



THE CHALLENGES THAT FP6 IMPOSES ON FEMALE SCIENTISTS

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It is on the political agenda of most countries to diffuse learning as much as possible. Programs to attract girls to science are becoming increasingly popular. Indeed in most European countries there are as many women obtaining a first degree in science as there are men. Are governments investing so much in girls just to ensure that the mothers of the future generation will expose their children to scientific knowledge before and during their school life? Shall the current governments and companies not gain immediately from facilitating the integration of qualified women into the research force perhaps by offering them short induction periods of training?

The issue of gender equality in research and development has gained momentum. In meetings called to address women's needs, however, we are often forced to bring up complaints that had been already discussed before. The picture of the under-representation of women in research and on policy-making boards emerges repeatedly. Scientists are trained to move forward once a result is established. It is against their way of thinking to have to state and repeat issues that have been exhaustively dealt with in previous meetings. It is all the more frustrating when legislation has been amended to reflect the desired lifestyle, but in practice the defective situation still persists. Discrimination on the basis of gender is still an issue. Both women and men have to realise that promotions and appointments are to be based on knowledge, skills

and ability irrespective of gender. Patience is necessary to educate others and ourselves about this issue and to persevere in a watch dog role. Besides a sense of guilt often creeps in when seeing the meagre results achieved for so much effort. We trust that the tools defined for FP6 will ensure the implementation of equal opportunities for men and women.

The main aim of FP6, to create a valid ERA as a competitive and dynamic knowledge-based economy, was set in the Lisbon summit of March 2000. It is important to bring together a critical mass of resources and skills to generate research programs which produce a lasting effect and which the best researchers long to belong to. It is statistically proven that in most countries a substantial number of qualified female scientists are not working in their field of specialisation. Many believe that the diversity in the potential of these women is what is needed for Europe to emerge as the important research area. We cannot afford to allow the expertise of so many qualified women, to be wasted any longer.

The previous framework programs help to provide a learning curve for the implementation of FP6 instruments. The experiences, needs and problems encountered by researchers must be studied in order to provide services that truly support the best scientists to participate. A difficulty that theory developers in academia encounter is the formation of the link with practical researchers and industrialists. Experts who can recognise that a theory has potential as the basis of immediate innovation or of future development are necessary for the proper operation of the stated FP6 instruments, networks of excellence, integrated projects and co-ordinated actions in particular. Can women, given the chance, provide the expertise that seems to be needed to place Europe on the cutting edge of innovation?

The science community and country authorities are keen to promote the scientist as an ordinary woman or man, not distant from the ordinary citizen. In this respect qualified women can play an invaluable role being used to having to prove their worthiness at every stage of their career. The scientist needs to play the

politician, a very contrasting role to her training that requires a very different approach. Women have a role to play in bridging the gap between science and society. Science needs to be viewed as a life saver and not as a polluter, as a problem solver and not as an enigma which can threaten the earth's existence. At present, science needs a face lift and who can do it better than women?

A very welcome criterion that FP6 is adopting in its administration and monitoring of proposals is streamlining. The aim is to simplify previously baffling application forms both regarding the actual proposals as well as the choice of evaluators. It is planned to make procedures user-friendly. Good communication between all the actors is important. Since people with so many different tongues are working together, the language used in all forms that have to be filled in has to be expressed unequivocally for the sake of clarity.

Networks of excellence are to be set up to co-ordinate European research, address fragmentation and encourage lasting integration. Whereas freedom in research and duplication with new perspectives are to be encouraged, increased co-ordination generates efficiency. Such networks stand to gain by utilising the experience that the European Commission's women and science section has gained in recent years in producing an effective network by linking existing networks.

Many female scientists work in isolation at their place of work. Forming part of a network and working on topics related to their research interests offers them a solution, enables them to emerge out of their nook and is an opportunity to develop their research. In the summer of 2001, some of the best mathematicians in Europe, eighty women and ten men who joined the only woman scientist in the department of mathematics at the university of Malta for the 10th EWM conference, formed a formidable force of interaction. The high level workshop on Groups and Graphs in the Summer of 2002 held in Varna, Bulgaria, made a similar impact. Communication and organised exchange of ideas among such groups that share common knowledge and research interests

within a network are sure to lead to tangible results. It is therefore discouraging that requests for financial help of such meetings are rejected on the pretext that "restricting key speakers to being of one gender, automatically reduces their quality", as happened with the Varna conference.

It is the purpose of FP6 to integrate projects and pool sources. Apparently unconnected research activities in distinct fields of science are put together into one useful co-ordinated project. This operation requires multitasking and flexibility skills rather than specialisation. Women can claim to have become experts at these skills through necessity. Society expects them to be experts at managing a household, a family and job with ease, to be assertive and tough at their place of work but tender and loving with their children, partner and elderly dependants. Taking part in an integrated project will require substantial effort and many women will discover they have already developed the skills for such tasks through their daily training in life.

It is important to allow space for the generation of new knowledge in these projects. Whereas previous framework programs seemed to favour projects, which yielded immediate results and profit, the ERA program is emphasising the generation of new knowledge. We must stop recycling old ideas and ensure that each project includes theoretical research that will serve as the basis for future development. We need liaison persons who are experts at converting R&D results into useful social and economic benefits. This may be an area where we can witness an increase in participation of women whose family commitments may not allow them to be away from home but are qualified enough to develop theory from home.

Another characteristic of FP6 is to restrict thematic areas to a chosen few. This may be necessary to concentrate resources and drive towards excellence. However, by doing so we run the risk that prolific established research groups will have to be dismantled.

Although a casual look at the chosen fields of research in FP6 may give the impression of a wide range of interests, there are many scientists, mathematicians in particular, who cannot identify their research with any particular thematic area. New mathematical theory can perhaps be classified under the eighth thematic priority which includes anticipating future needs. Associations such as AWIS and EWM whose female members work so well alongside men can participate in such ventures. We must not exhaust already discovered knowledge without ensuring that efforts are encouraged for new areas to be built up for future applications. We miss out if we neglect sound mathematical support. As Descartes realised when using the theory of vortices to explain the beginning of the universe, "There is nothing in my physics that is not in geometry".