are underlined above and shown on the map and these clearly reflect the global spread...

CAUSES for the pattern:

1. Climate

Coffee has such specific conditions for successful growth, it can only be grown in certain areas of the world that are **warm, humid, and at the correct altitude**, making the equatorial and subtropical region of the world perfect for coffee production. This shows **the linear pattern** shown in the map in the plan. 3

Coffee needs one of two optimal growing climates the first being subtropical at an altitude between 1800-3600 feet and the rainy and dry seasons must be well defined. These conditions result in one growing season and one maturation season of the plant which usually falls during the coldest part of autumn. **Mexico, Jamaica, Brazil and Zimbabwe** are examples of areas with these conditions. For example, the world's largest coffee producer, Brazil, has **an average temperature of 22 to 26°C all year round**, with an **average rainfall between 1000 and 1500mm annually**, most of which falls during the summer months. At an average, Brazil sits at an altitude of about 1000 metres. These conditions are perfectly aligned with coffee's optimal growth conditions, helping to explain why Brazil is the largest producer of coffee in the world. 4

The second being Equatorial at latitudes lower than 10 degrees, an altitude of 3600-6300 feet and frequent rainfall that causes almost continuous flowering which results in two harvesting seasons. The period of highest rainfall determines the main harvesting period while the period of least rainfall is usually the secondary harvesting. **Kenya, Colombia and Ethiopia are examples of areas with these climates and together with the countries in the subtropical section show the coffee belt or linear pattern.** 3

The process of colonialism was also explained as contributing to the linear pattern

SIGNIFICANCE of the topic for people:

Coffee is second only to oil in terms of world trade, meaning the coffee industry generates billions of dollars internationally, every year. This can have **both positive and negative impacts on different groups of people**, especially in terms of the economies of the areas they live in...

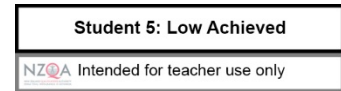
Coffee production is mostly in developing countries and as plantations. **The coffee pickers** are often migrant workers who are exploited, e.g. **receiving less than the minimum wage and ... There is evidence that children as young as 5 are used for picking...cheap labour...** In Kenya it is estimated that **about 30% of pickers are under the age of 15.** 5

Housing conditions in **Central America and Colombia are often like large dormitories with no privacy and limited sanitation...** Working conditions are variable, sometimes, equipment like machetes and boots are not provided or safety equipment and training when working with pesticides...

Pesticides impact on the health of workers and people living near the plantations...

	Grade Boundary: Low Achieved
5.	<p>For Achieved, the student needs to explain aspects of a geographic topic at a global scale.</p> <p>This involves:</p> <ul style="list-style-type: none"> • describing a spatial or temporal pattern of the geographic topic • explaining the factors and/or processes that contribute to this pattern • explaining the significance of the topic for people. <p>The student has briefly described a clustered spatial pattern of human trafficking, with global evidence. The statement '<i>This looks like one cluster</i>' shows that the student has identified a concentrated component to their overall spatial pattern, and begins to develop the description (1).</p> <p>Poverty is explained as a factor contributing to the clustered spatial pattern, with the student making explicit links between poverty and the spatial pattern (3).</p> <p>For a more secure Achieved, the student could improve the quality of the description of the clustered pattern (1) through further discussion of the characteristics of the clusters. For example, comparisons of sizes or descriptions of concentrations within the clusters.</p> <p>The explanation of poverty as a factor contributing to the pattern, could be strengthened through further use of the World Poverty and Human Trafficking maps (2) (3), and more extensive global evidence. The inclusion of more specific aspects of poverty could introduce other factors or processes.</p> <p>Trafficking flows and the implications of shared borders could be explained in more depth and explicitly linked to the resulting clustered spatial pattern (1).</p>

Student 5 – Low Achieved



The spatial pattern of human trafficking:

The spatial pattern is a clustered pattern. There are clusters in Africa, Middle East, Asia and Eastern Europe. The largest clusters extend through Africa and the Middle East. This looks like one cluster because the countries all share borders e.g. Chad, Sudan and across the Red sea to Saudi Arabia. The pattern looks dispersed as it covers most continents...

