General Certificate of Education
Advanced Level Examination
June 2015

Geography GE04B/PM

Unit 4B Geographical Issue Evaluation

Preliminary Material (Advance Information Booklet)

To be opened and issued to candidates on or after Sunday 22 March 2015

You will need no other materials.

Instructions

- This Advance Information Booklet will be issued on or after Sunday 22 March 2015 in advance of the examination for Unit 4B. You should make yourself familiar with the information in the booklet.
- This booklet must be kept **unmarked** for use in the forthcoming examination.

Information

- The Preliminary Material is to be seen by teachers and candidates **only**, for use during preparation for the examination on Friday 19 June 2015. It **cannot** be used by anyone else for any other purpose, other than as stated in the instructions issued, until after the examination date has passed. It must **not** be provided to third parties.

STUDY ALL THE INFORMATION IN THIS BOOKLET

The information in this booklet comprises the following:

Item 1 Riders for Health and their work in Kenya

Riders for Health (often just called Riders) is a small NGO (Non-Governmental Organisation). It was set up by a group of people involved in the motorcycle Grand Prix circuit. It now has programmes in a number of African countries including Kenya, working with local healthcare services to provide and maintain motorbikes, used to reach patients in outlying communities.

The following extracts are taken from the Riders for Health website in 2011, with some updating in 2014.

Kenya – country profile

- **Area**: 580 367 km^2
- **Capital**: Nairobi
- **Population**: approx. 40 million
- **Life expectancy at birth**: 60 years
- **Child mortality rate** (under 5 years old): 85 per 1000 live births[1]

Health situation

According to the World Health Organization (WHO) 8.5% of children will die before they reach their fifth birthday – with leading causes of death including diarrhoea and malaria. Though both are preventable and treatable, the threat of infectious diseases in Kenya is high.

There are wide disparities in healthcare across Kenya, with 'inadequate health infrastructure' and 'distribution inequalities' presenting major challenges in system development.

Over 60% of Kenya's population live in rural locations, yet just 14% of the road networks are paved. Characterised by hills, mud and clay tracks, travel is difficult. Without a reliable transport system in place, the delivery of even the most basic healthcare services is virtually impossible.

[1] The figures quoted by Riders for Health appear to date from around 2010. In 2014 the CIA World Factbook gave the following estimates:

- Population – 45 million
- Life expectancy – 63 years
- Infant mortality rate – 40.71 per thousand live births
- Maternal mortality rate – 3.60 per thousand live births

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Riders for Health – History

The movement that would become Riders for Health started in the motorcycle community when a group of people working in the grand prix paddock began general fundraising for children in difficulties in developing countries.

During several trips to Africa in the late 1980s to see the fruits of this fundraising, Barry and Andrea Coleman and GP racer Randy Mamola noticed that vehicles intended for use in the delivery of health care were not being used because they had broken down. They saw vehicles piled up at clinics that had stopped working for want of a US $3 part, but no one knew what to do with them. One of the nurses that they met at the clinic told them that, because people lived in villages so far apart, she could never reach them with healthcare.

For people who had worked around engines all their lives, this made no sense. They knew that for a vehicle to run properly and for the lifespan the manufacturer intended, it must be serviced correctly, especially when being used in hostile environments like many parts of rural Africa. They also knew that transport affects everything and that without effective transportation, development in Africa would be impossible.

Randy returned to his racing career but with a new focus. Barry began working with established agencies to develop new systems for managing vehicles in difficult or hostile conditions. Andrea began building worldwide support in the motorcycling community and elsewhere for a new initiative in Africa. The initiative was enthusiastically supported by the motorcycle community worldwide. By making collections at events like the Day of Champions and at the British Grand Prix, or by running helmet-parking buses (where visiting motor cyclists pay to leave their helmets in a safe place) at events in the UK, Riders has been able to raise funds to support its programmes in Africa.

In 1996, Riders for Health was registered as an independent NGO in the UK. The expert systems they developed for managing vehicles in difficult conditions are now used effectively across Africa.

Riders for Health now has programmes in the Gambia, Zimbabwe, Nigeria, Kenya, Malawi, Zambia and Lesotho.

