

### YEAR 13 - HUMAN

Fundamentals	Skills
Unit 3	Qualitative skills and quantitative skills
<ul> <li>Fundamentals</li> <li>Unit 3         Environment and population         <ul> <li>Global and regional patterns of food production and consumption. Agricultural systems and agricultural productivity. Relationship with key physical environmental variables – climate and soils.</li> <li>Characteristics and distribution of two major climatic types to exemplify relationships between climate and human activities and numbers. Climate change as it affects agriculture.</li> <li>Characteristics and distribution of two key zonal soils to exemplify relationship between soils and human activities especially agriculture. Soil problems and their management as they relate to agriculture: soil erosion, waterlogging, salinisation, structural deterioration.</li> <li>Strategies to ensure food security.</li> </ul> </li> <li>Environment, health and well-being</li> <li>Global patterns of health, mortality and morbidity. Economic and social development and the epidemiological transition.</li> <li>The relationship between environment variables eg climate, topography (drainage) and incidence of disease. Air quality and health. Water quality and health.</li> <li>The global prevalence, distribution, seasonal incidence of one specified biologically transmitted disease, eg malaria; its links to physical and socio-economic environments including impacts of avairables including imp</li></ul>	Skills         Qualitative skills and quantitative skills         Students should develop the following with respect to qualitative data:         use and understanding of a mixture of methodological approaches, including interviews         interpretation and evaluation of a range of source material including textual and visual sources         understanding of the opportunities and limitations of qualitative techniques such as coding and sampling, and appreciation of how they actively create particular geographical representations         understanding of the ethical and sociopolitical implications of collecting, studying and representing geographical data about human communities.         Students should develop the following with respect to quantitative data:         understanding of what makes data         geographical and the geospatial         technologies (eg GIS) that are used to collect, analyse and present geographical data         an ability to collect and use digital and geolocated data, and understand a range of approaches to use and analyse such data         understanding of the purposes and difference between the following and to use them in appropriate contexts:descriptive statistics of central tendency and dispersion         descriptive measures of difference and association, inferential statistics         sampling understanding of the ethical and socio-political implications of collecting, studying and representing geographical data
<ul> <li>environments including impacts of environmental variables on transmission vectors. Impact on health and well- being. Management and mitigation strategies.</li> <li>The global prevalence and distribution of one specified non-communicable</li> </ul>	about human communities. <b>Specific skills</b> The following sections identify specific qualitative and quantitative skills to be
disease, eg a specific type of cancer, coronary heart disease, asthma; its links to physical and socio-economic environment including impacts of lifestyles. Impact on health and well- being. Management and mitigation strategies.	developed. <b>Core skills</b> Use and annotation of illustrative and visual material: base maps, sketch maps, OS maps (at a variety of scales), diagrams, graphs, field



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• Role of international agencies and NGOs in promoting health and combating disease at the global scale.

#### **Population Change**

- Factors in natural population change: the demographic transition model, key vital rates, age-sex composition; cultural controls. Models of natural population change, and their application in contrasting physical and human settings. Concept of the Demographic Dividend.
- International migration: refugees, asylum seekers and economic migrants: environmental and socioeconomic causes, processes. Demographic, environmental, social, economic, health and political implications of migration.

# Principles of population ecology and their application to human populations

- Population growth dynamics. Concepts of overpopulation, underpopulation and optimum population. Implications of population size and structure for the balance between population and resources; the concepts of 'carrying capacity' and 'ecological footprint' and their implications.
- Population, resources and pollution model: positive and negative feedback. Contrasting perspectives on population growth and its implications; Malthusian, neo-Malthusian and alternatives such as associated with Boserup and Simon.

#### Global population futures:

- Health impacts of global environmental change: ozone depletion skin cancer, cataracts; climate change thermal stress, emergent and changing distribution of vector borne diseases, agricultural productivity and nutritional standards.
- Prospects for the global population. Projected distributions. Critical appraisal of future population-environment relationships.

sketches, photographs, geospatial, geolocated and digital imagery. Use of overlays, both physical and electronic. Literacy – use of factual text and discursive/creative material and coding techniques when analysing text. Numeracy – use of number, measure and measurement. Questionnaire and interview techniques.

#### Cartographic skills

Atlas maps. Weather maps – including synoptic charts (if applicable). Maps with located proportional symbols. Maps showing movement – flow lines, desire lines and trip lines. Maps showing spatial patterns – choropleth, isoline and dot maps.

#### Graphical skills

Line graphs – simple, comparative, compound and divergent. Bar graphs – simple, comparative, compound and divergent. Scatter graphs, and the use of best fit line. Pie charts and proportional divided circles. Triangular graphs. Graphs with logarithmic scales. Dispersion diagrams.

#### Statistical skills

Measures of central tendency – mean, mode, median.

Measures of dispersion – range, inter-quartile range and standard deviation. Inferential and relational statistical techniques to include Spearman's rank correlation and Chi-square test and the application of significance tests.

#### ICT skills

Use of remotely sensed data (as described above in Core skills). Use of electronic databases. Use of innovative sources of data such as crowd sourcing and 'big data'.

Use of ICT to generate evidence of many of the skills provided above such as producing maps, graphs and statistical calculations.



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#### **Case Studies:**

**Case study** of a country/society experiencing specific patterns of overall population change – increase or decline – to illustrate and analyse the character, scale, and patterns of change, relevant environmental and socio-economic factors and implications for the country/society.

**Case study** of a specified local area to illustrate and analyse the relationship between place and health related to its physical environment, socioeconomic character and the experience and attitudes of its populations.