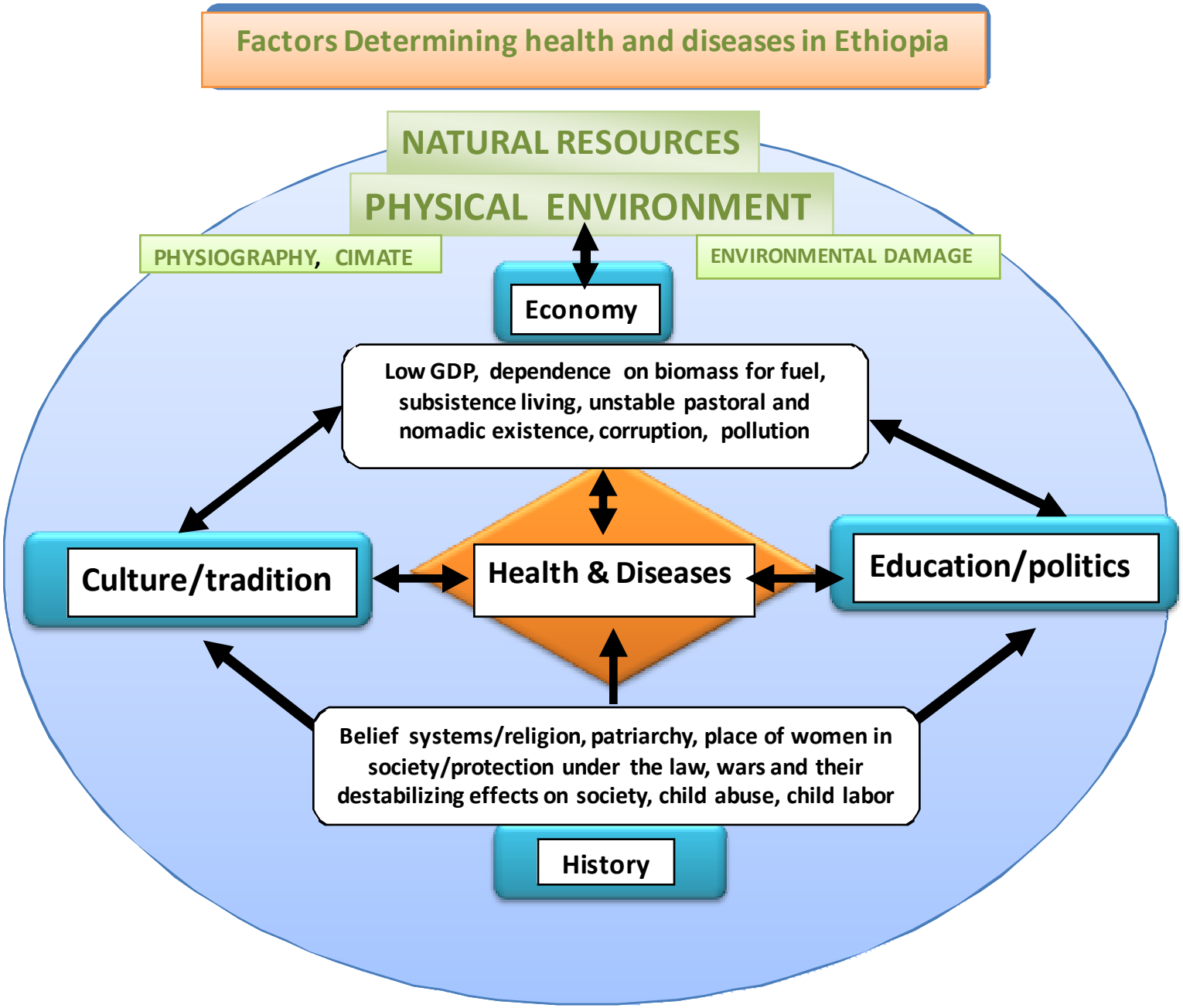
Factors Determining health and diseases in Ethiopia
NATURAL RESOURCES
PHYSICAL ENVIRONMENT
PHYSIOGRAPHY, CIMATE
ENVIRONMENTAL DAMAGE
Economy
Low GDP, dependence on biomass for fuel, subsistence living, unstable pastoral and nomadic existence, corruption, pollution
Culture/tradition
Health & Diseases
Education/politics
Belief systems/religion, patriarchy, place of women in society/protection under the law, wars and their destabilizing effects on society, child abuse, child labor
History

FACTORS AFFECTING THE HEALTH OF THE NATION

I. PHYSICAL / ENVIRONMENTAL

Source : Yemane Berhane, Damen Haile Mariam, Helmut Kloos (eds.) Epidemiology and Ecology of Health and Disease in Ethiopia. Shama Books. Addis Ababa. Ethiopia.

