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Geography
Higher level and standard level
Paper 1 – resource booklet

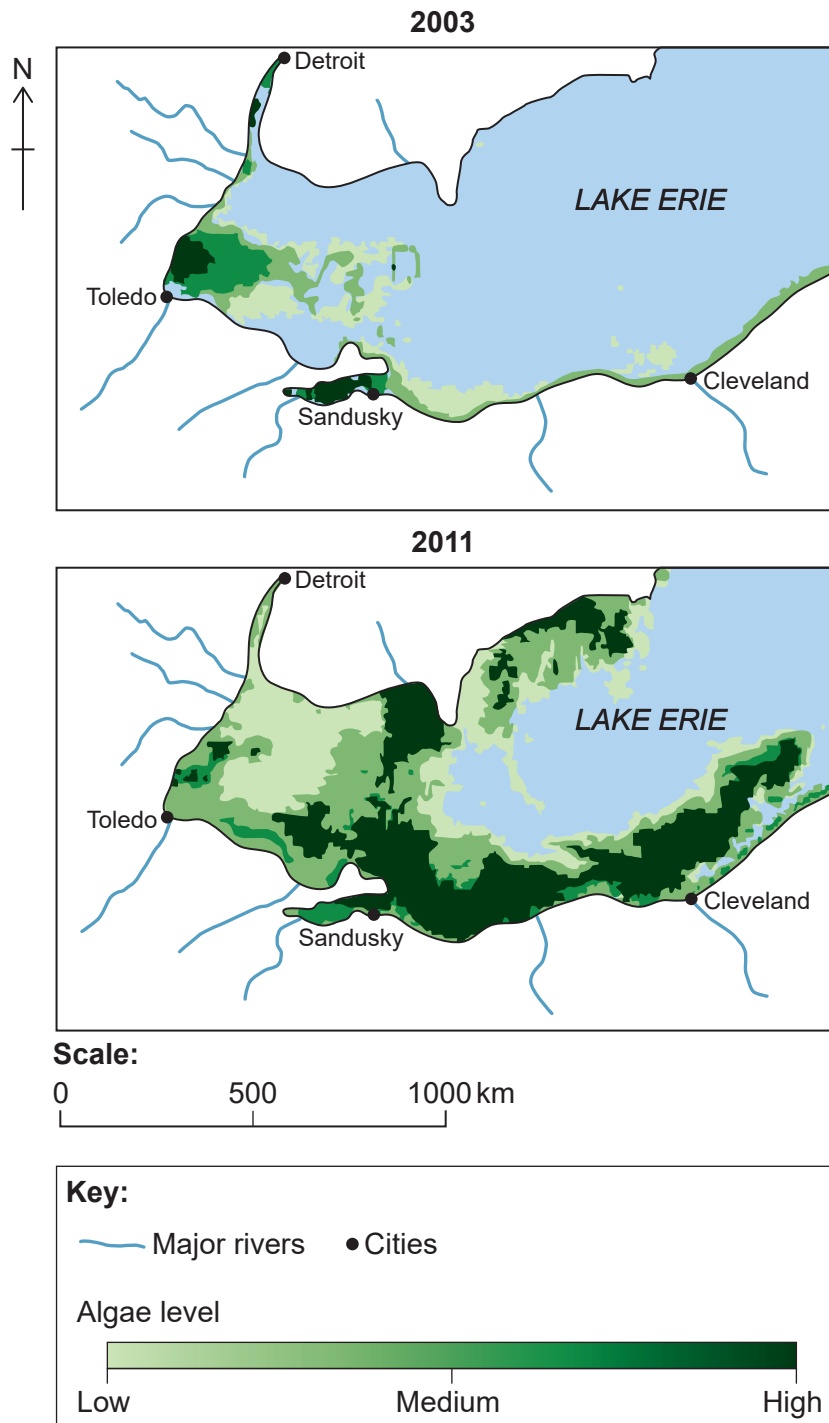
Friday 6 November 2020 (afternoon)

Instructions to candidates

- Do not open this booklet until instructed to do so.
- This booklet accompanies paper 1.