Riders for Health in Kenya

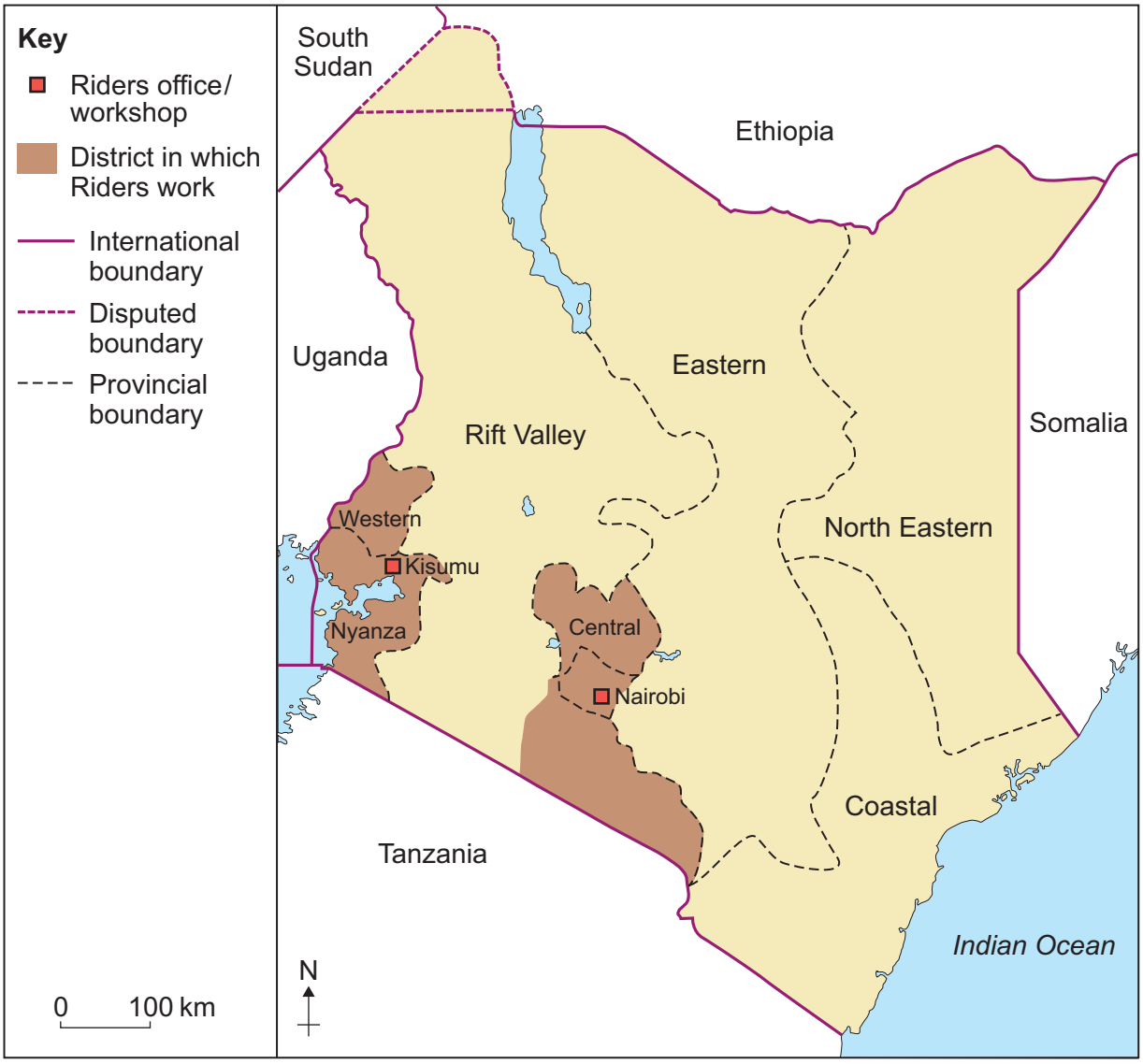
- Began operations in: 2002
- Staff: 8
- Vehicles managed: 77

Riders began working in Kenya with African Infectious Diseases Village Clinics (AIDVCs). Riders expanded into western Kenya in 2007 and now operates a grassroots initiative that provides outreach health workers from local community-based organisations (CBOs) with the transportation they need to do their jobs. Their focus ranges from HIV/AIDS care to the support of orphans, vulnerable children and marginalised groups, to water management and sanitation programmes.

Riders currently mobilises health workers from six CBOs in Kenya. See **Figure P1**.

Figure P1

Areas in Kenya where Riders for Health work



Item 1 continues on the next page

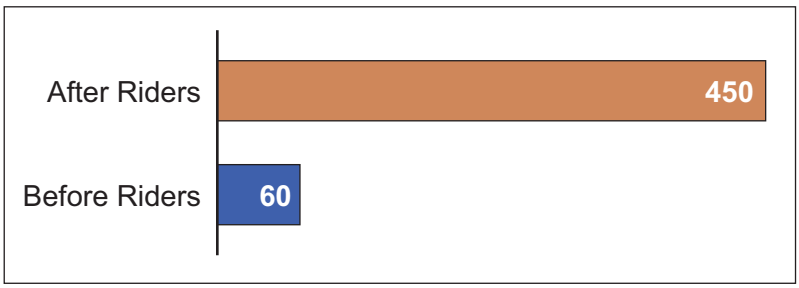
In 2011, Riders opened a registered rider and driver training school in Kisumu. Though still in its infancy, the International Academy for Vehicle Management: Kisumu is already in high demand. In Kisumu, trainees develop skills in defensive driving, basic vehicle maintenance and journey planning to help them conduct their lifesaving work. Equipped with new skills to tackle the harsh African terrain and keep their motorcycle running day after day, health workers are able to reach many more families living in rural communities with vital healthcare.

