

Table 4. Steps to reduce stress on women scientists and students, and to facilitate study and practice of science by women

Flexible working hours and part-time jobs.	UGC, institutions
Facilities like crèche, day-care centre for the elderly, campus housing, transport, proper toilets, ladies rooms, etc.	As above
Age relaxation in recruitment, and two mid-career breaks	As above
Paternity leave for the father, only if there are small children to care for.	As above
Freedom for husband and wife to work in the same institution.	As above
Transfer to enable the wife and husband to work in the same city.	Science agencies
'Grievance cell' for gender-related and sexual offences at the level of the institution as well as at a higher level.	UGC, science agencies
Inclusion of women in selection and other policy-making committees	As above
Transparency in the process of selections. Reasons for rejection should be included.	As above
Performance assessment for a woman should be done on the basis of years spent in professional life, rather than biological age.	
More rigorous efforts to identify meritorious women, and objectivity in selection for fellowships and awards, as well as invitations to speak in conferences.	Academies, awarding agencies
Ensure gender neutrality in illustrations in science textbooks. Stereotype roles of women doing domestic work and men engaged in scientific work should not be portrayed.	NCERT

retention in science career, and (2) support systems to reduce the stress on women scientists and students (Tables 3 and 4).

Women's presence in science is advantageous for the society at large. In addition to women bringing in a more humane perspective to scientific research, necessary for sustainable development, loss of womanpower from science is a major loss of trained resource, which can be difficult to compensate even in financial terms – a point that the society and the polity should note.

Implementation of the recommendations can be made only with collective determination and efforts of several agencies like UGC, NCERT, science funding agencies, and academies. INSA can facilitate the process by initiating a dialogue between these agencies and organizations.

The INSA report was released on 11 October 2004. On 20 December, a brainstorming meeting of putative stakeholders who can help implement the suggestions and recommendations was organized. The

participants urged INSA to form an inter-academy standing committee with inclusion of other science funding agencies and UGC, NCERT, etc. to chalk out a plan of action. The Indian Academy of Sciences has also constituted a committee and the two academies could work in tandem. An earlier report provides information on status of women engineers⁸.

The Inter-Academy Council (IAC), a world body of science academies, has initiated a study/project on Women for Science that is designed to produce an action agenda for science academies to strengthen the contribution of women to science and engineering. Manju Sharma, co-chairs this IAC WfS Panel. Consultations between academies have been initiated. Let us hope, that with all these initiatives, women scientists and engineers will have a brighter future.

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3. University Grants Commission, Report, Information and Statistics Bureau, University Grants Commission, New Delhi, 1995–96 to 2000–01.
4. Bal, V., *Econ. Polit. Wkly*, 2002, **37**, 5163–5167.
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7. Mehrotra, S. and Chunawala, S., NISTADS International Conference on Women in Science: Is the Glass Ceiling Disappearing. Abstr., New Delhi, 8–10 March 2004.
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Serving farmers and saving farming

'Serving Farmers and Saving Farming' is the title of the First Report submitted by the National Commission on Farmers (NCF) to the Government of India in late December 2004. Commissioned to recommend a comprehensive medium-strategy for food and nutrition security, and examine

and recommend methods of enhancing productivity, profitability and sustainability of major farming systems of the country while looking at technology and public policy and the neglected area of needs of farm women especially in the context of increasing feminization of agriculture,

the NCF has in this report, proposed a three-pronged strategy: improving productivity of land, water, livestock and labour in asset-based livelihoods; enabling unskilled agricultural labourers convert to skilled entrepreneurs managing non-farm micro-enterprises supported by micro-credit;

assisting rural artisans by addressing the mismatch between production and post-harvest technologies. Rising anthropogenic pressure on ecological foundations of agriculture, declining resource flow to agriculture, and technology fatigue are seen as threats that need to be addressed in seeking remedies.

The report examines the causes of farmers' distress, especially in the context of farmers' suicides and the problems faced by the rural community. NCF has given recommendations on steps that need to be taken urgently in the areas of redressing farmers' distress, ensuring water for agriculture, soil health management, special attention to dryland and rainfed farming areas and crops, need to strengthen and expand horticulture revolution, increasing productivity and profitability of cotton farming (cotton farming and cotton textiles being the largest employment provider in the country), need for attention to sanitary and phyto-sanitary measures to enable promotion of farm trade, ushering in an era of knowledge-intensive agriculture through a network of Village Knowledge Centres (VKCs), a policy for food and nutrition security for all through convergence and synergy between ongoing programmes, and need for attention towards the livestock sector.

