

# BCTF FACT SHEET

June 2003

The primary goal of the **Bushmeat Crisis Task Force (BCTF)** is to facilitate the work of its members in identifying and implementing effective and appropriate solutions to the commercial exploitation of endangered and threatened species.

*Bushmeat Focus Issue:*

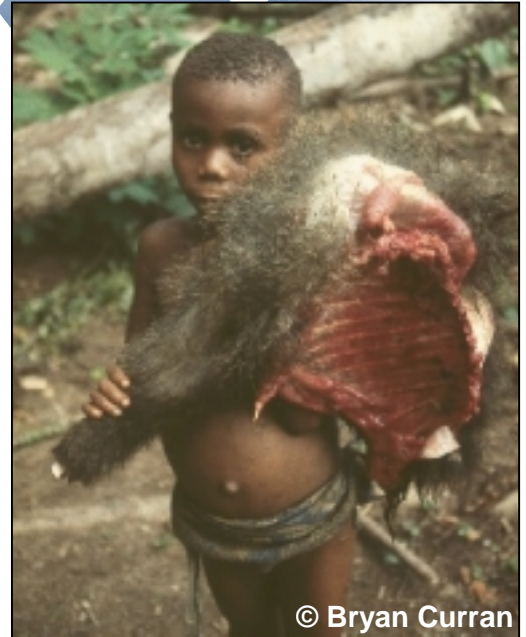
## GLOBAL HUMAN HEALTH

**Species Involved:** Nonhuman Primates, Humans, other vector/reservoir species

**Stakeholders Involved:** Rural and urban communities in Africa, World Population, Centers for Disease Control (USA), public health workers in Africa, University and Government Health Researchers around the Globe, Private Companies engaging in extractive and/or construction-transport activity in tropical forest areas

### Key Concepts

- ◆ Many diseases can jump between species, especially during rapid or dramatic ecological change. Nonhuman primates and humans are susceptible to many of the same diseases, and monkeys and apes may have a role in the spread of new and virulent diseases to humans.
- ◆ Hunting, butchering, and eating bushmeat places people at increased risk of contracting animal borne diseases.
- ◆ Logging, mining, and hydroelectric or fossil fuel transport projects have opened up new areas of forest to commercial hunting, increasing the risk that humans will be exposed to new animal borne diseases, or to existing diseases transmitted in new ways.
- ◆ Bushmeat is a widely used source of dietary protein for most Central Africans, and they are unlikely to stop eating bushmeat unless cheaper substitutes are available.
- ◆ Increasing our understanding of the factors likely to promote transmission of diseases from wildlife to humans is critical to evaluating the public health risks associated with the commercial bushmeat trade.
- ◆ Capacity building at local, national, and international levels for disease monitoring, surveillance, and health care will be critical to addressing this issue in the medium to long term. Immediate benefits include: recognition of the value of local knowledge, educational opportunities, and economic alternatives for forest-dwelling people.



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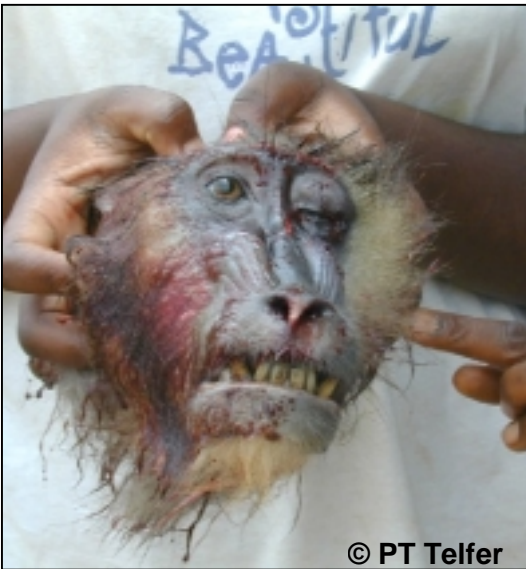
**Researchers have identified a link between viruses in primates and AIDS in humans.**

**Summary:** Though bushmeat is often part of the diet of rural African communities, studies are beginning to indicate considerable negative health implications connected with the processing and consumption of wildlife. Reports confirm the vulnerability of nonhuman primates to the Ebola virus during outbreaks in a variety of African sites. Evidence of simian immunodeficiency virus (SIV) infection has been reported for 26 different species of African nonhuman primates, many of which are regularly hunted and sold as bushmeat. Two of these viruses, SIVcpz from chimpanzees and SIVsm from sooty mangabeys, are the original cause of AIDS in humans. Together, they have been transmitted to humans on at least seven occasions, presumably through direct contact between humans and blood from chimpanzees or sooty mangabeys during butchering or consumption. New research suggests that HIV recombinants are also appearing in forest sites where commercial hunting and influx of human populations have affected the distribution and circulation of viruses. This has scientific as well as public health implications, locally and globally.

