

EAGLE seismic project

The Ethical Debate

Update : Addis Ababa December 1st 2002; Paul Denton

The news in the UK before we left for our fieldwork had lots of articles about an impending famine in Ethiopia. This leads to the obvious question. "Is it ethically right to be doing a geophysical experiment in a country which is on the brink of famine?" As we have been traveling around Ethiopia in the last couple of weeks I have been watching all around with apprehension. However Ethiopia is a geographically very diverse country and we are working in the fertile and relatively prosperous highland areas, it is harvest time now and all the fields that we pass through are full of healthy looking crops and haystacks. The impending famine is caused by the rains this year arriving late and causing crop failure in some areas. The low lying, hotter and more arid areas of Afar and Tigray are the areas that have suffered almost total crop failure. On a good year Ethiopia does not quite grow enough food to feed itself. It is estimated that the harvest this year will only produce 60-70% of the average, with lowland areas faring much worse. With a population of 60 million most of who are totally reliant on this years crops the potential famine problems are huge.



The ethical debate is not a trivial question, and similar questions should be thought about for a whole range of activities that we undertake in our professional and personal lives. As every good physicist knows, all actions have their consequences. Understanding and assessing whether these consequences are good or bad is not a question that should be ignored.

I have certainly thought long and hard about whether the impact of the EAGLE project was a positive or negative one on the lives of ordinary Ethiopians. A project whose goals are determining the crustal and upper mantle seismic velocity structure can be of no possible benefit to the vast majority of Ethiopians. Surely we would be better off spending all that money on food aid or clean water supplies.

The reasons for famines in Ethiopia are quite complex. Ethiopia is potentially a very fertile country with vast tracts of fertile volcanic soils that enjoy regular rainfalls and can generally produce two crops a year. The true cause of famine in Ethiopia is poverty, the average annual income is around \$120. The majority of the population live as subsistence farmers, growing enough crops for their own needs. On good harvest years people produces surpluses but are only able to sell them for a pittance because in good years the price paid for crops plummets. So the poor farmers are unable to build up any cash reserves to tide them over poor years. Inevitably the rains will occasionally fail or arrive too late for the planted crops and then the subsistence farmers have nothing to fall back on. The traditional method of saving for poor periods in Ethiopia is to have cattle, which can then be sold in times of need. However the “free market” conspires against you at every turn and the price paid for cattle has plummeted 10-fold in recent months. Contrast this with the cosseted and protected world that European farmers inhabit.



Ethiopia’s economic development has been hampered by a wide range of problems, it has only recently started to enjoy a civilian democratic government, a messy and costly border dispute with Eritrea drained precious financial and manpower resources until a couple of years ago. The main cash crop in the country is coffee which has suffered from dramatic falls in the price paid to producers in recent years, the price you pay for a cup of coffee in Starbucks

would buy an awful lot of coffee beans in Ethiopia. At the moment 10% of its GDP goes on foreign debt repayments. The countries political instabilities and international image as a perennially famine struck country has hampered inward investment and the growth of a tourist industry.

But does an academic scientific project help or hinder this situation. It is easy to say that the money spent on the EAGLE project would be better spent on food or water aid for Ethiopia but that is just as true for any sum of money, building a Millenium Dome, paying David Beckham’s salary or buying a family sized box of Quality Street at Christmas. Unfortunately we were not given the option of spending NERC’s 300,000 pounds on a scientific project in Ethiopia or donating it to Oxfam, the choice is between spending that



money on the EAGLE project or it going to some other scientific project based somewhere else. From a purely economic point of view, the best thing for the Ethiopian economy, and hence for average Ethiopians is for us to spend as much of this UK taxpayers money in Ethiopia as we can.

From a broader perspective, the EAGLE project will bring Ethiopia to the forefront of earth science for a brief period, showing the country up for its scientific interest rather than as a country suffering from perennial famine. Our Ethiopian partners at the University in Addis and the Geological survey will benefit from participating in the scientific discoveries and the international exposure arising from this project. The future



of Ethiopia relies on the skills and knowledge of these people so all assistance that we give them in their professional careers will ultimately benefit all Ethiopians.

So my conclusion is that in the longer term I think that the EAGLE project will assist in improving the ability of Ethiopians to develop their country economically and hence be able to cope with natural disasters better itself. The EAGLE project will do little to alleviate the immediate food crisis in Ethiopia, that is a problem that can only be solved by immediate cash aid from western governments and aid agencies. I personally will be forgoing some of the traditional Christmas excesses this year to do my small part in assisting with that immediate problem, I urge you to do the same.

