Case Study Name: Ethiopian drought

Section of the Specification: consequences of global climate change

Key Terms:
- World Food Program
- Food and Agriculture Organization
- International Fund for Agricultural Development
- jilaal season (dryest season in december)

Location: Ethiopia, East Africa

Town/City/Region: countrywide, center-east is worst affected, especially Danan (lowland pastoral areas + pocket areas)

Country: Ethiopia

Continent: Africa

Key Information:

What?
- series of droughts, bringing water scarcity and agricultural resession

When?
- 2015-2018 →..., with worst droughts so far in 2017

Why? · no food reserves
- El Niño-induced
- Indian-Ocean Dipole-induced drought
- lack of perciptation
- strong winds
- lack of vegetation
- conflict

Facts and Figures: - milk is the #1 source of nutrition...
- ≥7.8 mil. people have been recieving food emergency aid since April 2017 + 700 000 people haven't recieved aid due to 'resource constraints'
- in July 370 000 severely undernourished children < 5yrs lived in Ethiopia

Causes/Theory:
- Eventhough Ethiopia's economy has been developing rapidly in the past years, making Ethiopia one of the fastest-developing African countries, it has been affected badly by the droughts in the past years, as preparation has been insufficient and droughts have been persistant. Climate change-induced changes in weather patterns (percipitation, cloud cover, winds, temperatures) have lead to increased and more persistant droughts. Lack of food reserves & planning making effects more severe (famine, epidemics, etc.) and corruption prevent direct emergency aid to help people in need.

Effects:

Political
- conflict over power (over water & resources
- conflict over food & water

Economic
- economic growth is hindered
- difficulties to build up self-sustaining economy
- not enough food to feed cattle, not enough water to sustain crops - farming is collapsing
- youth migrate to other areas → downward cycle

Environmental
- loss of vegetation
- particular damage due to 4-year duration of droughts allready
- extinction of wildlife
- flooding
- erosion

Social
- poverty
- disease epidemics (diarrhea)
- malnourishment
- sickness from drinking contaminated water
- loss of cattle means loss of food, transport + income
- displacement
- high infant mortality
- lack of contraception + education
- bad maternity care

Solutions:

What has/could be done? By whom?
- Preparation through local government and funds, better planning
- food & development aid from international organisations
- Ethiopias government sais it has invested ≥ $400 mil. in the humanitarian relief effort
- The US announced $91 mil. in additional aid
- project based approach, less emergency aid
- intensive conservation work to restore land
- improved water distribution
- better food reserves
- better preparation
- early warning systems,
- drought-resistant seeds

Are they Sustainable? Why/Why not?
- sustainable in general, although not over such a long period of drought (3 yrs. El Niño)
- local government is corrupt in some parts, has other problems
- not enough, food they aren't used to
- money does not give immediate relief and often does not reach areas in need (corruption) + affected people
- project approach most sustainable in long run, sustainable as it allows has areas to be reforested and land to be reformed
- local governments must be involved in order to be sustainable
- installing active forestation in order to access groundwater

Possible Exam Question:

Causes:

POLITICAL

- conflict & war in many regions prevents effective preparation & precautions for drought & destroys land further
- rebell movements in Darfur take up most political attention and funds are spent on weapons etc.
- corrupt government prevents monetary aid to reach areas / people in need — ???
- poor distribution of emergency aid – too slow and uneven
- no food reserves

ECONOMIC

- unsustainable farming methods (e.g. monocultures, ignoring of fallow periods, use of chemicals, overgrazing) have lead to soil degradation, etc. and therefore increased the (famine) impacts of drought
- use of water for industry/agriculture takes up water that is needed for drinking, though needed for sustainable development
- high food prices on the market leading to food insecurity
- dropping prices of cattle
- poor water management
- fragility of ethiopian agricultural system due lack of trade

SOCIAL

- land tenure (traditional but perhaps old-fashioned farming methods such as slash & burn, overgrazing, etc.)
- bad family planning & education & access to contraception result in growing population, which Ethiopia's water & food scarcity cannot support
- lack of knowledge about adaptive farming techniques
- food insecurity caused by high market prices enhances famine & sickness and leads to a vicious cycle as arable land can no longer be tended to.

ENVIRONMENTAL

- El Niño wind bringing high temperatures and wind, preventing cloud formation & precipitation
- Indian Ocean Dipole-induced weather
- land has been damaged many years previously by unsustainable farming difficult to restore full potential now
- below average autumn rains
- climate change leading to increased natural disasters + changing weather patterns → global warming
- less rain and more unpredictable rainfall
- lack in vegetation leads to fast water runoff