

Approaches to R&D Collaboration on Climate Change

Background

One of the key issues in climate change, and more generally in sustainable development, is the fact that affordable clean technologies do not yet exist. More specifically, it has generally been observed that technologies, which respond to the requirements and resource endowments of developing countries (e.g. biomass energy) do not merit significant R&D effort. The position is not dissimilar to that prevailing in the pharmaceutical sector, where R&D on vaccines or treatments for tropical diseases, such as malaria, attracts insignificant resources owing to poor purchasing power and modest fiscal outlays for such purposes.

2. With respect to climate change and sustainable development, there are prospects of significant increase in market demand for such technologies, owing to mechanisms such as the Clean Development Mechanism (CDM), which help translate cooperation on environmental goals to market signals. At the same time, the current global IPRs regime, would remain a barrier to increased access to sustainable technologies by developing countries.

3. While the issue of moderating the IPRs regime, including the possibility of placing some of the most important clean technologies in the public domain and balancing rewards for the innovator with general public good, in the context of commitments under various sustainable development agreements has to be pursued in the WTO negotiations under the Doha Round, the substantive issues of increased investment in R&D, as well as access to patented technologies may be addressed by various collaborative R&D arrangements. Two possibilities in this regard are described below:

(i) **CLEAN-NET:**

The proposal is for a network of R&D institutions in developed and developing countries, to undertake specific R&D projects for sustainable development.

2. One possibility regarding such a collaborative R&D effort could be a pattern similar to what was done in agriculture through the CGIAR system with financial support from the World Bank. Research institutions have been set up in different parts of the world, including one for crops in semi-arid tropics (ICRISAT near Hyderanad) that has been set up in India. We have benefited from the efforts of these CGIAR bodies, including in the importation of high yield varieties and hybrid varieties of Wheat (Norman Borlaugh's institute in Mexico) and Rice (IRRI, Manila). Such institutions would then carry out research and develop and diffuse their technologies in the public domain

3. Another pattern could be cooperation in specific projects (there could also be a combination of these two approaches) between R&D institutions in developed and developing countries as below:

- a legally binding MoU is entered into between the partners with a detailed Terms of Reference (ToR) for a specific project(s)
- the resources (human, financial, institutional) could be provided by each of the partners and a predetermined share of the outcome agreed upon between the partners. The rewards from the resulting IPRs could accrue to the partners as per their agreement including their availability in the participating developing country at concessional terms.

(ii) **Venture Capital R&D Fund:**

- A development financial institution, such as the World Bank, may be provided resources, through voluntary contributions by member countries (developed and developing) to set up an R&D venture capital fund.
- The fund would invite bids for R&D for specific sustainable development projects from individual or networks of R&D institutions worldwide.
- Additionally, suo-moto proposals may also be presented by R&D institutions.
- The Fund would provide financial resources for such R&D, and retain the resulting IPRs.
- These IPRs may be worked on a concessional basis in developing countries, and commercial terms in developed countries, thereby ensuring full or near financial viability for the Fund.
- Variations may involve sharing of costs and IPRs by the Fund and R&D contractors.