

- To prevent over-expansion in certain R&D sectors and to fill significant gaps in others, namely, in the objectives and problems of a post-industrial society;
- To ensure co-ordination in the many no-man's lands of collective needs, where multi-disciplinary and inter-agency programs are essential;
- To keep an overall picture of the output as well as the input of the national science effort so as to make sure that excellence is achieved, that missions are respected, and that the results of research reach the users.

It has become a major responsibility of government in this age of the scientific revolution to ensure that society gets the maximum benefits from science and technology at a minimum cost. To do this the government needs not only science policies by sectors, such as health, transportation, energy, and agriculture, but also the macroscopic approach that only a coherent overall science policy can provide. These two approaches must complement each other.

If general science policy is to accomplish its crucial role effectively, it must also develop a system of control, to make sure that the strategy will be respected in the detailed decision-making process, and review mechanisms, to make sure that priorities, strategies, and programs are adjusted to the rapid change that is so characteristic of the whole sector of science and technology. Perhaps more than any other sector of policy, science policy requires the careful application of systems analysis.

It is especially urgent for Canada to adopt a systematic overall science policy. We still have to solve the problems left by our failure to meet the initial objectives of our national R&D effort, and at the same time we have to meet new objectives and new needs arising from the challenges and opportunities of the affluent society and the permanent technological revolution.

The "first generation of science policy" in the western world was centred around the objectives of national defence and industrial innovation to promote economic growth. To a large extent, the Canadian R&D effort has failed to sustain market-oriented technological innovation. We now know the reasons for this failure. We need an overall science policy and a global strategy to correct the situation. Indeed, perhaps more than ever before we need to create the proper technological environment for the development of the productive sector. We must generate new employment opportunities to cope with a growing labour force and acute regional economic problems.