Population & Sustainability Network

Population Dynamics and Sustainable Development Linkages

A quiz from PSN testing your knowledge and understanding of different population dynamics (population growth, age structures, urbanisation and migration), how they influence sustainable development priorities including poverty alleviation, food and water security and climate change and where sexual and reproductive health and rights (SRHR) comes in.

Population Growth

1. According to UN projections, what will be the size of the world population in 2050?

- According to the UN medium term projection, between now and 2050 the population is projected to increase from today's 7.2 billion to 9.6 billion (or 10.9 according to the high fertility projection).[1]
- By the end of the century it is projected to be 10.8 billion, or 15.8 billion according to the high projection.[1]
- Yet, overall figures hide vast diversity and complexity at the local, national and regional levels. Almost all of the additional 3.7 billion people from now to 2100 will enlarge the population of developing countries, and particularly the least developed countries.[1]
- In contrast, the population of more developed regions is not expected to change significantly, and would, in fact, decline were it not for the net migration projected to developed countries.[1]
- The difference between the medium and high population projections is just half a child per woman. With an estimated 222 million women in developing countries having an unmet need for modern contraception,[2] this highlights the impact that achieving universal access to sexual and reproductive health and rights, including to voluntary family planning services, could have on stabilising population growth.

2. Where is the majority of the projected world population growth expected to take place?

- The majority of population growth projected to take place between now and the end of the century is expected to take place in the world's poorest countries, where unmet need for contraception is the greatest.
- The population of developing countries is projected to increase from 6 billion in 2014 to 8.2 billion in 2050 according to the medium term projection.[1]
- Much of this growth will take place in 31 'high fertility countries' (where the average woman has over 5 children over her lifetime), 29 of which are in Africa and the other two are in Asia.
- In stark contrast, in all European countries except Iceland, fertility levels are below replacement level (less than 2.1).
- Approximately half of the world's population now lives in countries with replacement level fertility or below.

3. True or False: The population in many developing countries could double in the next 40 years

- True.
- The population of Africa is projected to more than double by mid-century (increasing from today's 1.1 billion to 2.4 billion in 2050) and to triple between now and the end of the century (to 4.2 billion by 2100), according to the UN medium term projection.[1]

4. What is 'demographic momentum'

- Population / demographic momentum is the tendency for population growth to continue beyond the time that replacement-level fertility has been achieved because of the relatively high concentration of people in the childbearing years.
- This means that even when fertility drops to replacement level (2.1 children per woman in developed countries), it takes several decades for population growth to stabilise.

5. What has population growth in developing countries got to do with poverty?

- Rapid population growth can undermine poverty alleviation, by outpacing investments in social services, including in health and education.
- Globally, the proportion of people living on less than $1.25 a day more than halved between 1990 and 2010 (47% in 1990 to 22% in 2010). Yet in Sub-Saharan Africa, the number of people living in extreme poverty rose during that time from 290 million to 414 million, largely due to population growth. This means that despite global efforts, we are not even succeeding in keeping the numbers living in extreme poverty stable on that continent.[3]

Age structures

6. Which two demographic trends contribute to population ageing?

- Longer life expectancy and lower birth rates contribute to population ageing (a rising average age within a population).
- By 2050, there will be 1.5 billion people aged over 65 or 15.6% of the population (according to the UN medium term projection).[1]

7. What is the world life expectancy for people born in 2010-2015, and what is the difference between developed and developing countries?

- World life expectancy is 70 years, but 78 in developed countries and 68 in developing countries (according to the UN medium term projection).[1]
- By the end of the century, world life expectancy is projected to rise to 82 (89 in developed countries and 80 in developing countries).

8. In which regions is population ageing particularly pronounced?

- In Asia, Europe and Latin America.
- Yet while more developed countries have higher proportions of older people, less developed countries are ageing at a faster pace, with less time to prepare.
- Across Europe the size of the working population would decline significantly over coming decades without international migration, exacerbating the age dependency ratio.

9. Can you think of any policy areas that offer possible options for planning for / adapting to ageing populations?

- Changes to ensure adequate health care and personal security as people retire.
- As people are not only living longer, they're living healthier for longer, changes which enable people to work for longer will be beneficial: retirement age, work-time scheduling other work practices, and cultural attitudes to older people in the work place.
- Improving maternity benefits, flexible working, child care etc would make it easier for women to balance work and family life, enabling women who would like to have more children, to do so more easily.
- Immigration can help address labour and skill shortages.

10. What is a youth bulge?

- A 'youth bulge' refers to a population with a high proportion of young people in the population.
- It is common in many developing countries where there has been success in reducing infant mortality but fertility has remained high.
- Young people and children (those aged 24 and below) made up 44% of the population in 2010 (3 billion people).[1]
- Swollen cohorts of young people entering the working age population pose a huge challenge for sufficient job creation – but where conditions are favourable (including ensuring access to health and education services and economic opportunities) they offer a force for development and economic growth (the demographic dividend).