1

Factors and/or processes contributing to the pattern:

The main factor contributing to the clustered pattern of trafficking is POVERTY. The map of world poverty closely matches the clustered pattern on the human trafficking map.

2

People in these countries that make up the clusters are generally very poor and some of these countries have large populations. This means that there is not enough money to go around and some areas lack clean water supplies showing that they are not able to meet their basic needs. They are trapped in the poverty cycle.

Traffickers go to the poorest groups of people in these countries and offer them a way out. They offer them money for their children or in exchange for their work, this is bonded labour and usually a child, or men are effectively sold as 'slaves' to an organisation or person in another country for domestic work or labour. Poverty makes these people more at risk to becoming victims. This shows a pattern of trafficking which generally "originates in less economically developed countries and flows to more economically developed countries" e.g. common trafficking flows are from poorer countries in Africa to the Middle East, or further into Europe. This explains the cluster pattern because the poverty map matches many of the clusters on the Human trafficking map.

3

	Grade Boundary: High Not Achieved
6.	<p>For Achieved, the student needs to explain aspects of a geographic topic at a global scale.</p> <p>This involves:</p> <ul style="list-style-type: none"> • describing a spatial or temporal pattern of the geographic topic • explaining the factors and/or processes that contribute to this pattern • explaining the significance of the topic for people. <p>The student has briefly explained how poverty can contribute to a clustered pattern of human trafficking (3).</p> <p>The significance of the topic for people has been explained, referring to several key factors such as sex trafficking, HIV/AIDS, and trafficking of boys/child soldiers, with some global case study evidence (4).</p> <p>To reach Achieved, the student could more clearly demonstrate understanding of the concept of pattern through describing the clusters in the spatial pattern (2), (3). The statement ‘trafficking of people happens in places such as the continents of Africa, South America and Asia’ (1) identifies locations where trafficking occurs, but does not offer any description.</p> <p>The student needs to focus more on how the factors and/or processes, such as political influence or poverty, contribute to the identified pattern. The emphasis in the student work is more on identifying the causes of human trafficking (2).</p>

The pattern:

On the map, it shows that most of the trafficking of people happens in places such as the continents of Africa, South America and Asia. It is mostly in developing countries like Chad and Bangladesh. The reasons for trafficking in developing countries is the fact that there is a lot of problems in those places.

1

The factors/processes causing the pattern:

There are many causes for the trafficking of people from clusters of less developed countries to those that are more developed. The main factor is that the governments of some of these countries are corrupt e.g. Somalia, Burma ... They do not have laws or powers to control the illegal movement of people; they have lax border controls and 'officials willing to accept bribery to facilitate trafficking.' People can be easily trafficked from Somalia to countries all over the world...

2

Economic factors relating to human trafficking have a major influence on the clusters in the spatial pattern. The less developed countries make up the clusters e.g. in Africa and Asia. These countries have high levels of poverty and easily become victims to traffickers who offer them money in exchange for work. This ends up being bonded labour and the trafficked people are treated like slaves...

3

Effects on people:

Human trafficking has a wide range of effects on people largely depending on why and where they are taken. Some of these effects relate to health like the spread of Aids because of sex trafficking. The spread of HIV Aids is mainly linked to the trafficking of women and girls being forced in to prostitution... This leads to some girls being abandoned when they become too sick to work and they can't go home because they have no money or a passport, this was the case for Amy who was trafficked from Nepal to India...

4

The spread of crime and violence is seen in Africa (Sudan, Chad, Rwanda...) where boys are forced to become child soldiers... While this trafficking is often with in the same country, they are taken from their families and in some cases boy soldiers they are forced to hurt people in their own villages. Case studies show that most of these children suffer severe emotional effects and have fairly short lives...