

Utilizing the environment to manage HIV/AIDS

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Abstract: Sub-Sahara Africa is the epicentre for both the HIV epidemic and poverty. In this presentation, we define poverty in terms of lack of clean water, energy and food. Sub-Sahara Africa can boast of abundant surface water, underground water, good soils, good climate and adequate rainfall in most parts of the region. How have these resources been utilized to improve the quality of life, especially for HIV infected people?

Management of HIV/AIDS requires clean water, a highly nutritious diet and availability of energy for domestic use. In this region, water, food, energy and HIV/AIDS have formed a vicious cycle which is reducing the benefits that can be realized from HIV treatment drugs.

Most countries in sub-Sahara Africa rely on wood to meet energy needs. Woodfuels constitute up to 80% of African primary energy needs and account for almost 90% to 98% of residential energy consumption in most rural sub-Sahara Africa. Due to deforestation, wood is being fetched from long distances from human settlements. Rural electrification has only reached a few villages close to national electricity grids. In homes where adults are living with HIV/AIDS, collecting the vital energy source, firewood, is a responsibility that has been passed on to the school going children. This task, although not intended to abuse the children, has led some rural children to abandon their education in order to look after their ailing parents/guardians, and some still in the school system may not have performed to their potential as a result.

Most parts of sub-Saharan Africa have plenty of surface water from rivers, streams and ground water aquifers. However, underinvestment in water resources has meant that there is no piped water in most rural areas. This has adversely affected families with parents/guardians living with HIV/AIDS, as the children have taken on the responsibility of fetching water, a task that takes up a lot of their time as they have to walk long distances to the community borehole.

Malnutrition and HIV/AIDS are closely linked disorders; both disorders can cause or contribute to severe immune suppression. In rural sub-Saharan Africa where agriculture is the main stay, HIV-related illnesses have incapacitated many adults who through illness have left their crop fields unattended, resulting in shortages of food and income for their families. Lack of income has affected the welfare of many children who have had to abandon their education.

What must sub-Saharan Africa do to take advantage of the abundance of water, solar and arable land? Surface and underground water, if it is utilized properly, can transform the agricultural sector which in turn will provide a balanced diet to the communities especially the HIV infected individuals whose immune systems are already compromised. To pump water and supply clean water, a constant supply of energy is required. In sub-Saharan Africa, governments tend to think of big projects such as hydro or thermal electricity and yet energy can be generated from the abundant sunshine throughout the year. This can be done from roof tops to provide electricity for households who could then sell the surplus to the central electricity grid for use by institutions such as schools and hospitals.

In this presentation, we suggest ways, in which communities can reduce deforestation, protect the fertile arable soils and in the process contribute to the wellbeing of citizens especially people living with HIV/AIDS. Governments are already developing boreholes to extract underground water for rural communities. This presentation looks at how the use of solar energy can be used to pump water to rural households and in turn help families with ailing parents/guardians to free their children from daily chores to concentrate on their education.

We ask the questions “can the hydrology, hydrogeology, land and solar energy be the answer to better treatment of HIV/AIDS? Have the higher educational institutions argued the case for solar technology through research? What educational programs must be put in place in order to take full advantage of solar devices? What is the best strategy for protecting sub-Sahara African children?

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