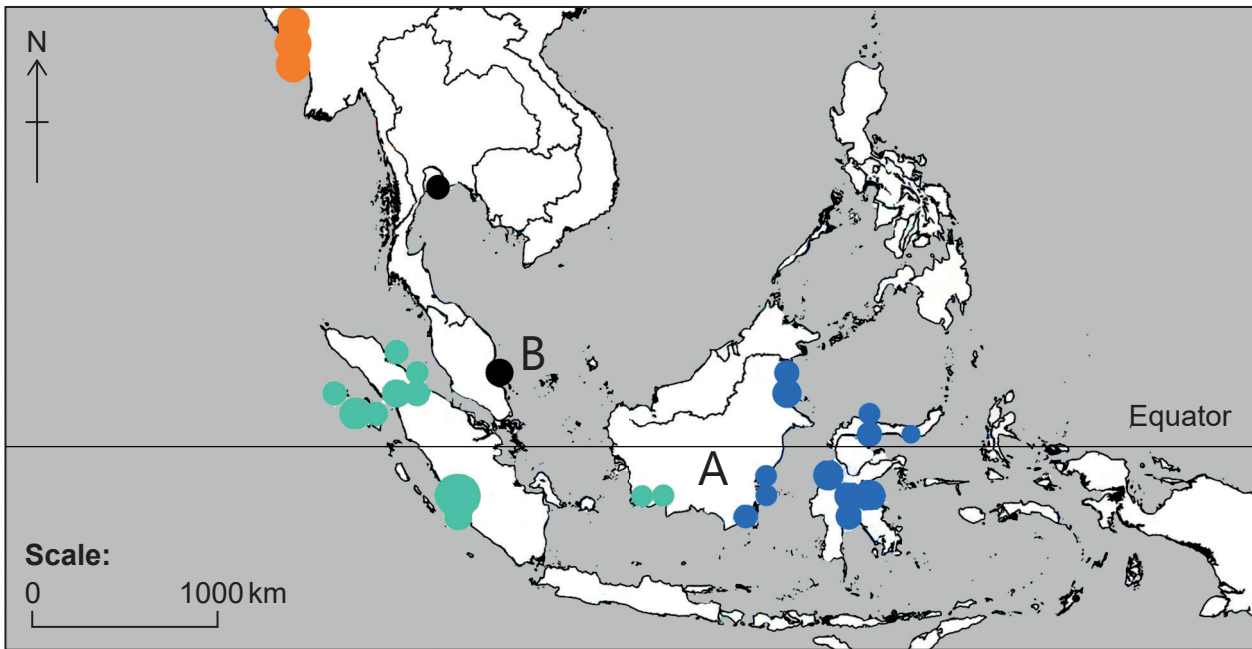
Option A — Freshwater

1. The maps show the growth of algae in a freshwater lake where eutrophication is occurring. Algae growth is caused by high levels of nutrients.



Option B — Oceans and coastal margins

3. The map shows land use changes that led to the loss of mangrove swamps in selected Southeast Asian countries in 2012.



Key:

Land use

- Aquaculture
- Rice
- Oil palm
- Urban development

Mangrove swamp loss (%)

10 20

Option D — Geophysical hazards

- 7. The map shows Snæfellsjökull in Iceland. The scale of the map is 1:100 000 and the contour interval is 20 metres.



