



Textile workers in Adwa in 2005. Textiles and leather goods are the two largest manufacturing sectors in Ethiopia

A new science policy for Ethiopia

Ethiopia unveiled a new national science and technology (S&T) policy in Addis Ababa on 26 June. The launch marked the end of a review of existing policy undertaken by the government with UNESCO support. The review recommended that S&T policy be seen as part and parcel of the country's overall development plan and that research in the social sciences be integrated in national development priority programmes. It also recommended that at least 1.5% of GDP be allocated annually to research and development (R&D).

Ethiopia has gone through intensive administrative decentralization, restructuring and privatization. The 1993 science policy set out to transform an agricultural economy into an industrial one, using agriculture as a springboard to develop the other sectors. The current review sets out to develop a clearer vision of how the country can achieve socio-economic development in the next 10–20 years and to align policy objectives more on needs.

Ethiopia's population of 73 million is among the poorest in Africa. The population is growing rapidly (2.8% per annum), even as life expectancy has dropped from 48 years in 1998 to just 38 years today owing to HIV/AIDS. There are insufficient hospitals (115) and just 62% of the urban population and 6% of the rural population has access to basic sanitation. Per capita electricity consumption is extremely low (39 kWh in 2001) and is put mainly to household use: agriculture consumes just 0.2%, transport 1.2%, industry 1.3% and services 3.5%.

The review recognizes that most of Ethiopia's socio-economic problems are deeply rooted in the absence of a well-established S&T base. The agricultural sector, which accounts for 45–50% of GDP, 63% of export earnings and nearly 85% of employment, has a low level of mechanization and fertilizer use. Ethiopia has more livestock than any other African country but productivity is low. Some 19% of land is not utilized and recurrent drought, combined with a significant loss of soil due to environmental degradation, has led to persistent poverty and famine. The country possesses rich biodiversity however and diverse geographic and climatic conditions.

Ethiopia's mineral resources are underexploited. There is tangible evidence of petroleum, natural gas, platinum, copper, nickel, iron ore, tin, zinc, coal and potassium but the quality and quantity of most mineral deposits are not fully known. The Geological Survey is engaged only in routine mapping and exploration.

Industry – excluding mining – accounts for about 11% of GDP, 10% of employment and 22% of foreign exchange. The sector remains dominated by light manufacturing and agro-processing. Other enterprises are active in food processing, timber and wood products, paper and printing, and chemicals. Engineering produces mainly equipment destined for the transport sector and machinery.

With industrial R&D still in its infancy, much of the review focuses on way of stimulating technological innovation. It recommends stronger linkages between

engineering institutions like universities, industry and end-users, with feedback mechanisms to policy-makers. It advocates tax incentives for private firms wishing to invest in R&D, including the removal of duties on all equipment and materials imported for the purposes of R&D, to help companies acquire technology. It recommends developing business and technology incubators and a national framework to facilitate effective protection of intellectual property rights. It advocates making greater use of the media, exhibitions and other forms of outreach to disseminate locally produced technologies and 'useful imported' research results.

The review calls for research institutions to be strengthened and for a results-based research management system to be put in place. It also recommends setting up research centres in the water, industry, mining and energy sectors.

The new policy was unveiled by the Minister of Industry, Girma Biru, and the Director-General of the Ethiopian Science & Technology Agency, Zerihun Kebede, at a launch attended by about 150 organizations, including UNESCO.

Ethiopia used the methodology adopted by UNESCO to prepare the first draft of the policy document, which was then reviewed by UNESCO's science policy team in Paris, in tandem with the representative of the Ethiopian authorities, Ali Osman from the Ethiopian Science & Technology Agency. Mr Nirya, a UNESCO consultant, undertook two missions to Ethiopia and, as the review was nearing completion, UNESCO's Addis Ababa office helped the Ethiopian government to organize a national conference of stakeholders.

For details (in Addis Ababa): n.satti@unesco.org; on Ethiopia, see also A World of Science, April 2006

Manual alerts children to plight of dolphins

An educational campaign and manual promoting the conservation of dolphins and their habitats was launched at a press conference at UNESCO in Paris on 2 May.

All about dolphins! is a multilingual educational manual for children aged 6–14 years. It has been produced by UNEP, the UN Convention on Migratory Species,