Figure P2

Health workers supported by Riders for Health

Figure P3

A graph showing the average number of people reached each week by a health worker



Impact

- Thanks to the Riders' motorcycles, outreach health workers have gone from spending two days in the field each week to four days.
- This has been possible because their travel time has been cut from four hours each day to just one, yet they are still able to reach around 80 kilometres away, rather than the 20 kilometres before when walking, cycling or using public transport.
- Each week, an extra 20,000 people across Kenya can be reached by health workers because of Riders' motorcycles. A fully mobilised health worker is able to travel further to reach more isolated areas. They are also able to spend double the amount of time in the communities because they do not waste time travelling between villages.

A health worker with the Society for Women with AIDS in Kenya said "The Riders' motorcycle has helped me reach many places. The Riders' motorcycle is like an eye opener. After reaching so many people, stigmatisation has gone down. Most people living with HIV/AIDS have gone public. Those who were suffering from opportunistic infections have been treated and the community is more informed on HIV/AIDs."

Item 2 Kenya maps

Figures P4 – P8 are maps showing various aspects of Kenya's geography. Study them carefully, taking care to see how different aspects of the country's geography are inter-related.

Figure P4

Kenya – Relief

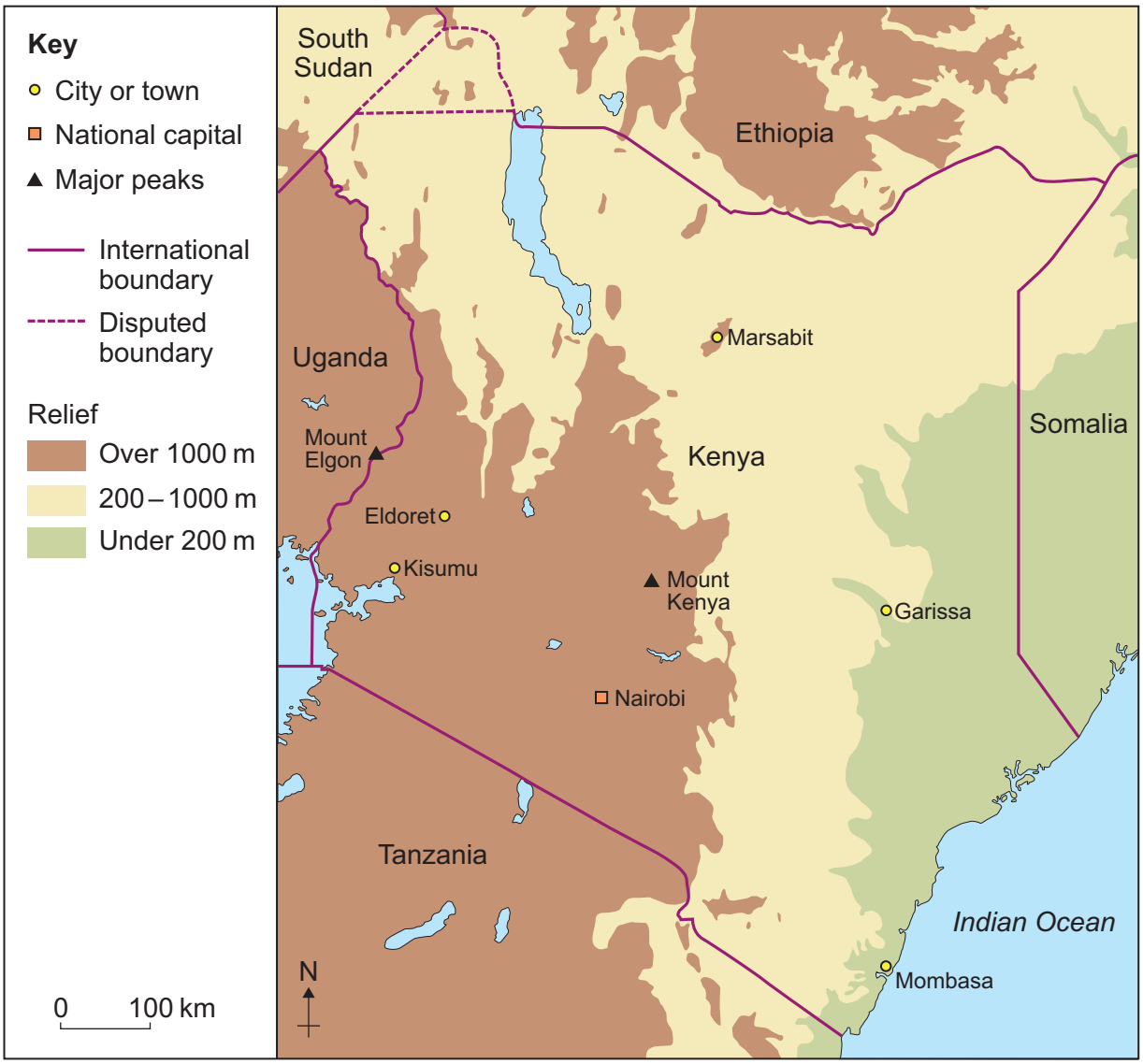


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Figure P5

Kenya – Precipitation

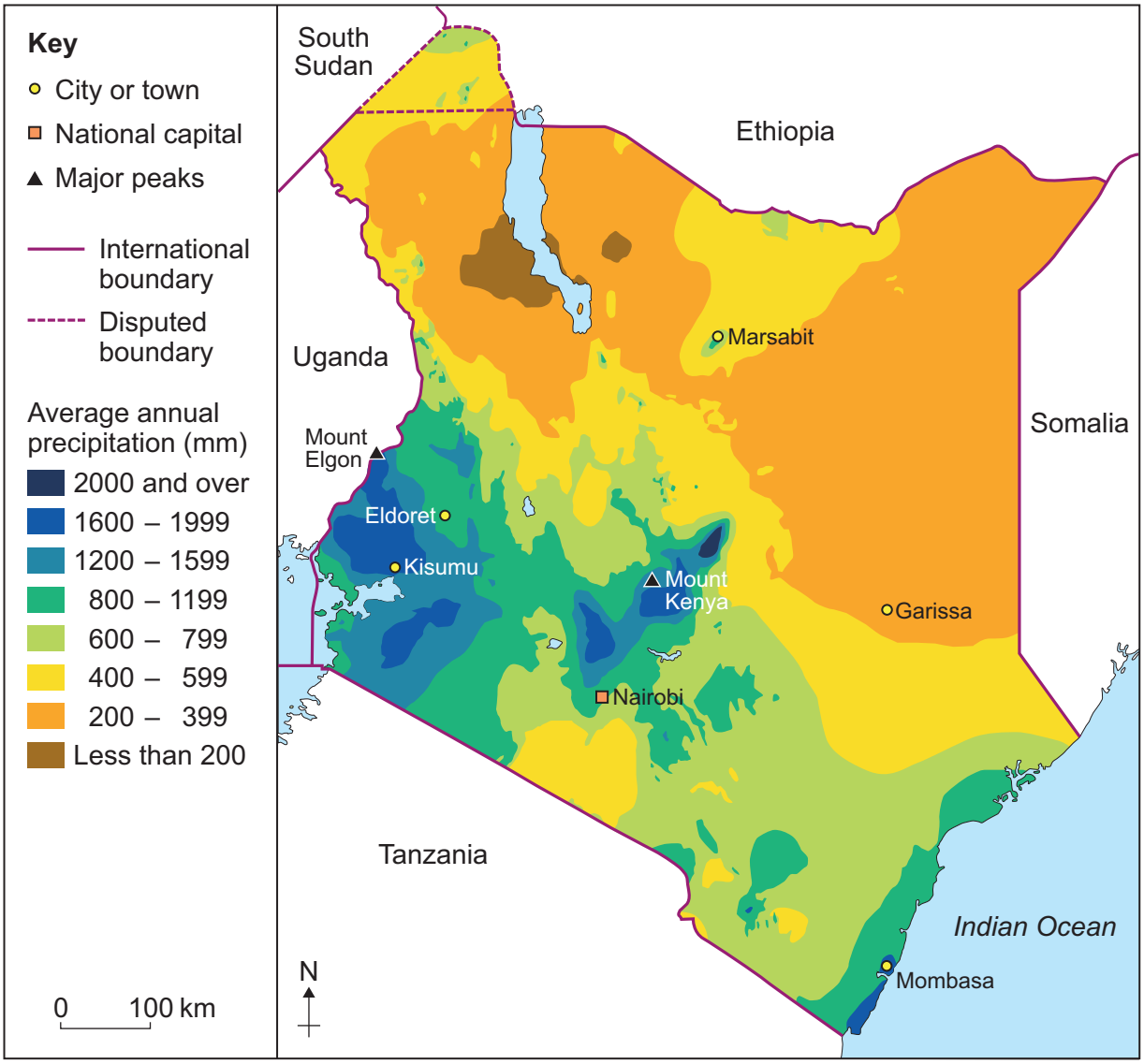
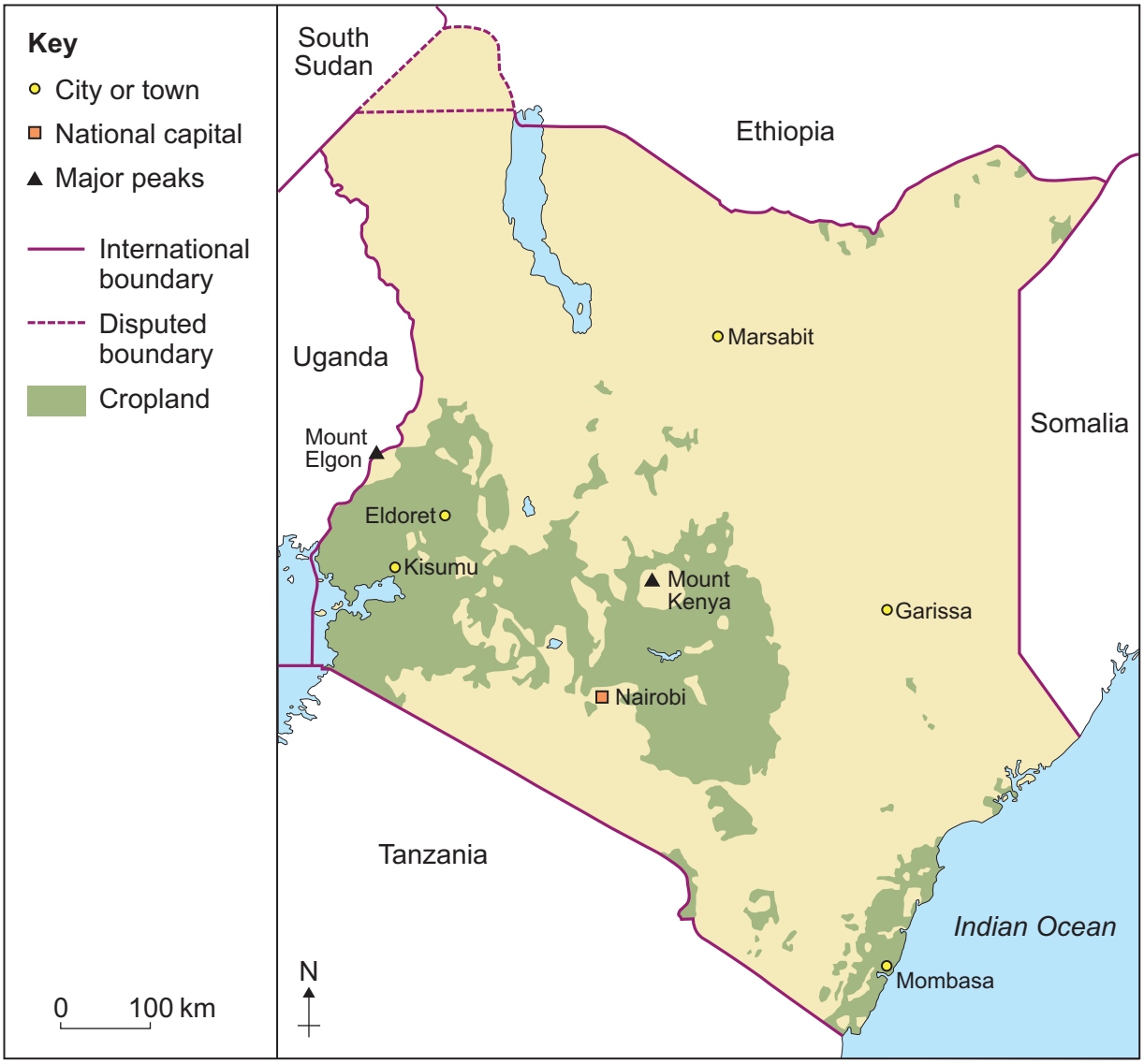


