

كلية التربية – شعبة الجغرافيا – الفرقة الرابعة

مقرر: **نصوص جغرافية**
Geographical Texts
Population & Resources

الموضوع: **Response Models (B)**

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Response Models:
• **New Model**





* **General responses to population pressure in the Developing World
(New Model)**

* **General responses to population pressure in the Developing World**

- * The new model has been developed on the basis of Grigg (1980 & 1982) and Bilsborrow (1987), and consider 'population pressure' rather than 'overpopulation'. Population pressure on limited cultivated land in rural areas in Developing Countries has led to the rise of serious problems in many areas. Where the land is inadequate to provide for its population, the population may respond in the following ways:
 - * **Economic response** including an increase in land reclamation and land intensification.
 - * **Demographic response** principally fertility decline.
 - * **Economic-demographic** response (rural out-migration). In this response we use the same definition as Bilsborrow, who considered rural out-migration in economic and demographic terms. This is because there are many demographic and economic factors involved in the process of migration such as population growth, limited cultivated land, availability of livelihood resources, and migration cost. Rural out-migration is considered to be an economic-demographic response.
 - * **Livelihood response** (diversification of household income), which means an increase in non-farm income.

Small Size of Agricultural holding in Menoufia Governorate, Egypt



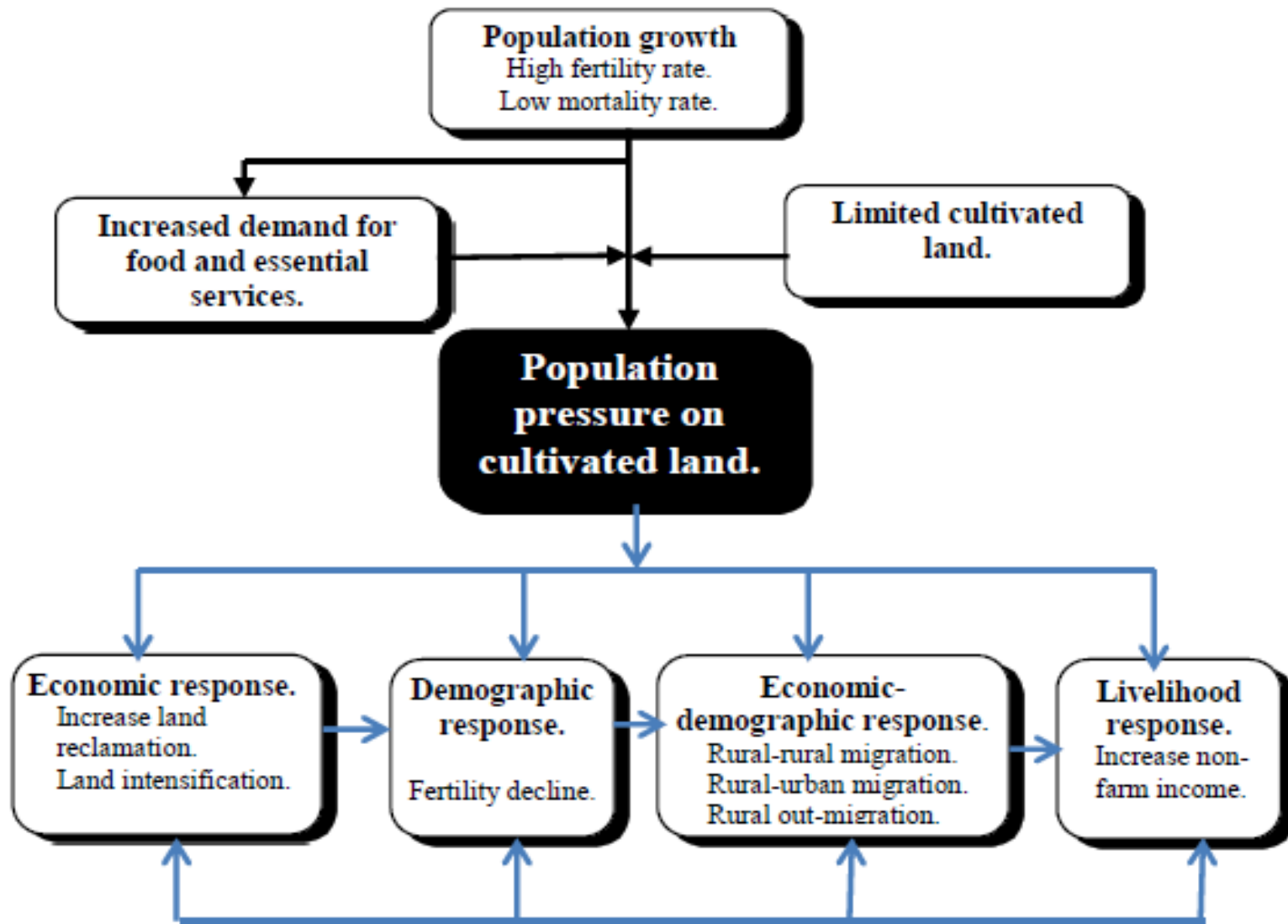


Fig. 19: General conceptual framework of responses to population pressure in Developing Countries. **Source:** Hendawy, 2000, p. 23, after Grigg 1980 & 1982; bilsborrow 1987