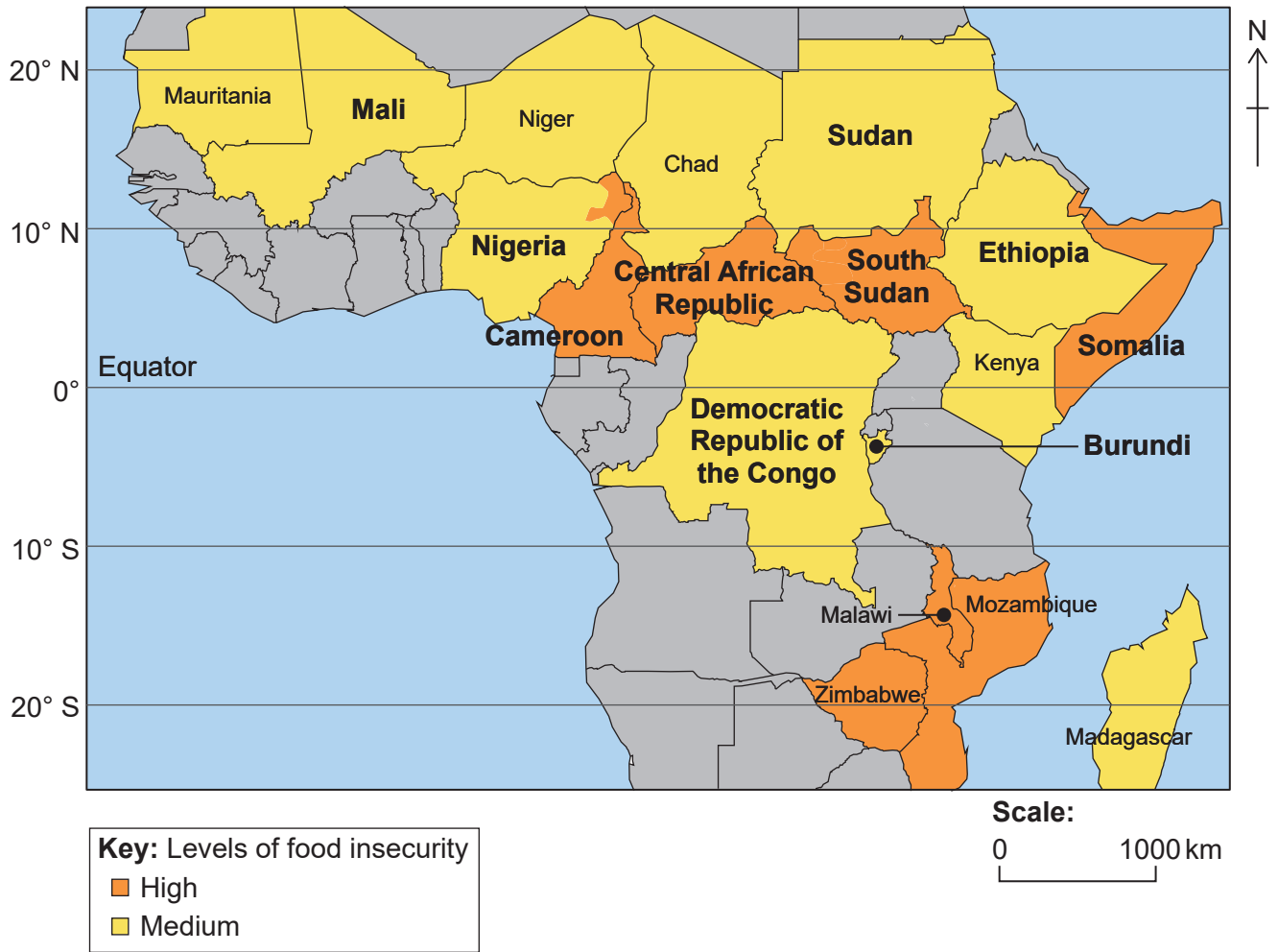


Key:

-  Information
-  Camp site
-  Airfield
-  Bridle path
-  Foot path, marked
-  Foot path, unmarked
-  Town or village
-  Main road
-  Secondary road
-  Track
-  Nature reserve
-  Natural monument
-  National park
-  Glacier (*jökull*)
-  Block lava
-  Crater

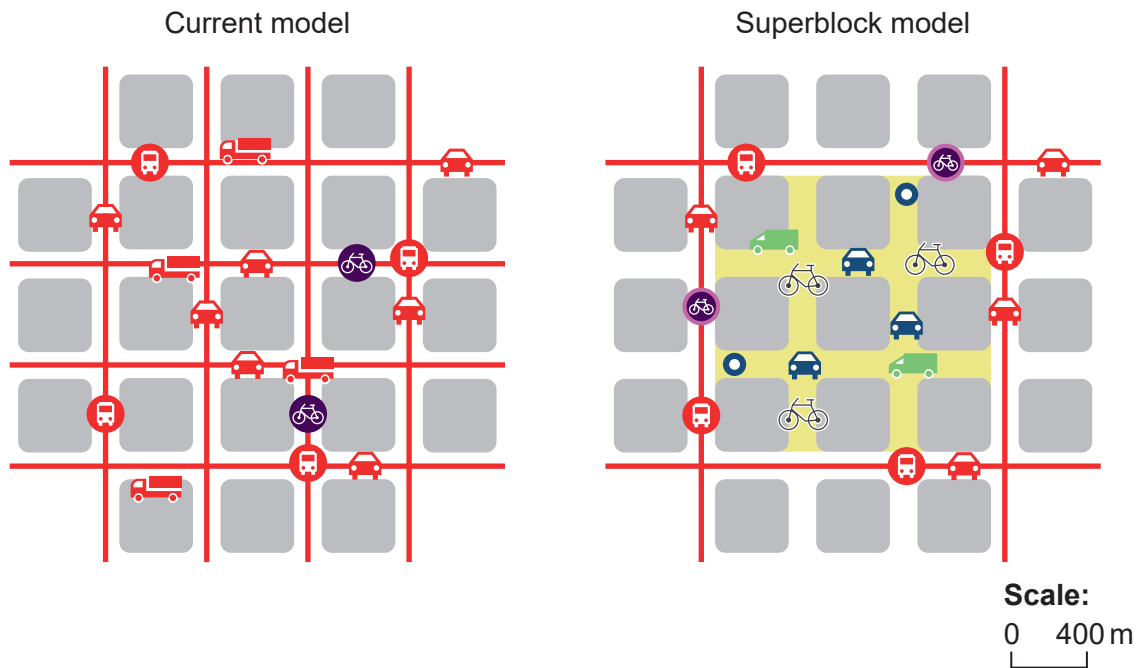
Option F — Food and health

11. The map shows selected African countries suffering from severe food insecurity in 2017.



Option G — Urban environments

13. The diagram shows a planned model of a superblock, part of an initiative to create sustainable smart cities.



Key:

Public transport network	Heavy goods vehicles
Main bicycle network (bike lane)	Urban and emergency services
Bicycle network (no bike lane)	Access control
Free passage of bicycles	Roads
Private vehicle passing	Pedestrian priority routes
Residents' vehicles	Current housing area (100 people)

References:

Option A NOAA.

Option B Drivers of mangrove loss in Southeast Asia, Daniel R. Richards, Daniel A. Friess, *Proceedings of the National Academy of Sciences* Jan 2016, 113 (2) 344–349; DOI: 10.1073/pnas.1510272113.

Option D Based on data from National Land Survey of Iceland.

Option F Courtesy Africa Center for Strategic Studies.

Option G Superblock Model diagram, Barcelona Urban Ecology Agency.