Figure P6

Kenya – Cropland



Item 2 continues on the next page

Figure P7

Kenya – Population density

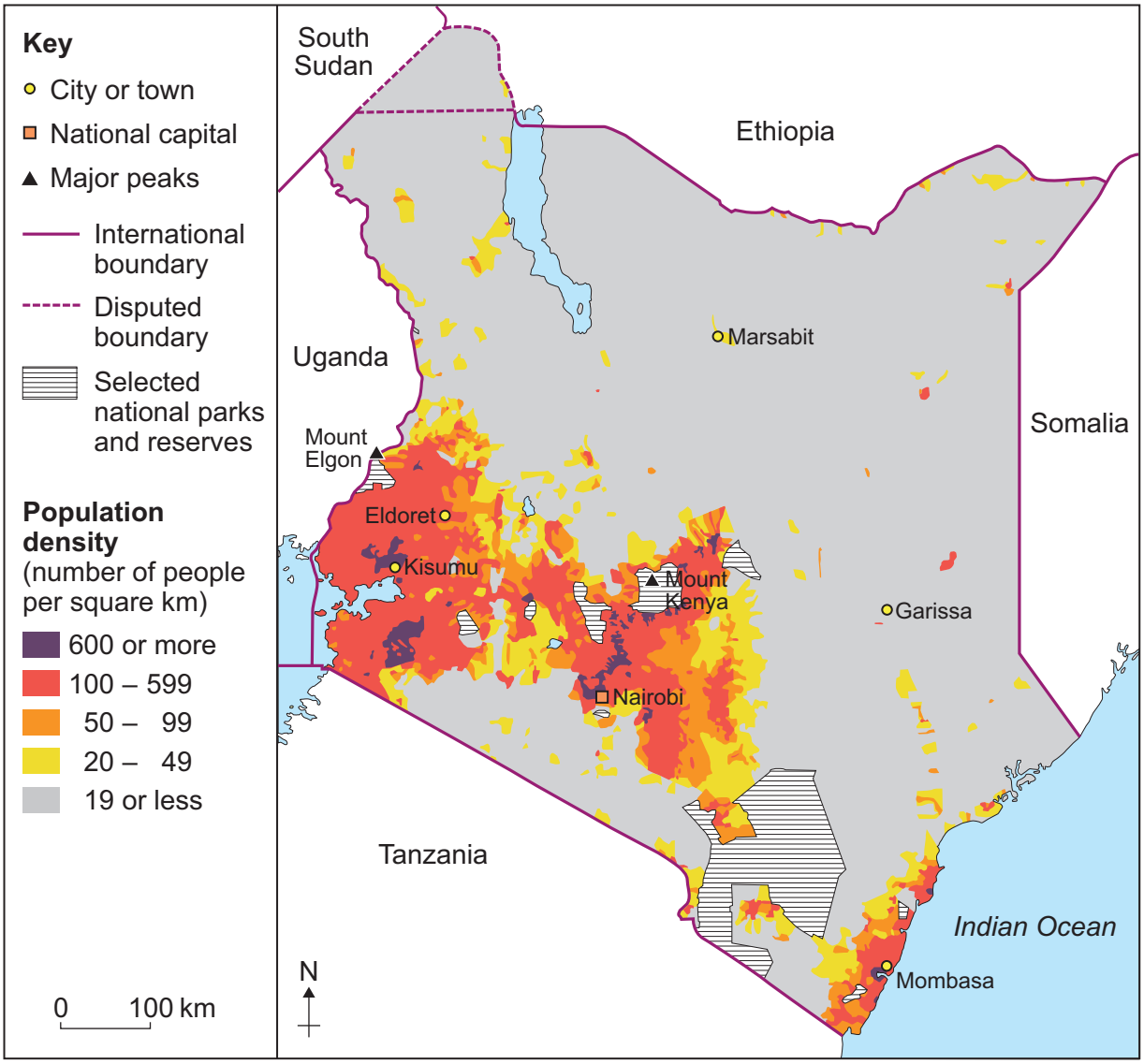
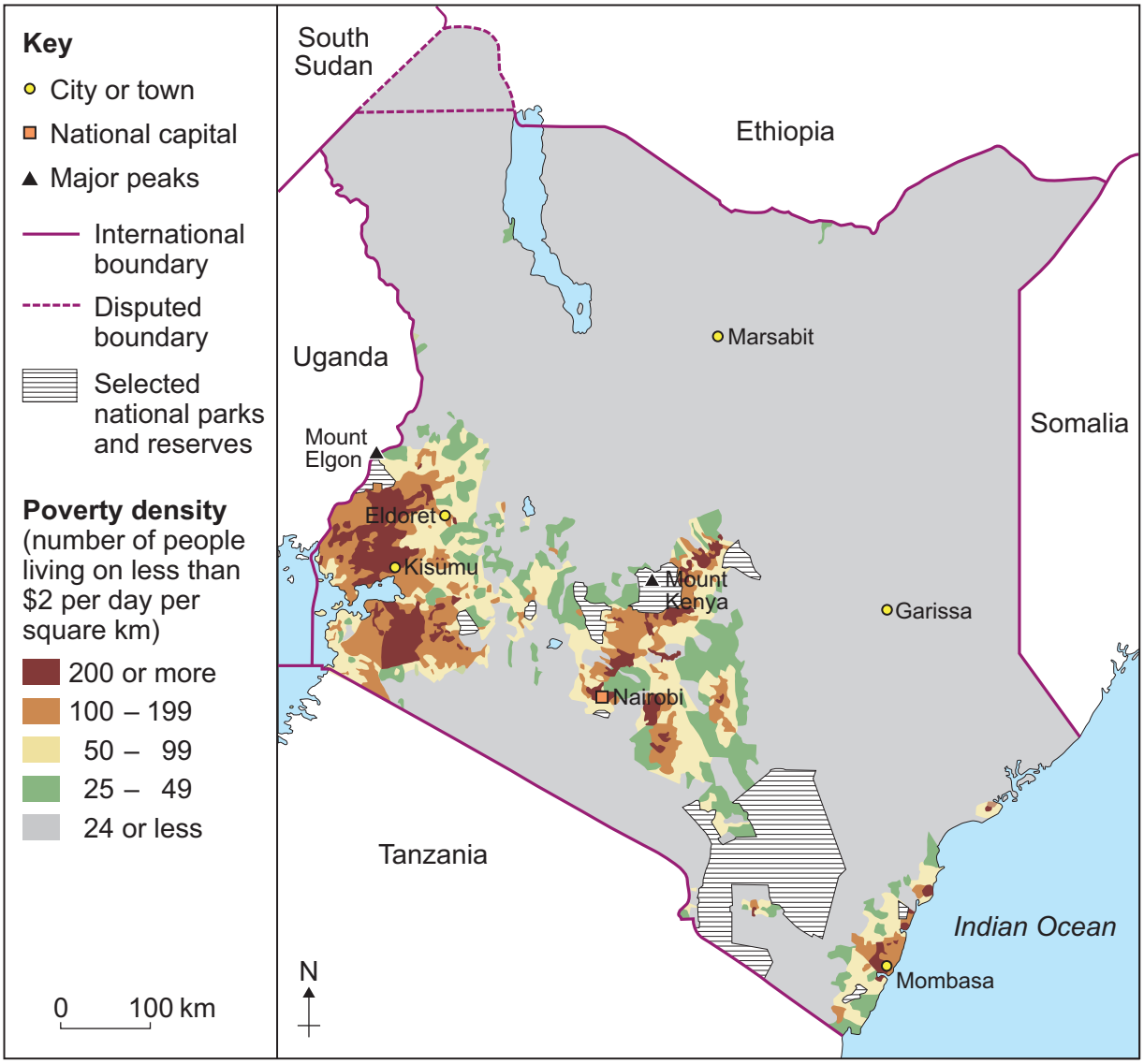


