UACE Geography paper 3: Physical geography of Uganda

1. (a) Explain the role of powerand energy in development of Uganda (15marks)

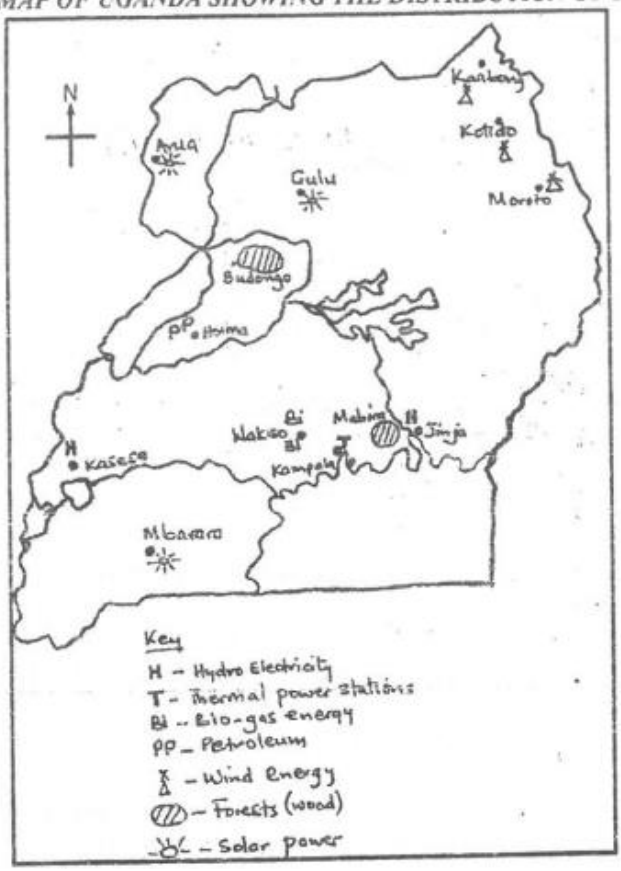
Candidates are expected to come up with the current status of power and energy sector in Uganda e.g.

- Prepaymentarrangement for help have been established in different parts of the country to reduce on energy thefts.
- Increased use of solar energy in most part of the country due to shortage of HEP
- HEP is the most common source of energy used in Uganda
- Production and marketing of HEP has been privatized
- Energy from biomass contibutes 92% of the energy used in Uganda
- Petroleum production is still in infancy stage
- Production of biogas is on increase

Candidates are expected to identify the different sources of power and energy as:

- HEP on rivers like Nile
- Thermal/oil at Namanve, Mutundwe, Lugogo, Kalangala, Buliisa, Hoima
- Bio-gas (from plants and animal wastes) e.g. in Mbarara, Wakiso, Kampala
- Bio Mass e.g. firewood, charcoal, coffee, husks, suggar cane residue at Kakira, Lugazi
- Gas – imported
- Wind energy = Moroto, Kaabong, Kotido etc.

A SKETCH MAP OF UGANDA SHOWING THE DISTRIBUTION OF POWER AND ENERGY SOURCES.



Candidates are expected to come up with both positive ad negative roles of power and energy in development of Uganda

Positive contributions

- Thermal and HEP are sources of government revenue through taxes from petroleum importing companies like Shell Uganda.
- HEP aand thermal energy have promoted development of industries in Kampala, Mbale etc.
- Export of HEP earns foreign exchange to the country.
- Biomass energy has promoted resource exploitation such as clay mining at Kajjansi because it is used to bake clay products
- Biomass energy has promoted construction industry by firing mud bricks in Mukono, Wakiso, Moroto etc.
- Hydroelectricity generation at Bujjagali and Murchison falls has promoted tourism/research through fieldwork and study tours.
- Hydroelectricity and thermal energy generation provide employment to the people of Uganda.
- Generation of HEP has promoted growth of urban areas like Jinja, Arua etc.
- Thermal energy has encouraged contruction industries by empowering mixers
- HEP and thermal energy has promoted agriculture by providing light and warmth to rearing of chicken and other bird.