Consideration of physical/biotic factors allows understanding of:

Suitability of vector/agent habitat: vegetation, soil, rock-type, etc. for transmission of diseases

Toxicity and chemical composition of soil, rocks, and water.

The role of climatic and geologic events and disasters such as floods and draught.

The role of the physical environment in determining agricultural productivity, food security, etc.

Man-made changes to the environment and its impacts on the ecology of diseases and the carrying-capacity of land

The role of plants, and plant products in utilization of traditional medicine

The Health Impacts of Topography Altitude AND Geology

* Living in highland plateaus over 2000 mt may be affecting hemoglobin content and Oxygen saturation

*Depletion of fertile volcanic soil due to erosion caused by over population has triggered out-migration to the low lands with major health implications

CLIMATE

THREE CLIMATIC ZONES

1. **KOLLA** (HOT & DRY, BELOW 1500MT.)
2. **WOYNA DEGA** (TEMPERATE CLIMATE, 1500 – 2400 MT.)
3. **GEGA** (COOL, HUMID ABOVE 2400 MT)

** **Kolla** – risk of heat-stroke, vector habitat

** **Dega** and **Woyna Dega** – acute respiratory diseases, vector/agent habitat

* **Rainfall** highly variable in intensity and duration

* **Temperature** - **Kolla** -30-33 °C

-**Woyna Dega** - 16-29 °C

- **Dega** - 10 - 16 °C

Variability of rainfall has contributed to "…frequent food shortages and famines that have been recorded for hundreds of years"

Variation in rainfall amounts renders the prediction of transmission of malaria, trypanosomiasis meningiococcal meningitis, diarrhoea, and other water-related diseases impossible

AIR QUALITY

The use of fuel wood and dung in rural Ethiopia is responsible for very high levels of in-door pollution.

Moreover, "increasing automobile traffic and industrialization, together with persistent reliance .. on firewood for household use and Addis Ababa's location between mountains on three sides is largely responsible for high air pollution levels in this city "

WATER

The 12 major river basins carry annually about 110 billion cubic meters of water in the highlands across deeply incised valleys towards the low-lying peripheries and neighboring countries

“The gradients of most rivers and streams is steep and their currents correspondingly strong, affecting the habitats of vectors….”

Other water-related health issues include, contamination by human and animal waste, infection risks associated with standing water used in irrigation schemes, and massive top-soil loss due to erosion of fertile volcanic soil from the highlands and its deposition in the lowlands, or in neighboring countries with serious consequences for land productivity and food security.

VEGETATION

Massive deforestation, recurrent draughts, wars, villagization programs, and resettlement, have reduced forest cover to only 3% of areas in the West and Southwest with serious implications (biodiversity, climate change, sustainable development) with attendant health consequences

SOILS

Examples of the importance of soils in disease transmission include verisols in the highland plateaus of Ethiopia with a "…tendency to form deep cracks when dry…" making them an excellent habitat for "phlebotomous flies transmitting leishmaniasis"

BIODIVERSITY

“Introduction of genetically engineered grain crops from North America as part of food aid programs constitutes a potential threat to the biodiversity of Ethiopian crops” and thereby, it food security.

The superiority of indigenous Ethiopian technology is increasingly being recognized with several advantages over recently introduced conservation measures. The advantages include "…its compatibility with local environment, land use, the farming system and objectives of the farming community but also its ease of implementation and gradual adoption by farmers on an incremental basis."

FACTORS AFFECTING THE HEALTH OF THE NATION

II . ECONOMY

A country's level of economic development has significant impacts on the health of its citizens. Conversely, the health of its citizens determines the overall health of the economy. The latter happens in three important ways:

1. “Loss of production by sick individuals as a result of decreased working capacity, and absenteeism.”
2. “The opportunity costs of people involved in caring for the sick …”
3. “Countries with higher disease burden are forced to manage morbidities and disabilities by shifting resources that would have been invested in other productive activities”

Ethiopia's per capita income is estimated at $110/year - one of the lowest in the world – and has reportedly registered no significant growth in the last half century

The main cause of the stagnation has been the explosive growth of the population over the last half century and "…sluggish growth in productivity, particularly in the agricultural sector"

“In terms of national poverty, Ethiopia ranks 92nd among 94 developing countries [and]…the percentage of people who earn US$ 2 or less per day …exceeds 98% of the population (the highest proportion in the world)”

The overall per capita health expenditure in the post-2000 period has been reported in ranges from 1.20 – 2.70 US$ per year

HEALTH AND DISEASE IN ETHIOPIA

Source: Ethiopia

A Country Status Report on Health and Poverty

June 2004

The World Bank

HEALTH SERVICES
and health indicators

* Only 15 percent of Ethiopians have access to improved sanitation. This compares unfavorably to the SSA [Sub-Saharan African] average of 55 percent.