An integrated comprehensive insurance scheme covering accident, medical, death, and fire risks to dwellings is one of the measures suggested as a life-saving support system to farm families in distress, besides promotion of Community Grain Banks to alleviate food insecurity in tribal areas. Small farmers' horticulture estates, cotton estates and poultry estates are among the measures suggested to enhance viability of production by small farmers and enable them to harness economies of scale. A chapter has been devoted in the report to women in agriculture with emphasis on the need to be sensitive to their work-place needs. Among the recommendations are title to land for women through joint pattas, ensuring access to credit and inputs, expanding scope of food for work, allotting at least 40% of government land distributed to women's groups for agricultural activities, providing childcare as an essential support service for the poor and needy rural working

women and including the age group of 0–2 under childcare.

A number of recommendations primarily require sprucing-up of the ongoing programmes and improving the delivery mechanism through greater decentralization, desirably at the Panchayat level; for instance, convergence of all technology missions like oilseeds, pulses and horticulture around a watershed at the micro-level, bringing together various fragmented programmes relating to water for agriculture like the Drought Prone Areas Programme, Desert Development Programme, Integrated Watershed Development Projects and National Watershed Development Programme for Rainfed Areas. Nutrition Security is defined as 'ensuring physical, economic, social and environmental access to balanced diet and clean drinking water for all and forever', and a seven-point action plan is proposed under the title Mission 2007: A Nutrition Secure India – (i) adopt a lifecycle approach in the delivery of nutrition safety net programmes under the aegis of Panchayati Raj institutions and fill gaps in ongoing programmes; (ii) information empowerment through household entitlement cards; (iii) an integrated Food Guarantee Programme combining food for work and employment guarantee to ensure sustainable livelihoods; (iv) promote establishment of community managed food and fodder banks to address food insecurity of humans and animals; (v) launch a home nutrition garden movement to promote cultivation and consumption of fruits and vegetables; (vi) address hidden hunger caused by micronutrient deficiency (iron, vitamin A and zinc) through special programmes, and (vii) ensure access to safe drinking water and environment hygiene and sanitation.

Emphasis on 'participatory research and knowledge management' involving farm men and women as the principal pathway for research, education and extension, regarding them as partners and innovators and not beneficiaries, and decentralization and coordination at the Panchayat level are undercurrents running through the entire report. The chapter on knowledge intensive agriculture builds a case for a network of ICT-based VKCs across the country for information empowerment and effective

communication and service delivery at the grassroots level. A multi-stakeholder National Alliance under Mission 2007: Every Village a Knowledge Centre, is already harnessing the partnership strength of public and private players as well as government and civil society organizations to make this a reality. Connectivity, Content, Capacity building, and Care and management are the four Cs central to making this mission successful. Government support is needed in all these areas in terms of relaxing policy for extending connectivity and providing incentives to rural service providers, a more open community radio policy, public investment under the USO fund, networking and outsourcing service delivery through the community-managed KCs and support in content creation. A National Digital Gateway for Rural Livelihood Security has been proposed to bring under one umbrella various public and private agencies to be involved in content creation. Support from the Panchayat Raj Ministry has been sought for setting up KCs in all the Panchayats across the country. The idea of ICT-Self-Help Groups (SHGs) has been proposed to manage the KCs. The capacity of these SHGs has to be built through training and a cadre of rural knowledge managers created.

The last chapter of the report focuses on the response to the tsunami disaster and the need for psychological, ecological, agronomic and livelihood rehabilitation strategies in coastal areas. Ecological rehabilitation is envisaged through coastal bio-shields, enhancement of coastal mangroves and other wetlands, raising artificial coral reefs, human security-driven design of coastal habitations and a code of conduct for construction beyond 500 m. Agronomic rehabilitation calls for reclamation of salinized soils on a priority basis with the help of agricultural universities, ICAR and CSIR. A number of the recommendations of the Report figure in the Union Budget for the current year, significant among them being support for the Village Knowledge Centre movement.

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