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Developing Scientific and Technological Culture in The Commonwealth

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Hydra-Headed Monster

- Growth of S & T phenomenal
- Products and practice meet with universal acceptance
- Create careers & job opportunities
- Improve quality of life
- Enhance economic development
- Results and values ???

S&T in The C'wealth

- Not seen as integral part of popular culture
- Seen as foreign to popular/local culture
- School science isolated from scientific culture
- Rejection by many students
- Neither acceptable nor understood by the community

Natural Philosophy

- Feudal aristocracy in science has an historical origin
- Natural philosophy replaced old philosophies and scriptural teachings
- Science was institutionalised in the 17th C
- The Royal Society marked the beginning of feudalism

School Science

- Growth of science made it an alternative to old philosophy
- Source of acquiring skills, was the cultural and intellectual basis for a new form of life
- Science as part of the school curriculum in the 19th C
- Concern was mainly on "pure" science

A Language of Nature

- Scientific activities gave rise to scientific culture
- A product and process of scientific activities
- Became a way of interpreting and representing the world
Scientific Culture

- Aggregate knowledge, communication tools, technology and skills, behaviours, values and mores which govern the universal practice and use of science.
- Has two aspects:
  - operational-technical
  - and the utilitarian

The Two Cultures

- The pursuit of science created two cultures
- The image of science presented by school science questioned
- School science presents one form of world view
- Relevance of school science in other cultures

C’wealth Co-operation

- Historical origins cemented through:
  - Art & Culture
  - Sports
  - political & economic development
  - education-exchange of personnel & scholarship
- Encouraging development of scientific culture is neglected
OJ Jegede, CRIDAL, OUHK

Why S & T Culture

- The idea of scientific culture is to explore scientific education as the basis on which the general population understands the nature of science as a system of thought, and builds up its scientific picture of the world from a common international frontier (Solomon, 1996)
- At least three main reasons for developing S & T culture arise

Culture as Foundation

- Culture as the totality of all human subsumes every endeavour
- Science Education as part of education is a cultural enterprise
- Learning is efficient when meaning making is situated within an environment familiar to the learner

Dominant Cultures of the Society

WV Differences

Cultural Border Crossings

School Culture

Cultural Differences  Border Crossings
Congruent  smooth
Different   managed
Diverse    hazardous
Discordant impossible
Globalization

- Effects of globalization will demand more change in our way of life.
- The change will place greater demand on the use of the scientific way of thought.
- New science education-for-all beyond 2000+ requires a global scientific culture.
- Many programs are already underway.

S&T & Globalization

- International effort towards the demands of globalization.
- Intra-national development among scientists and science students.
- Knowledge to understand and make appropriate choices.
- Reinforce scientific literacy for economic and political development.
- Acquisition of S & T culture is implicated.

Strategies

- Restructure science education.
- Focus on the utility part of scientific culture (S&T literacy).
- Use familiar materials and processes.
- Teach science through indigenous science and technology.
- Accommodate and assimilate both world views productively.