Cambridge O Level

BANGLADESH STUDIES 7094/02

Paper 2 Environment and Development of Bangladesh May/June 2016

MARK SCHEME

Maximum Mark: 75

Published

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This document consists of **14** printed pages.

1 (a) (i) Study Fig.1, a map showing some physical regions of Bangladesh.

- **river A** – Karnaphuli
- **Complete the key for the physical regions.**
  - o uplands
  - o flood plain
  - o deltaic plain   4 × 1 mark   **[4]**

(ii) Describe the physical characteristics of the deltaic plain and the uplands.

Deltaic plain –

flat
old delta
sediments/alluvium/silt deposited on sea floor/river mouth/fertile soil
W is inactive – relatively old
E is active – relatively young
dissected by river channels

Uplands –

terraces formed by ancient/Pleistocene flood of snow melt
alluvial
clay
about 15 m asl up to 60 m asl
oxidised sediments
slightly undulating
dendritic drainage

Reserve 1 mark for each region.   4 × 1 mark   **[4]**

(iii) Explain how flood plains are formed. You may use a diagram to illustrate your answer.

river carries sediment
river overflows banks
water speed slows
deposits alluvium/sediments
heavier, coarser materials deposited on banks
finer material away from banks
levees build up
lateral erosion
repeated flooding/layers build up

Mark either text/diagram – do not double credit.   3 × 1 mark   **[3]**

(b) Study Fig. 2 which shows the climate for Bangladesh and the growing seasons of three types of rice.

    (i) How long is the growing season for Boro rice?

        4–5 (months)   **[1]**

    (ii) Using Fig. 2, compare the climatic conditions for growing Aus rice with those for growing Boro rice.

        Aus – sow when moderate rainfall (50–250 mm)/Boro when dry
              sow when temperatures rising/warm/24–28 °C/Boro when cooler/20 °C
              harvest when high rainfall (350–400 mm)/Boro when low (150 mm)
              harvest when temperatures high/28 °C/Boro when moderate/24–26 °C
        Aus needs more rainfall
        Aus needs higher temperature   3 × 1 mark   **[3]**

(c) **(i)** Describe the processes involved in preparing the land for the sowing and harvesting of rice in Bangladesh.

        ploughed soil
        bunds built
        fields flooded before planting
        fields drained when rice ripe   3 × 1 mark   **[3]**

    (ii) Explain how farmers can increase rice production.

        mechanisation – tillers, ploughs, threshers
        larger plots of land/merging smaller fields
        HYV seeds – miracle rice/Irri 6
        fertilisers
        pesticides   2 × 1 mark   **[2]**

(d) Study the two statements below.

    A 'The topography (physical features) of Bangladesh is very beneficial for the farmers.'
    B 'The topography (physical features) of Bangladesh presents many problems for the farmers.'

    (i) Give <u>one</u> piece of evidence which supports statement A.

        variety of features
        flat land/flood plains
        alluvium/silt
        fertile soil
        hills for tea
        hills give different climatic conditions   **[1]**

    (ii) **Give <u>one</u> piece of evidence which supports statement B.**

        flooding
        from rivers
        from sea
        low elevation/low lying is a problem with climate change and rising sea levels   **[1]**

    (iii) **Which statement do you agree with the most? Give reasons for your answer.**

        Points can be taken from those in (i) and (ii) and developed further.

        No marks for stating their view, only for reasons.

        Accept answers that support both sides of the argument or just one side.   **[3]**

                  [Total: 25 marks]

2   **(a) Study Fig. 3 and Fig. 4 which show average rainfall and depth of flood water in July in Bangladesh.**

    (i) **Using compass directions only, describe where more than 100 mm of rain fell in Bangladesh.**

        in N
        in S-E   **[2]**

    (ii) **Describe the general pattern of the floods.**

        along the rivers/named river/valleys
        the N-E/hills
        none in S-E
        in S
        central area   2 × 1 mark   **[2]**

    (iii) **Explain why the floods were so severe two weeks after the week of heavy rain.**

        lag time after rains
        ground saturated
        water unable to drain away
        many rivers overflow their banks
        above average rainfall
        intense rainfall in one week
        could also be snow melt/increased flow of water from Himalayas
        embankments collapse
        increased sedimentation of/deposition in rivers – hold less water   3 × 1 mark   **[3]**