Urbanisation

11. Of the 9.6 billion people expected to be living in 2050, how many are projected to live in urban areas?

- 6.3 billion of the 9.6 billion people projected to be alive in 2050 are expected to live in urban areas. Compared with 3.8 billion of today's 7.2 billion people.[4]
- That's a big increase, from 53% to 67%, with both population growth and migration to urban areas contributing to urbanisation.
- Increasing access to SRHR services in both rural and urban areas could help lessen the pressures of urbanisation and help more effective urban planning.

12. True or False: Developing countries are adding the equivalent of a city of a million people every five days from now to 2050.

- True
- Urbanisation can be an engine for economic activity and cities have the potential to offer many benefits if well planned.
- Yet rapid urban growth in developing countries is out-stripping the capacity of most cities to provide adequate services for their citizens– including sanitation and housing.
- Common problems associated with poor planning include urban sprawl, insufficient transport networks, pollution etc.

13. What has lack of access to SRHR got to do with urbanisation and urban growth?

- Addressing unmet need for family planning in both urban and rural areas would lessen the pace of urbanisation as:
    - Population pressures in rural areas are a push factor for urban migration, and population growth in urban areas contribute to the growth of urban areas,
    - Young people account for a large proportion of urban population, but as we know, often face a lack of access to appropriate SRHR information, education and services, particularly young people living in slums for example.
- When urban areas are planned effectively, ensuring sufficient access to SRHR services, urbanisation can help realise universal access to SRHR due to the greater proximity of services.

14. Urban fertility rates tend to be lower than rural fertility rates. What might be some of the reasons for that?

- A more educated population – more educated women tend to have fewer children.
- Higher costs of raising children.
- Higher age at marriage.
- Greater access to SRHR services.

Migration

15. What different forms of migration are there?

- International migration – movement of people to live or stay in a country in which they were not born for a minimum amount of time
- Internal (movement within a country, state, continent) and external migration.
- Temporary – those who migrate for a limited period of time (compared to long-term or permanent)
- Seasonal migration – for example in relation to labour and climatic changes, such as farm workers or retired populations moving in summer / winter
- Circular vs unidirectional migration
- Rural – urban migration, which spurs urbanisation and is more common than urban-rural.
- Forced migration: trafficking, displacement due to natural disaster, conflict, environmental conditions, persecution (refugees).
- Not all of these categories are mutually exclusive.
- Exact definitions of 'migrant' and forms of migration vary and can be sensitive due to the politically charged nature of the subject.

16. Name some 'push' factors for migration (the reasons that people leave a place due to a negative factor)

- Conflict
- Persecution (refugees). Refugees make up less than 7% of international migrants.[5]
- Natural disaster: flood, earthquake etc.
- Environmental factors, including drought, soil erosion, and climate change.
- Lack of jobs / economic pressures.
- Population pressures can play a role in the above.

- 'Pull' factors are the reasons why people are drawn to a particular place – for example economic opportunities, access to land etc.

17. What has migration got to do with climate change?

- Climate change is already spurring migration, including internal and seasonal migration.
- One third of the world's population lives within 60 miles of a shoreline and thirteen of the world's twenty largest cities are located on a coast.[6]
- Therefore hundreds of millions could be displaced in environmental mass migration due to global warming and sea level rises.
  Yet, the true number of people forced to migrate due to climate change and other environmental factors is extremely difficult to predict. Some analyses are estimating that it will be just as likely that people will move to environmentally vulnerable areas rather than away from them, due to factors such as lack of capital, planning and other complex factors.

18. Which accounts for a greater share of movement: international migration or migration within countries?

- Migration within countries, particularly urban to rural, accounts for a much greater share of movement than international migration. Although international migration is increasing and will continue to do so over the coming decades.
- In 2013, the number of international migrants was 232 million and is projected to double to over 400 million by 2050.[4]

19. True or false: South to South migration accounts for a greater share of international migration than South to North

- True: 35% of international migration in 2013 was South – South (just over 82 million). Although South – North was closely behind in second place at 34% (just under 82 million) and rising S-N migration is the most significant trend in migration.[7]
- The third largest flow was North to North (23%, 54 million).
- North to South (6%, 14 million people).

20. Are remittance flows to developing countries (funds sent home by migrants):
a) Half the amount of Overseas Development Assistance (ODA) b) roughly the same amount of ODA, c) three times larger than ODA?

- C: three times larger than ODA according to the World Bank - $530bn in 2012 in remittances and the actual amount is likely to be even higher.[8]
- This demonstrates just one of the potential ways that migration can contribute to development.
- But it's important to effectively plan for and manage migration well, so to ensure:
  - The rights of migrants,
  - Strategies that minimise brain drain in developing countries are implemented,
  - Strategies that maximise returns for the financial and human capital of migrants.

