Sensorveiledning – ECON3710/4710 – vår 2006

Short answers

Question 1:

Modes of transmission:
Water, Food, Air drops, Insects, Direct contact with others, including sexual:

To reduce exposure:
Individual hygienic measures/less risky behaviour. Public information/campaigns.
Continued efforts against the malaria mosquito. Will also help with a higher level of
knowledge in the population, strengthening of women's position in society?, less
poverty. (Might elaborate on this. There is much about AIDS in the course readings,
and about the importance of women's autonomy/education)
With respect to water, also: policies for good water use, right to water sources
(Falkenmark: population growth aggravates water scarcity)

Co-factors: poor nutritional status, poor health for other reasons (not spelt out clearly
in the course readings). Would help: larger food production (dealt with in course
readings), but above all better distribution/support to the poor. (Vitamin A
supplementation campaigns.)

Vaccination (much still remains although many steps forward). Malaria preventive
medicine.

Treatment: ORS, antibiotics (important to avoid development of resistance),
antiretroviral drugs, malaria medicine. Hinges much on economic resources, health
services, public commitment.

Might add: some groups more vulnerable than others. The poor and the less-educated,
of course, but also girls more than boys in some countries (e.g. discrimination in
vaccination/food). Infants/children more vulnerable if short birth spacing.

The question is very broad, and the students may easily run out of time. They may see
two options: a little of everything to show that they see the broad picture, or details
about some issues. We should be generous in our evaluation.

Question 2.

Education etc also reduces regulation costs, not only fertility desires. However, the
idea is that one might reduce these costs further through certain programs
(Community Based Distribution, Social Marketing, Postpartum Programs), either run
by the government or by NGOs (in either case, there may be substantial support from
other countries). These reduce prices of contraception and enhance
knowledge/acceptability. May also in practice include some argumentation about
advantages of small families. In addition, government or NGOs may promote
knowledge of contraceptives through media, or spread idea about acceptability of
contraception or advantage of smaller families. Laws, enacted by the government,

may also be influential: minimum age at marriage, punishment for 2. child etc (and taking away any previous legal restrictions on sale/marketing on contraception).

China: Has done most of what's mentioned above: probably modest effect of one-child policy. (Combination of low fertility desires (whether forced or more voluntary) and strong son preferences => sex-selective abortion, girls' excess mortality.) (There is a short paper also about the two-child policy in Vietnam, with special emphasis on boy preferences)

Bangladesh: special concern about women's lack of physical autonomy=> CBD programs in large scale, with much support from abroad. May have included some persuasion. At least indirect effect: If know it is possible to regulate=> think differently about how many children one wants. (The value of CBD programs also addressed in a paper about Madagascar)

Iran: Push just a little on the demand side. Make contraceptives available and acceptable (special problem in a Muslim population; a little about that also in a paper about Indonesia).

Kenya: CBD programs. Special challenge: People extremely skeptic. Unreasonable fear of side effects.

A fairly easy question, for which the students should be well prepared. They should be punished for showing lack of understanding of the basic determinants of fertility, as some did in the term papers.

Question 3.

In a larger population, there will be less natural resources behind each person. This is not necessarily critical. It depends on the resource situation at the outset (e.g. arable land, water). Besides, one may compensate by better use of other inputs, especially technology in a wide sense of the word. For example, as seen from the food production side: new types of plants, or more use of fertilizers on the fields, in turn dependent on incomes that are partly generated outside the agriculture, as a result of a better utilization of resources there. The steps that are taken to adapt to population growth differ across societies, and depend on the economic strength, level of knowledge/technology, policies/laws (e.g. on agricultural support, land use; ability to stimulate adequate movement towards more rewarding economic activities), assistance and opportunities (e.g. to export to them) provided by other countries. In some cases, one may find good sustainable solutions; in other cases one may succeed in the short term but do so much damage to the environment (soil degradation, deforestation, air pollution) that later productivity and welfare is reduced; or one may not even manage to keep up welfare in the short term.
 However, there may also be benefits from economies of scale and specialization. In principle, these may more than outweigh the negative forces, so that population growth is outright beneficial.
 According to Kelley & Schmidt 1994/5 and Kravdal 2001, population growth did not have much impact in the 1960s and 1970s, but a negative one later. The effect is found to depend on, for example, GNP per person at the outset. No harmful effect of population growth in the 1980s in rich countries. (Remember: Many countries

have been doing quite well, for example in terms of food production, even with a large population growth, but that does not prove that it is harmless. Might have been even better development with less population growth.)

Some students may find it difficult (or not important?) to construct a full "story" like this, although (implicit) versions of it are presented in Heilig 1994, Panayotou 1996, Kelley&Scmidt 1994/5, Kravdal 2001, and in lectures. They may instead focus on pieces of it – perhaps in more detail (based on one or a few course articles). We should be generous and give credit for any sound argument, regardless of whether the "big picture" appears clearly.

Question 4
a) Two entries: Region and level. Brief discussion of the four regional families West, East, South, and North. Details on how age patterns differ between regions is not required. North, East, and South can be used when you have information about high or low mortality in specific age groups. West to be used, when such information is lacking. Level: life expectancy at birth for women, given region. 25 of such levels in the original tables: 20(2.5)80. Extended to 85 in later work. Men's life expectancy 2-3 years lower than women's.

b) r = $\sqrt[27]{1.25}$ = 1.0083 - 1 = 0.0083 or 8.3 per thousand.