(b) **Explain how floods affect the people and the economy of Bangladesh.**

People –

loss of homes/property/homeless
loss of land/fertile soil/river bank erosion
death/illness/disease
loss of food/crops/livestock
loss of income
cannot (travel to) work
lack of clean water

Economy –

transport links disrupted – affects trade/products to market
factories stop work – flooded
loss of labour/sick so cannot work
extra money needed to repair infrastructure
agriculture affected by loss of income/exports
farmers' loss of income
food shortage – need to import
increased food prices
cost of health care because of waterborne diseases   4 × 1 mark   **[4]**

(c) **Study Fig. 5, a pie chart showing the percentage of air pollution caused by industries.**

(i) **Complete Fig. 5, showing the five most air polluting industries of Bangladesh, using the following information.**

- Cement/clay – 16%
- Pulp and paper – 14%
- Textile – 10%

1 mark per line drawn   2 × 1 mark
1 mark for correct shading   1 × 1 mark   **[3]**

(ii) **What percentage of the total air pollution is caused by the five most polluting industries?**

85(%)   **[1]**

(iii) **Apart from an industry, name a major cause of air pollution in Bangladesh.**

vehicles
dust from roads and construction sites   **[1]**

(d) Explain how the government is trying to reduce air pollution in Bangladesh.

air monitoring stations
phasing out of 2-stroke rickshaws/introduce 4-stroke
clean air project funded by World Bank
clean and energy efficient brick kiln technology – zig-zag kilns
improved safe pedestrian mobility – footpath construction – to reduce car use
bus rapid transit route completed
strengthen environmental legislation/fines for industries breaking pollution rules
ban burning (manure in open)
purification units on factory chimneys
encourage catalytic converters on vehicles
ban leaded petrol/encourage unleaded petrol
afforestation   4 × 1 mark   **[4]**

(e) Study the statement below.

'Controlling the flooding of rivers in Bangladesh is almost impossible.'

(i) Give one piece of evidence which supports this statement.

many rivers flow through Bangladesh
heavy rain, particularly monsoons
expensive/lack of funding
no control over upper reaches of rivers
deforestation in Himalayas
high cost of flood prevention measures   **[1]**

(ii) Give one piece of evidence which shows how rivers can be controlled.

agreements with India/Nepal
embankments/sluice gates/flood barriers barrages built/strengthened
dredge/deepen river channels
afforestation, reforestation   **[1]**

(iii) How far do you agree with the statement? Give reasons for your answer.

Points can be taken from those in (i) and (ii) and developed further.

No marks for stating their view, only for reasons.

Accept answers that support both sides of the argument or just one side.   **[3]**

[Total: 25 marks]

3 (a) **Study Fig. 6 which shows gas fields, gas pipelines and fertiliser factories. Describe the general distribution of gas fields and the network of gas pipelines.**

Gas fields –

mainly N-E/Sylhet
around Dhaka
S-E
2 off-shore/Bay of Bengal
all on eastern side

Pipelines –

centred on Dhaka/in centre
to main towns
mainly to W
W-wards/towards Jessore
(To Chittagong) from off-shore

Reserve 1 mark for each section.   4 × 1 mark   **[4]**

(b) **Fig. 7 shows the percentage of natural gas consumption by different sectors. Complete Fig. 7 using the following information.**

- industry – 20%
- domestic use – 10%
- fertiliser manufacture – 10%

2 marks per line drawn   2 × 1 mark
1 mark for correct shading   1 × 1 mark   **[3]**

(c) (i) **Using Fig. 6, suggest one reason for the distribution of fertiliser factories in Bangladesh.**

near pipelines for raw materials
near main town for distribution
close to gas fields
scattered/dispersed/spread out to serve a wide area/evenly distributed   **[1]**

    (ii) **Explain the importance of the production of fertilisers to farmers and to the economy of Bangladesh.**

Farmers –

add nutrients to soil
enable double cropping
increase/high yield/increase production
can grow HYV seeds
increase farmers' earnings

Economy –

reduce imports
export earnings (of fertilisers or crops)

