The role of technology in the fight against waterborne disease in Africa

Africa is a continent rich in natural resources, but it also faces significant public health challenges. One of the endemic problems is the spread of waterborne diseases, which affect millions of people across the continent. However, technology is playing a key role in combating these diseases and improving the living conditions of African communities.

What problems are caused by a lack of safe drinking water?

Waterborne diseases such as cholera, dysentery and typhoid fever are a serious problem in Africa, and one that is difficult to eradicate due to lack of access to safe water and adequate sanitation. Why is this happening?

For example, according to WHO, lack of sanitation can force people to defecate in the outdoors, in rivers and near children's play areas, habits that cause 115 deaths every hour on the African continent.

Moreover, **bacteria, viruses, parasites and pollution contaminate freshwater supplies**, leading to water shortages, a problem even in areas where there is abundant rainfall. Lack of clean water increases the risk of diarrheal diseases such as cholera, typhoid fever and dysentery, and other waterborne tropical diseases. Water scarcity can also lead to diseases such as trachoma, plague and typhoid.

In addition, **water scarcity affects 1 in 3 people in the African region** and is worsening with population growth, urbanization and increased domestic and industrial uses. This scarcity leads people to store water in their homes, which increases the risk of contamination of domestic water and makes it an ideal breeding ground for mosquitoes, which in turn carry dengue fever, malaria and other diseases.

All this not only affects people's health, but also has a negative impact on the economic and social development of the region.

How is technology helping to alleviate the problem of access to safe drinking water?

One of the ways in which technology is helping to address the problem of disease in Africa is precisely through improving access to safe drinking water. In many regions of Africa, water purification systems are being implemented that use **advanced technologies to make water safe** for drinking and industrial use. These systems are efficient, cost-effective and can serve entire communities.

Another way in which technology is contributing is through the cell phone. In recent years, the low cost of these devices and the expansion of coverage have contributed to their widespread use, to the point that in some countries such as Gabon, Morocco, Ivory Coast and Mauritius, the percentage of people with a cell phone is almost 100%..

How does this benefit? For example, there are certain apps, such as mWater Surveyor, and reporting hotlines that allow people to **alert about contaminated water sources** or sanitation problems, leading to faster and more effective responses from local authorities and humanitarian organizations. It is also an ideal channel for disseminating health and hygiene awareness campaigns.

Technology is also being used for **monitoring and prevention of waterborne diseases**. Geographic information systems (GIS) allow epidemiologists to track the spread of disease and analyze patterns to make informed decisions on resource allocation and implementation of preventive measures. In addition, **telemedicine** is enabling health professionals in remote areas to consult experts and receive training online, improving medical care and responsiveness to waterborne disease outbreaks.

One of the most recent applications, but one that is expected to have a strong impact, is the use of artificial intelligence to improve the management and distribution of Africa's water resources , for example, with the prediction of water availability, demand management, or leak detection and infrastructure maintenance, among other functions.

In conclusion, today technology is playing a key role in the eradication of waterborne diseases in Africa. Through improved access to safe drinking water, disease monitoring and prevention, education and awareness, technology is helping to save lives and improve living conditions across the continent.

However, it still requires continued investment and collaborative effort from governments, international organizations and private companies to ensure that these technological solutions reach the communities that need them most and are sustained over the long term.