Negative contribution

- Construction and transimission of HEP displaces people.
- HEP and thermal powers sometimes cause fetal accidents
- Profit repatriation because power companies are privately owned mostly by foreigners.
- Biomass energy utilization leads to depletion of forests causing desertification
- HEP has promoted urbanization and its negative effects such as poor hygiene and high crime rates.

(b) Outline the problems facing the powerand energy sector in Uganda (10marks)

Candiadates are expected to come up with problems facing the energy sector in Uganda e.g.

- Fluctuation of the volume of water limits production of HEP at Bujagali and Murchision falls
- Vandalization and theft of HEP gadget like transformers, transmission wires.
- Power theft
- Limited technology to fully utilize solar, wind and thermal energy in Uganda
- Limited skilled labour in production and transmission of power
- High cost
- Limited market for the power since most people cannot afford.
- Rapid deforestation has lead to high cost of biomass energy
- Poorly developed transport network limit distribution of HEP and petroleum products
- Competition from other forms of land use such as agriculture encroaches on forest land the major source of biomass energy
- Corruption limitexpnsion of power generation
- Insecurity in ssome part of the country limits power distribution and encouraged vandalization properties belonging to power companies.
- Physical barriers like mountains and dense forests limit distribution of power
- Limited research in the power and energy industry.

2. (a) Explain the problems faced by the energy sector in Uganda

Candidates are expected to come up with the current status of power and energy sector in Uganda e.g.

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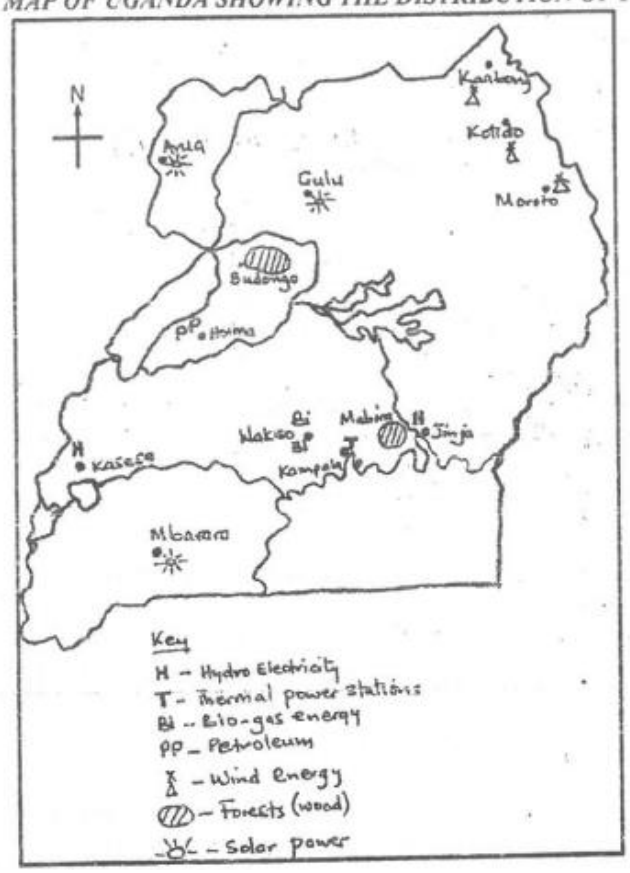

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(b) What measures are being taken to solve the energy crisis in Uganda?

Candidates are expected to bring out measures being taken to solve the energy crisis

- Introducting of energy saving bulbs to combat power shortage
- Introduction of thermal energy to supplement HEP
- Importation of gas to reduce dependece on Biomass energy
- Planting of forests to provide firewood and charcoal in future
- Exploitation of Uganda petroleum reserves to supplement power and energy e.g. at buliisa
- Government reduced tax from heavy industrial thermal electricity generators
- Government has drawn a long term plan of construction of more HEP dams to generate electricity such as Murchison fall power generating company.
- Liberlization of power and energy industry to attract private investors
- Reafforestation and afforestation programmes in Mubende and Masaka
- Fighting power theft and vandalization of power properties
- Fighting corruption in the power and energy sector

Thanks Dr. Bbosa Science