Reserve 1 mark for economy 3×1 mark   **[3]**

(d) **Climate change will affect agriculture in Bangladesh.**

   (i) **Name two gases that are causing global warming.**

carbon dioxide
methane
nitrous oxide 2×1 mark   **[2]**

  (ii) **Explain how human activities cause the increased production of these gases.**

burning fossil fuels/gas/coal/oil
for industry/heating/cooking
transport use – cars/planes
deforestation
agriculture – livestock and methane gas
paddy fields and decomposition 3×1 mark   **[3]**

 (iii) **Explain the effect climate change will have on agriculture and the food supply of Bangladesh.**

rising sea level – flood agricultural lowlands – less land for crops/damage crops
greater pressure on land/living space
more saline soil
higher temperatures – lower harvests in cereals
more rain – flooding of farm land/remove soil fertility
less rain/drought – lower yields
increase in cyclones + effect(s)
increase in pests – affect crops
lead to food shortages/increase famine, malnutrition 4×1 mark   **[4]**

(e) **Study the two statements below.**

A 'Bangladesh is not a major contributor to climate change.'
B 'Bangladesh will be one of the countries worst affected by climate change.'

(i) **Give one piece of evidence which supports statement A.**

not a major industrial power/mainly MEDC
low per capita output of greenhouse gases
not a major oil producer
agricultural country **[1]**

(ii) **Give one piece of evidence which supports statement B.**

low lying country – easily affected by rising sea levels
many people homeless/have to move
high/dense population
dependent on agriculture
changing climate patterns – more cyclones/heavy rain/drought **[1]**

(iii) **Do you think other nations should help Bangladesh cope with the effects of climate change? Give reasons for your answer.**

Points can be taken from those in (i) and (ii) and developed.

could mention international conferences – Kyoto, Copenhagen
poor country and so needs help
share ideas
compensation **[3]**

[Total: 25 marks]

4 (a) (i) **Study Photograph A (Insert) which shows a cottage industry in the Bandarban region.**

On Fig. 8, the sketch of Photograph A, add notes to show the characteristics of a cottage industry. One note has been added as an example.

single worker
female worker
home/house environment
simple loom/technology
handmade equipment
handmade products
manual power
small output/piece of work   4 × 1 mark **[4]**

(ii) **Study Photographs A and B (Insert) which show textile industries on a different scale. Using only the evidence in the photographs, compare the working features and output of the two industries.**

large scale/small scale
many machines/one machine
large machines/small loom
advanced technology/simple technology
many workers/one worker
all male/female
modern factory/home/verandah
electricity for lights/natural light
large pieces of material produced/small piece of cloth
output more/less

Must be comparative statements   4 × 1 mark   **[4]**

(b) (i) **Describe how government policies protect new industries in Bangladesh.**

new domestic industries need protection against international competition
support until they become mature and stable
to keep international competitors from damaging or destroying the new industry,
introduces import duties, tariffs, quotas and exchange rate controls (max 2)
to stop international competitors from matching/beating prices of an infant industry
reducing hartals/strikes
provide subsidies   3 × 1 mark   **[3]**

(ii) **Explain how Bangladesh can overcome obstacles to industrialisation, other than ways mentioned in (b)(i).**

improve legal framework – contracts easily violated
improve law enforcement – strikes occur frequently
improve infrastructure – roads, electricity supply, ports (max 2)
improve financial support/loans
attack problem of 'bad debt'
encourage MNCs/FDI (foreign direct investment)
provide training for workers
create political stability   3 × 1 mark   **[3]**

(c) (i) **Explain why the financial sector is important for industry in Bangladesh.**

need efficient financial sector for long term investment
loans
lowest possible cost
to monitor borrowing and not waste finance in poorly performing industries
provide equipment, pay wages   2 × 1 mark   **[2]**

(ii) **What is meant by 'micro-credit'?**

lending small amounts of money
to the poor
especially women
to set up small businesses/buy goats, etc.   2 × 1 mark   **[2]**

(iii) **Explain why micro-credit has been successful in Bangladesh.**

high repayment of loans
lends to a group
has a collective guarantee
if one person fails to repay loan no-one else in the group gets a loan
many successes/people lifted out of poverty   2 × 1 mark   **[2]**

(d) **Study the two statements below.**

A 'Bangladesh's increased economic growth depends on expanding the small scale industrial sector.'
B 'To maintain economic growth Bangladesh needs to improve its large scale industries.'