Figure P8

Kenya – Density of poverty



Turn over for the next item

Item 3 Issues for the Kenyan Health Service

Issues with logistics

Logistics can be defined as 'the management of the flow of goods in order to meet the requirements of customers or corporations'. Logistics involves 'the integration of information, transportation, inventory, warehousing, material handling and packaging'.

In Kenya the provision of drugs and other pharmaceutical supplies is managed by the Kenya Medical Supplies Agency (KEMSA). There are some big issues for KEMSA which need to be addressed in order to make the supply chain more efficient and more responsive to the needs of doctors and other healthcare workers – and to the needs of patients.

At present KEMSA uses a highly centralised logistics system. Many of their supplies are imported through the port of Mombasa and then taken by road to a central warehouse in Nairobi. Supplies are then sent out to outlying warehouses. Each warehouse is sent a proportion of the stock supplies, based on the proportion of the country's population living in the area served by that warehouse. Management at the warehouse then arranges to send supplies to the health centres and clinics in the area which it serves. A large majority of the deliveries are made by lorries, which are well adapted to the main roads in the more urbanised areas but which are often unsuitable for the roads in more remote areas.

As a result of the poor communications infrastructure there are few opportunities for staff in the health centres and clinics to order supplies according to local needs and demand. Rather they receive what the staff at the outlying warehouses deem to be appropriate and available. And because of the poor transport infrastructure any supplies are slow to arrive, and sometimes do not arrive at all, at the outlying healthcare facilities.

In order to improve the logistics KEMSA needs to develop a well designed and maintained IT system, which could begin to make the supply chain better adapted to the needs of health workers, especially with regard to the supply of drugs and other pharmaceutical supplies, at all levels of Kenya's healthcare system. The delivery systems could then be improved by using a larger range of vehicles with some better suited to the rural infrastructure. Motorbikes and 4 x 4 vehicles would be able to make deliveries to remote areas with poor roads, which are often unsuitable for KEMSA's present fleet of lorries.

In fact there might be some important lessons to learn from the work that is already being done in Kenya by Riders for Health.

Staffing and resource issues

The Kenyan Ministry of Health is faced with the task of allocating limited resources to fund the whole of the country's healthcare programme. At present, and into the foreseeable future, spending is concentrated on increasing the number and quality of healthcare professionals – doctors, nurses, paramedics, administrators, etc – in the country. It is difficult to make a case for allocating a higher proportion of the limited resources to communications when the shortage of trained staff is still so obvious.

There is still a problem for the country caused by health professionals trained in Kenya leaving to take better-paid posts, with better facilities for practising medicine, in richer countries. Moreover, the trained personnel who remain in Kenya are very unevenly distributed around the country. The ratio of the number of doctors per patient is much higher in urban areas than it is in rural areas. There is a similar geographical imbalance in the ratios of nurses per patient and paramedics per patient.

One idea that could be adapted from private industry is a ‘rotating expat programme’ to attract and develop talent. In such a scheme health workers from outside Kenya, mainly from more developed countries, would come to practise medicine and to train colleagues in Kenya for periods of up to two years. This would need support from the health services in the partner country but it would bring benefits for those countries by broadening the range of experience of their workers.

A similar programme could start to address the problem of uneven distribution of healthcare professionals in rural versus urban areas by creating a steady flow of highly-skilled doctors and nurses, on secondment from abroad or on temporary placement from other parts of Kenya, to practise and teach in rural areas.

Turn over for the next item

Item 4 Kenya and the Millennium Development Goals (MDGs)

In 2000, the United Nations (UN) produced the Millennium Development Declaration. This contained eight goals for all less developed countries and the donor countries from the more developed world – to be achieved by 2015:

1. eradicate extreme poverty and hunger
2. achieve universal primary education
3. promote gender equality and empower women
4. reduce child mortality
5. improve maternal health
6. combat HIV/AIDS, malaria and other diseases
7. ensure environmental sustainability
8. develop a global partnership for development.