21. What proportion of the world's migrants are women?

- Globally 49% of the world's migrants are women, but in less developed countries it tends to be lower at 45%.[9]
- Feminisation of migration is a growing trend – with the number of female primary migrants increasing (the earner of a family or women migrating alone)
- Related issues:
  - Risk of sexual exploitation and violence
  - Poorly paid jobs
  - Lack of rights
  - Lack of access to SRHR services

Sustainable development

22. What percentage of the world's resources are consumed by the richest 20 per cent of the world population?

- The richest 20 per cent of the world's population account for more than 75% of total private consumption, and the poorest 20% consume less than 2%.[10]
- This is a clear reminder that addressing unsustainable consumption patterns and social inequalities must come hand in hand with advancing SRHR and addressing population dynamics.

- Due to unequal and unfair consumption patterns, if everyone in the world today lived as the average person in the USA does, we'd need the equivalent of over 4.5 planets to support us. However, if we lived as the average resident of India does, we'd be using less than half the planet's bio capacity.[11]
- If things continue unchanged, by 2030, humanity will require the capacity of two planets to absorb CO2 and sustain consumption patterns, even with modest projections of population growth, consumption and climate change.[10]

23. What has SRHR got to do with food, energy and water security?

- By 2030, it is estimated that the world will need 50% more food and energy and 30% more water. This is due to population growth and other factors increasing demand.[12]
- Increasing access to SRHR services, by slowing population growth, can complement efforts to achieve access to food, water and energy for all.

24. What have population and consumption got in common?

- They are both key underlying drivers of environmental change. Human demands for food, energy, land and consumption of other natural resources is the driving force for environmental change and degradation, including changing land use, exploitation of natural resources, pollution etc.
- Consumption and demography (including human numbers) are therefore closely inter-twined. Every person must consume and each person adds to consumption levels. But consumption inequalities are vast, both between the global North and South and within countries themselves.
- To achieve poverty alleviation within planetary boundaries, the rich will need to consume less and the poor more.
- Other than population size, other demographic factors such as urbanisation, migration and ageing influence consumption levels.
- For example, urbanisation can offer opportunities for economies of scale (more efficient use of resources), but at the same time in developing countries, people in urban areas can have higher consumption rates (as urban areas have better access to electricity, greater variety of foods etc than rural areas).

25. What has population got to do with climate change mitigation (actions to reduce climate change / greenhouse gas emission?)

- The effects of demographic change on climate change are complex. Consumption by developed countries is the largest driver of global greenhouse gas emissions, but population growth plays a smaller but still important role.
- Although the need for 'low-carbon growth' is recognised, currently, there's no alternative development model for developing countries to follow; as countries develop, their per capita and total carbon emissions increase. This means that population growth is an important factor in climate change mitigation, in addition to the pressing priority of ensuring the reduction of consumption in developed countries (ie. the poor need to consume more, the rich need to consume less).
- Slowing population growth (following a low rather than medium path) could produce between 16% and 29% of the reductions in carbon emissions necessary to avoid dangerous global warming of more than 2°C by 2050.[13]
- Addressing current unmet need for modern contraception would slow population growth and reduce global average fertility to 1.65 children per woman (below replacement level and below the UN medium term projection) by 2050.[14]

26. How can population growth, high population density and migration increase developing countries' vulnerability to the impacts of climate change?

- By exacerbating climatic impacts and environmental problems including soil erosion, water and land scarcity.
- By contributing to deforestation.
- These are ways identified by the least developed countries in their National Adaptation Programmes of Action (NAPAs) produced as part of the UNFCCC process.
- Population dynamics are relevant to both climate change mitigation and adaptation.

References for statistics:

[1] UN Population Division (2013) *World Population Prospects: The 2012 Revision.* New York: UN.
[2] Singh, S. and Darrich, J. E. (2012) *Adding It Up: Costs and Benefits of Contraceptive Services - Estimates for 2012.*New York: Guttmacher Institute and United Nations Population Fund.
[3] UN (2013) *The Millennium Development Goals Report 2013.* New York: UN.
[4] UN Population Division (2012) *World Urbanization Prospects: The 2011Revision.* New York: UN.
[5] Population Reference Bureau (2013) *The global challenge of managing migration.* Washington DC: PRB.
[6] Costello, et al. (2009) "Managing the health effects of climate change". The Lancet, 373, 9676, pp.1693–1733.
[7] UN Population Division (2013) *International Migration Wallchart 2013.* New York: UN.
[8] World Bank (2013) *Migration & Remittances Data 2012.*
[9] The Royal Society (2012) *People and the planet.* London: The Royal Society.
[10] World Bank(2008) *2008 World Development Indicators.*
[11] WWF (2010) *Living Planet Report 2010: Biodiversity, biocapacity and development.* Gland: WWF.
[12] Beddington, J. (2009) Food, energy, water and the climate: A perfect storm of global events? UK Government Office for Science.
[13] O'Neil, BC et al. (2010) "Global demographic trends and future carbon emission." PNAS, p. 17521-17526.
[14] Futures Group (2010) *World population prospects and unmet need for family planning.*