(i) **Give one piece of evidence which supports statement A.**

provide rapid growth
with smaller input/simple technologies
state assistance not needed
rely on cheap labour/low wages
but employ more people
low skills   **[1]**

(ii) **Give one piece of evidence which supports statement B.**

international recognition
attract MNCs
high wages
export/earn foreign exchange
high output/productivity
high value-added goods   **[1]**

(iii) **Which statement do you agree with the most? Give reasons for your answer.**

Points can be taken from those in (i) and (ii) and developed.

No marks for stating A or B, only for reasons.

Accept answers that support both statements or neither.   **[3]**

[Total: 25 marks]

5 (a) Study Fig. 9A and Fig. 9B, which show population structures for Bangladesh in 1994 and 2014.

(i) Describe the differences between the two population structures.

2014 –
base narrowing/fewer 0–4 year olds than those children above
more older people/65+
bulge in centre/working age people/accept 10–75
less pyramid shaped
females increased more than males

Or accept as viewpoint from 1994   3 × 1 mark   **[3]**

(ii) Suggest reasons for the differences between the two population structures.

lower birth rates/family planning/birth control/later marriages
acceptance of smaller families/awareness
improved health care
improved hygiene/sanitation/cleaner environment
improved nutrition
migration of males   3 × 1 mark   **[3]**

(iii) Why are there fewer males than females between the ages of 20 and 40 years old in both Fig. 9A and Fig. 9B?

migration   **[1]**

(b) (i) Study Fig. 10, a table which shows the religious structure in Bangladesh.

Muslim	Hindu	Other
89%	10%	1%

Using data in Fig. 10 draw a graph below to show the religious structure of Bangladesh.

1 mark per line drawn   2 × 1 mark
1 mark for shading   1 × 1 mark   **[3]**

(ii) Only 2% of the population of Bangladesh are not Bengali. Describe some of the minority ethnic groups and where they live.

e.g. Khasi, Jaintia, Chaka, Marmas, Santals, Manipuri, Tanchangya, Rohinga, etc.
tend to live in hilly regions
of Sylhet and Chittagong Tracts
some of Burmese ancestry
on border with Myanmar
others on border with India/Meghalaya   3 × 1 mark   **[3]**

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(c) (i) **Study Fig. 11 which shows the percentage of youths (aged 15–24 years) who are literate in Bangladesh and South Asia as a whole.**

Using Fig. 11, compare the progress of the youth literacy rate of Bangladesh with that of South Asia.

Bangladesh improved the most/by 40% cf 20%
now nearly same as S Asia
1990–1995 increased, S Asia static
1995–2000 static/constant, S Asia making most progress
2000–2005 increased rapidly, S Asia static/constant
2005–2012 followed same pattern/increase then constant   2 × 1 mark   **[2]**

(ii) **Explain how an increase in the literacy rate improves the development of Bangladesh.**

more employable/decrease unemployment
meet needs of employers in value-added services and goods
train for skilled jobs
leads to higher output
higher wages – increase GDP, more taxes/increased standard of living
skills to operate in global economy, e.g. English and maths
more trade
literate women have fewer children/fewer dependents
more professionals to improve future lives   3 × 1 mark   **[3]**

(iii) **Apart from increasing the literacy rate, describe two other educational challenges for Bangladesh.**

improve primary school enrolment
improve graduation rate of primary school
particularly girls
increase secondary school enrolment
increase vocational training
increase tertiary/university enrolment
increase in trained/skilled teachers
increase schools in rural areas
increase spending/make more affordable   2 × 1 mark   **[2]**

(d) Study the two statements below.

A 'Improved health care is the best way to slow down population growth in Bangladesh.'
B 'Increased educational opportunity is the best way to slow down population growth in Bangladesh.'

  (i) Give <u>one</u> piece of evidence which supports statement A.

      health workers in villages/rural areas/where large population growth
      family planning/awareness programmes
      maternal health clinics
      fewer babies dying – smaller families   **[1]**

  (ii) Give <u>one</u> piece of evidence which supports statement B.

      aware of population problem/family planning
      female education reduces marriage age and fertility age
      desire for a career   **[1]**

 (iii) Which statement do you agree with the most? Give reasons for your answer.

      Points can be taken from those in (i) and (ii) and developed.

      No marks for stating A or B, only for reasons.

      Accept answers that support both statements or neither.   **[3]**

[Total: 25 marks]