**Background:** Emerging infectious diseases are a major threat to global human and nonhuman primate health. While dramatic outbreaks of Ebola virus and Sin Nombre (hanta) virus can briefly attract media attention, the disease with by far the greatest global impact to have emerged recently is acquired immune deficiency syndrome (AIDS). First recognized in 1981, AIDS represents the endstage of infection with one of two lentiviruses (human immunodeficiency virus types 1 or 2) of zoonotic origin. HIV-1 is now in most parts of the world, while HIV-2 has remained largely restricted to West Africa. Evidence of the link between bushmeat and disease has emerged at a time when human populations are increasing and availability of resources to meet basic nutritional needs is decreasing. Finding ways to reduce human health threats potentially caused by the bushmeat trade

### What is the Bushmeat Crisis?

In Africa, forest is often referred to as 'the bush,' thus wildlife and meat derived from it is referred to as 'bushmeat' (in French – *viande de brousse*). This term applies to all wildlife species, a number of which are threatened and endangered species used for this meat. Though habitat loss is often cited as the primary cause of wildlife extinction, commercial hunting for the meat of wild animals has become the most immediate threat to the future of wildlife in the Congo Basin in the next 5-10 years and has already resulted in widespread local extinctions throughout West Africa.



**Handling and eating bushmeat, particularly primates, may put people at increased risk of contracting a lethal zoonotic disease.**

## What can YOU do?

### Governments and Donors:

Support further research focusing on links between human health and the bushmeat trade – including both disease transmission and nutritional needs. Assist the private sector to develop viable alternatives to bushmeat and mechanisms for making these protein sources available and affordable to rural and urban communities.

### Private Sector:

Work with government and donors to increase consumer access to alternative sources of protein, and halt the facilitation of hunting within logging and mining concessions. Invest in monitoring and surveillance practices, in collaboration with global and national programs for public health.



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while addressing protein needs for millions of people is a global imperative. Bushmeat constitutes ~80% of all animal-based protein consumed in Central Africa, and it represents as much as 50% of daily protein intake for rural and urban families. Forest antelope (duikers) are the most popular species to hunt because they are relatively large and abundant, and are easily trapped at little cost using wire snares. As antelope numbers decline, hunters shift to primates, which are easy but more expensive to hunt, as each animal costs a shotgun shell. Eventually, as all large animals are depleted, people resort to hunting and selling rodents. All of these wild animals may pose a disease risk to humans, but apes and monkeys are especially likely vectors for transmitting disease because of their genetic similarity to us. This similarity also makes nonhuman primates susceptible to infection from humans, threatening already-depleted populations.

**Current Understanding and Activities:** Commercial logging of tropical forests is increasing in several African countries. Logging operations facilitate the intensification of commercial hunting by building roads into once relatively inaccessible areas of forest with abundant wildlife, and by allowing hunters to travel on logging vehicles and to transport their bushmeat to urban markets. This deep penetration of tropical forest has the potential to increase human exposure to infectious agents. In West and Central Africa, numerous primate species known to harbor SIV, including colobus, sun-tailed and DeBrazza monkeys as well as mandrills, drills, chimpanzees, and red-capped mangabeys, are regularly hunted and sold at local bushmeat markets. Certain simian viruses have properties that make them candidates for natural transmission. Although there is no evidence that zoonotic transmissions have occurred as a direct result of this commercial bushmeat trade, the potential for human exposure has increased, as have the conditions that might support the emergence of new zoonotic infections. A number of studies are currently being undertaken to investigate the linkages between wildlife diseases and human health. Such research is essential in addressing many important questions concerning wildlife – human interactions. Equally important are projects to explore alternative models for economic development that do not entail large scale ecological disturbance, and to develop and test approaches to meeting Africans' basic nutritional and protein needs, while at the same time shifting consumer preferences away from eating bushmeat.

**Solutions:** The events that brought about the HIV-1 pandemic may never be fully elucidated, though their similarities to other emerging pathogens, such as Ebola or hepatitis, merit serious attention. Conditions that promote zoonotic disease emergence have likely increased rather than decreased in the past two decades. Studies underway seek to confirm and track continued transmission of SIVs to humans at present, and to determine the prevalence of infection and associated risk factors. Researchers are also developing and testing diagnostic assays capable of recognizing a wide range of lentiviral infections in both humans and nonhuman primates, including non-invasive approaches to screen primate populations in the wild for evidence of SIV infection. Training of local residents to monitor the health of gorillas and other nonhuman primates has been instrumental in documenting and responding to recent Ebola outbreaks.

Finding solutions to HIV and other pathogens entails giving attention to the complex interactions among efforts addressing environmental change, conservation of endangered species, economic development, public health, environmental governance, and corporate environmental leadership. Such work will increasingly require interdisciplinary collaboration of scientists with expertise in anthropology, history, ecology, political science, economics, primatology, epidemiology, virology, conservation biology, and human and veterinary medicine. Any long-term solution requires improving efforts to prevent or manage situations that encourage zoonotic disease transmission, and increased preparedness for disease outbreaks when they occur. Education and economic development are key components of this strategy, and should include new investment in training and infrastructure in the disciplines concerned. If resources are allocated based on scientific and public health priorities, while at the same time respecting distinct cultural attitudes, progress will be made.