”Access to clean drinking water is slightly better at 24 percent but it is still much lower than the SSA average (55 percent).”

59% percent of adult Ethiopians are illiterate, (much higher than the SSA average of 36 percent).

Females have a higher rate of illiteracy than males.

The primary school enrollment rate of 49 percent is also below the SSA average.

Over 50 percent of Ethiopians "…remain food insecure, particularly in rural areas."

WOMEN'S RIGHTS

“While the Ethiopian constitution recognizes the equal rights of women and men, the traditional societal structure keeps women in a vulnerable position. Traditional harmful practices are common with 80 percent of women having undertaken some type of circumcision.”

“A high workload (on average, Ethiopian women work 15-18 hours per day and many domestic tasks in the rural areas are highly labor intensive) and early marriage (the average age of women at first marriage was 17.6 years in 1998) are common.”

“Limited studies and police and media reports suggest that violence against women is quite high and increasing every year …..About 25 percent of Ethiopian women have experienced rape ….”

“Women still occupy a very small percentage of key government decision making positions: 7.7 percent in the House of Representatives and 13 percent in regional councils in 2000.”

THE HEALTH CARE SYSTEM

The Ministry of Health (MOH) remains the main institution responsible for the "….formulation of policies and supervision of implementation, determination of standards, issuance of licenses and qualification of professionals…"

It also establishes standards for research and training, and coordinates the flow of external loans and grants.

71% percent of hospitals, 94% of health centers, and 82% of health stations, as well as all health posts are currently run and administered by the Government.

“On the other hand, the pharmaceutical sector is dominated by the private sector: 85 percent of pharmacies, 81 percent of drug shops and all rural drug vendors are privately-owned.”

“Between 1996 and 2002, the number of health facilities has grown rapidly. The number of hospitals has increased from 87 to 115, health centers from 257 to 412, and health posts from 0 to 1311. The number of health stations has stayed stable and reached 2,452 in 2002. The average distance to the nearest health facility was 7.7 kilometers in 2000.”

Accessibly to health care is constrained by the fact that more than 90 % of households travel on foot. This is often the only option even when the health facility is further than 10 kms. "Rural/urban differentials are very large, with the nearest health facility in 2000 being 1.4 kms away in urban areas and 8.8 kms in rural areas."

HEALTH PERSONNEL

The human resource at base of Ethiopia's health system of very limited capacity. As a result, the country has one of the lowest ratio of doctors to population in the world

A 2003 estimate showed that Ethiopia (with a population of 67 million then) had just over 27,000 health workers with training levels exceeding one year.

The health personnel's strong preference for urban living means that rural Ethiopia faces a continuous shortage of human resources.

"In the three largest regions (Oromia, Amhara and SNNPR), less than one doctor is available per 55, 000 people and one nurse per 10,000 people."

“Midwifery skills are particularly lacking with large regions such as Oromia or SNNPR having less than one midwife per 100, 000 people..”

Curiously, the number of administrative staff tends to be far greater than that of health workers with (ratio 2:1)

“In addition to the relatively large number of administrative and support staff, considerable numbers of trained health workers occupy non-clinical positions, which may not be very efficient in the context of a shortage of clinical skills.”

“For example, in Benshagul-Gumuz, only 5 out of 18 health officers (27.7 percent) are in service delivery positions while the rest occupy either teaching or administrative posts. In Amhara, 38 percent of health workers are employed in Woreda and zonal offices.”

Signs of progress

Between 1996/97 and 2001/02, the number of health officers and nurses increased from 30 to 484, and from 4,774 to 12,838 respectively.

In addition, the number of physicians increased by 27 % (1,483 to 1,888) but the population/personnel ratio changed only slightly over time.

The health care labor force is male-dominated. Roughly 13 % of physicians, 11 percent of health officers, and 39 percent of nurses are female.

“Even among frontline workers, only 38 percent are female.”

Addis Ababa has the highest female/male health worker ratio (more than 60 percent). As a result, "….rural areas where the need for maternal and child health services are the most acute are mostly served by men."

TRAINNING AND REMUNERATION

Overall training capacity remains far below the training needs and objectives of the country. There are only five universities or higher-education colleges training doctors and health officers. “Twelve nursing schools provide an annual training output of about 2,226 nurses.”

“Ethiopian medical specialists and general practitioners are paid significantly less in dollar terms than physicians from other countries. The average salary for a medical specialist is equivalent to about US$ 236 a month. This makes migration very attractive for doctors with prized skills on the international market, particularly surgeons and obstetricians.”