Kenya was committed to working towards the MDGs. However, a report produced for the Kenyan government in 2005 stated that, even then, it appeared unlikely that Kenya would be able to achieve many of the goals due to the constraints faced by the country in terms of resources.

However, the report set out a policy plan, to run over the following 10 – 12 years, to help the country work towards achieving the MDGs. In particular this plan listed targets so that all public investment opportunities could be directed towards projects that would help progress towards the goals.

In section 6 of the report, dealing with efforts to combat diseases, there were sections on ways by which the country could combat HIV/AIDS, malaria and TB, as targeted by MDG 6. There was also an additional section, of particular interest in view of Items 1 and 3 in this booklet. It was headed 'Strengthening Service Delivery Systems'.

This section considered that, although this is not a topic dealt with specifically in the MDGs, all past experience of implementing developments in the Kenyan health services shows that investment works best when it is spent within a clearly structured health service with long-term priorities clearly established. Well-developed systems are not just bureaucratic luxuries: rather they are essential to allow efficient functioning of health service delivery. The main components of a functioning health system include human resources (both clinical and administrative staff), infrastructure, and management capacity in the system.

When the report was produced Kenya had a total of 4421 health facilities:

- 500 hospitals,
- 611 health centres and
- 3310 sub-centres/dispensaries.

The report stated that on average, each health facility served 6887 people, while the hospital to population ratio is 1:60 000. However, only 25% of Kenyans had access to health facilities within 8 kilometres of their homes.

One of the most telling statements in Section 6 of the report, (and one that highlights the importance of the work of Riders for Health) was that "Health expenditure in rural areas accounts for 30% of the government spending on health, whilst spending in urban areas accounts for 70%, yet only 20% of Kenyans live in urban areas."

Further points made in this section of the report included the following:

- quality of care was low, particularly in government-run facilities because of lack of supplies/stocks
- approximately 10% of the government's annual budget for healthcare was spent on drugs with antiretroviral drugs (ARVs) for the treatment of HIV/AIDS having made up an increasing proportion of this in recent years
- the utilisation of the health facilities was low, probably due to the high cost of healthcare, coupled with poverty and the effect of user fees. (Note that in Kenya, healthcare is not always 'free at the point of delivery' as it is in the UK's National Health Service.) Of course, this low utilisation was almost certainly exacerbated by the problems of the isolation of the rural population.

The conclusion to the whole document included the following suggestions for helping the country move towards achieving the MDGs:

- Of the money available for the first three years (2005 – 2007) the focus should be on improving the human capacity. About 42% should go to personnel, mainly to be used for hiring and training more teachers, health-workers and agricultural extension officers (who are attached to the healthcare system because of the role they play in tackling problems of malnutrition).
- About 39% should be allocated to operations and maintenance mainly for increased teaching materials, provision of anti-malaria drugs and treated mosquito nets, and antiretroviral drugs (ARVs) for the treatment and prevention of HIV/AIDS.
- About 19% of the costs should be directed towards investments in buildings, roads and other infrastructure schemes in order to build capacity in the economy and help to produce higher returns for future work on achieving the MDGs.
- Then, in the medium term (2007 – 2015) public expenditures related to the MDGs should continue to be directed towards sustaining the additional human capital and investing in infrastructure especially in the major trunk roads and rural access roads along with buildings for the education and health sectors.

Turn over for the next item

Item 5 Further research

In preparation for the examination you should carry out some further research into the progress that Kenya has made towards meeting the Millennium Development Goals by 2015. A very good starting point would be the following article: http://www.ke.undp.org/content/kenya/en/home/mdgoverview/.

There is an excellent, but complex site, which is based on the book Kenya: Atlas of our Changing Environment at: http://www.unep.org/dewa/africa/kenyaatlas/.

On this site you are advised to watch the 'Kenya Atlas video' and to look at 'Chapter two: Millennium Development Goals'.

Figures P5 – P8 are based on maps from 'Nature's Benefits in Kenya: an Atlas of Ecosystems and Human Well-Being'. The Atlas can be accessed at: http://www.wri.org/publication/content/9373.

You should also visit the Kenya page of the Riders Website at: http://www.riders.org/.

Fieldwork

There are no recommendations to consider any fieldwork methods associated with this topic.

END OF ITEMS

Acknowledgement of copyright-holders and publishers

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Item 1: Riders for Health

Item 1, Footnote 1: *The World Factbook* 2013-14. Washington, DC: Central Intelligence Agency, 2013.

Item 2, Figure P4: © Collins Bartholomew 2012

Item 2, Figures P5, P6, P7, P8: World Resources Institute; Department of Resource Surveys and Remote Sensing, Ministry of Environment and Natural Resources, Kenya; Central Bureau of Statistics, Ministry of Planning and National Development, Kenya; and International Livestock Research Institute, 2007. *Nature's Benefits in Kenya, An Atlas of Ecosystems and Human Well-Being*. Washington, DC and Nairobi: World Resources Institute.