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- * **Economic response** (increases in arable land and land intensification).
 - * One of the classic responses to increases in population density is to increase the area of land that is cultivated. This is because more population needs more food. Therefore there is additional pressure on the land, which leads to increased land reclamation. Arable land and land under permanent crops in Developing Countries have increased during the 1960s and 1980s (from 662 million hectares in 1950 to 801.2 million hectares in 1988).
 - * In **China**, (for example) increases in population have led to increased area of cultivated land. The land under cultivation increased (estimation) from 63 million hectares in 1770 to 112 million hectares in 1957, and continued to increase in 1960s and 1970s (129.5 million hectares in 1976).

* **Economic response (Con.)**

- * Mortimore's study of North Nigeria (1993) has shown that an increase of cultivated land in the area around Kano is associated with population density. Over 80 percent of the land is cultivated in the high-density area, but only 10 percent is cultivated in the low-density area. He also argued that population growth on smallholdings drives agricultural intensification and productivity.
- * The processes of **intensification** are apparent when the population / land ratio increases, and there are limited possibilities to bring in new agricultural land. Farmers intensify their agricultural activities on land already in use, with the introduction of new crop varieties, increased frequency of cropping, application of additional fertilizer, expansion of irrigation, and better control of pests. In addition, there will be improvements in transportation and storage (Preston, 1996, p. 99). This is an alternative economic response to increased yields.
- * **Bongaarts's** (1996) study of population and food supply in Developing Countries has empirically found that there are strong positive effects of population density on percentages of land cultivated, cropping frequency, and crop yields.

* **Demographic response** (fertility decline).

* Fertility decline can be induced by increasing the age at marriage and a decline in marital fertility (through its proximate determinants, including increased use of contraception). This is because the cost of living of people who have a few children is less than that of people who have many children. In many circumstances -though not all- fertility decline is associated with population pressure. For Third World countries as a whole, there is clearly a relationship between rural population pressure and the level of fertility.

* Since the 1960s, a decline in fertility has become widespread in the Developing Countries, and the average TFR in Developing Countries declined from 6 children per woman in 1960 to 3 children per woman in 1998 to 2.4 children per woman in 2012.

- * **Economic-demographic response** (rural out-migration).
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* When there is population pressure on the land and no further intensification is possible in the short term and there is no early possibility for the extension of cultivated land, this can lead to rural out-migration. Rural out-migration can be of **several types**:
 - * Rural-rural migration; Rural-urban migration; Rural-international; Permanent; and Circulation (temporary).
 - * The **majority of studies** have shown that the population pressure on cultivated land in rural areas in the Developing World is one of the most important reasons for rural out-migration (both permanent and circular), with a clear positive correlation between rural out-migration and high population density.

* **Economic-demographic response (Con.)**

- * The increase in demographic pressure on rural resources (cultivated land) and poverty, coupled with an improvement in the transportation system in recent years, have led to an increase in internal migration in most low income countries. Most of the migration has been to urban areas (with higher income, more employment opportunities, and greater infrastructure).
- * In **Eastern and Central Africa** for example, population pressure on rural livelihoods in densely populated areas and lack of alternative economic activities have **pushed** many into circular migration.
- * **On the other hand**, some studies have shown that rural out-migration is not only related to population pressure (high density), but also to other reasons. In the case of Makete district in Tanzania for example, there was migration from both densely populated areas and low population growth areas.

- * **Livelihood change response** (increase non-farm income).

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- * When there is no possibility for the extension of cultivated land, and no further intensification, this can lead to increased off-farm activities locally to gain additional income, such as rural industry (home crafts), trades, day labouring, and working in the towns (daily commuting), but without any residential change.

- * In most Developing Countries, the proportion of the **non-farm** rural population is estimated at between 20 percent and 33 percent (Sri Lanka 38 percent, Java 33 percent, and Turkey 9.5 percent). In Iran, for example, from 24 percent to 42 percent of the agricultural population support their income by non-farm activities such as the processing of wool and silk, the weaving of carpets and textiles, making shoes, and crafts using wood.