Hospital Beds and the Condition of Existing Health Facilities

“Ethiopia has a very low number of hospital beds in relation to its population. There are approximately 0.20 beds per 1,000 people, slightly less than one-fourth the average for SSA of 1.1 beds per 1,000 population…”

A recent detailed assessment of sampled health facilities (1995), revealed that over 50 % had plumbing and sanitary problems, leaking roofs, electrical problems, etc . “An overall assessment of building conditions showed that 28.8 percent and 15.1 percent needed major repair or total replacements respectively.”

Availability of Drugs and Pharmacists

DRUGS: The availability of essential drugs has improved, but shortages persist.

PHARMACISITS: An estimated 500 pharmacists were working in the pharmaceutical sector in 2000. Only 20% of those were in the public sector due to continued migration to the private sector.

Utilization of Health Services

“The trend of utilization of services has been disappointing as it has not matched the steady increase in facilities. Outpatient visits remains unchanged at the 2001 level: about 27 new consultations per 100 persons and per year.”

Service utilization is still only about ¼ of the stated goal for 2004/05 of 1.0 visit per person per year.

"The top 10 leading causes of outpatient visits in 2000/01 account for 47.8 percent of total visits."

For instance, few consultations occur for diarrhea although it is the main cause of mortality in children under five.

"The national average bed occupancy rate (BOR) is also very low at 25.4 percent."

Health Outcomes

There has been a slow but steady reduction in child mortality since 1960. Infant and under-five mortality have continued to come down over the past 25 years with a more significant decline in the last decade.

But still, infant and under-five mortality rates remain very high

The latest infant mortality estimate is 97 per 1,000 (DHS 2005), and one in every six children (188 per 1,000) dies before its fifth birthday.

However, Ethiopia's performance relative to its per capita income is rather good. It has lower levels of wealth-based inequities when compared to other countries with a similar per capita income, as well as lower infant and under-five mortality rates.

Under-five mortality decreased by about 1.9 per 1000 live births per year between 1990 and 2000. But the country needs a reduction of 5.2 per 1000 live births per year "…to be on a sustained trend towards the child survival MDGs."

“Infant and under-five mortality rates are 16 percent and 31 percent higher respectively among children from the poorest quintile compared to children from the richest quintile.”

The urban/rural difference is much more pronounced, however. Infant mortality rates are 96.5 and 114.7, and under-five mortality rates are 148.6 and 192.5 in urban and rural areas respectively.

There is also a marked regional variation in IMR with Addis Ababa at the lowest end of infant mortality (IMR=81) and under-five mortality rate (113), and Gambella at the highest end: IMR = 123, and under-five mortality rate = 233. There appears to be no gender differentials in child mortality.

Children under five years experience two episodes of serious illness per year on average, indicating that the environment's infectious pressure is very high.

51% of children are classified as severely to moderately stunted, of which 26% are in the "severe" category.

49% of children under five are moderate to severely underweight.

"Urban/rural differentials are not significant but regional differences in child malnutrition are prominent."

“Low birth-weight is also a key factor in both infant and underfive mortality, death being more prevalent among smaller children.”

“Ethiopia’s immunization performance is mixed. The percentage of 12-23 months’ olds who have received one or more of the EPI vaccines is high at 83 percent. However this percentage largely reflects the coverage achieved through the polio eradication program.”

“Ethiopia’s performance on antenatal care—including tetanus toxoid vaccination—and delivery care is one of the worst in SSA.”

A third of Ethiopian women and a quarter of mothers of children less than three years of age have Body Mass Indices (BMI) less than 18.5 confirming that the level of chronic energy deficiency malnutrition among adult women is relatively high when compared to other SSA countries.

Information on maternal mortality is scarce, but indirect evidence from the 2005 DHS suggested a MMR of 871/100000

HIV/AIDS

“The first AIDS case was detected in Ethiopia in 1986. The prevalence of HIV remained very low in the 1980s but spread quite rapidly during the 1990s. It has been estimated at 6.6 percent of the adult population in 2002,….”

At the start of the new millennium, there were 2.1 million children and adults living with HIV/AIDS.

Ethiopia has only one percent of the world's population, but contributes seven percent of the world's HIV/AIDS cases

Tuberculosis is also widespread, as is co-infection with HIV. TB, reportedly, accounted for 3.1% of all deaths in 2000 and the incidence ratio of all forms of TB in 2000 was 397/100,000."

“About 68 percent of the total Ethiopian population is at risk of acquiring malaria infections. However, bed-nets are still largely unused in Ethiopia. In 2000 only 1 percent of households owned a bed net, out of which only 17.7 percent were insecticide treated.”