

# Women Professionals in Agriculture

## Some Employment Issues

*This article looks at policy initiatives needed for creating a conducive environment for the professional growth and satisfaction of women professionals in agriculture in India. The findings are the culmination of a nationwide survey, brainstorming sessions, workshops and personal interactions. Some important issues that affect the careers of professional women in agriculture relate to their mobility, spousal employment, flexibility in work hours and physical facilities. The article suggests policy initiatives on these matters and makes specific recommendations for action in the agricultural research and education system.*

N SANDHYA SHENOY, D RAMA RAO

Women's participation in science in general and agriculture in particular is increasing the world over, also including many third world countries. There is evidence of a significant number of graduate women in agriculture in Malaysia [Jariah-Masud 1994], India [Rama Rao et al 1997; Rama Rao and Shenoy 1998], the Philippines [Brush et al 1995], and Iran [Ali Reza Talaie 1996]. Since 1978, the role of women in Indonesia's development has been proclaimed a national issue, to encourage the diversification of women's role in development [Hubeis 1994]. However, in a developed country like the US women are under represented in university faculties [Pell 1996]. To mainstream women in development, India is now developing programmes to further their role through institutional strengthening with active support from parliament.

The experiences of professional women in many countries indicate that the problems faced by them are essentially the same everywhere. In the developed world, women's issues are tuned towards feminism and equity, whereas in the developing world the issues are tuned towards inequality, gender representation and social justice. In most developing countries, the problems faced by women agricultural graduates are the same. In India, agricultural women graduates have a key role in the effective transfer of agricultural technologies, especially to rural women. The number of women graduates is less than 5 per cent of total graduates, and working conditions are not conducive for women to work in male dominated employment sectors. The number of female students has been on the rise in the recent past and there is thus an urgent need to reorient the systems to accept women graduates in the workforce. In this paper, factors affecting the satisfaction of agricultural women graduates in India are discussed.

### Methodology of Study

*Participants:* For the present study, graduate women include all those having undergraduate or higher degrees in various disciplines of agriculture and allied sciences offered by agricultural universities in India.

*Data Collection:* The data on the profile of graduates from agricultural universities in India was collected as part of the project, 'Professional women in agriculture' carried out by Rama Rao and Sandhya Shenoy (1998). The detailed methodology is given in the project report. However, the methodology pertinent to the present work is given below in brief.

*Questionnaire:* A structured questionnaire was designed to capture information from graduates on issues such as

education, family, socio-economic background, employment, achievements, and on some specific issues pertaining to the problems faced by women.

*Sampling for survey:* The estimated stock of women agricultural graduates in the country was about 15,000 in 1996. Out of this, the project aimed to reach 1,443 women graduates willing to participate in the study. Deliberate efforts were made to obtain a representative sample across organisations in all regions. As certain professional issues of agricultural graduates are gender-neutral, perceptions of male graduates were also sought. In addition, it would provide a check to discuss the women specific issues on comparative terms. To serve this purpose, 50 per cent of the women respondents were given two sets of questionnaires, with a request to give the second questionnaire to their male colleague in the same organisation.

A total of 983 filled-in questionnaires from 668 female and 315 male graduates were received. The respondents represent all disciplines of agriculture and cover a wide spectrum of regional and cultural backgrounds and, thus, qualify to be a representative sample to project the national scenario of agricultural women graduates in India. Therefore, the analysis would be justified for illustrating their profile.

*Analysis:* The questionnaire was designed for computerisation and all the data was captured through screen formats of a software developed using a Foxpro package. The variables were codified for easy data entry and retrieval through reports. For the most part, the analysis covers responses from 983 respondents. The number responded is not same for all issues as all the respondents may not be eligible (as in case of unmarried or unemployed respondents) or the respondents did not answer. In all such cases, the analysis was made based on the actual number of responses for each issue.

### Results and Discussion

*Respondent profile:* Educational profile of the respondents is presented in Table 1. Amongst the respondents, 39.6 per cent were doctorates (PhD), 43.2 per cent postgraduates (PG) and the rest 17.2 per cent were undergraduate (UG) holders. Genderwise, male respondents were more qualified than female respondents. This follows the typical distribution of male and female graduates in the employment market.

*Disciplinewise distribution:* Distribution of the respondents by discipline is given in Table 2. About 50.9 per cent of the respondents belong to the agriculture sciences, 2.9 per cent to engineering and

technology, 15.7 per cent to home sciences, 15.2 per cent to animal sciences and 14.9 per cent to other sciences, which include basic and social sciences. Excluding home science, the distribution of respondents in other disciplines is comparable.

**Marital status:** Marital status of the respondents is shown in Table 3. Nearly three-fourths of the respondents are married. The proportion of unmarried female respondents (24.1 per cent) is higher than that of the male respondents (16.8 per cent). Other category (widowed or divorcees), though less than 1 per cent, is higher among female than male respondents.

The higher proportion of undergraduates and unmarried female respondents reflects their increasing numbers in the recent past.

**Employment details:** The employment details given in Table 4 reveal that most women professionals work in the research and education sector, followed by the development sector of the state. About 54.1 per cent respondents were employed in universities, followed by 14 per cent in research institutes, 19.5 per cent in state departments, 4.7 per cent in the private sector and 1.3 per cent in financial institutions. The survey was based on representation of women graduates, and as they were more in number in academic and research sectors, the observed response rate too was high from these sectors.

About 6.4 per cent of 983 respondents (2.2 per cent male and 8.8 per cent female) were unemployed. This reflects the typical scenario of female professional graduates in India, and the reasons for unemployment are probed in subsequent sections.

Out of the 983 respondents, 762 were married and 565 had working spouses. The systemwise distribution of married respondents and their working spouses is given in Table 5.

A perusal of the data in Table 3 and Table 5 reveals that three-fourths of the respondents (565 out of 983) had working spouses. Genderwise, 46 per cent married male respondents had a working spouse as against 89 per cent married female respondents. The majority of spouses of male respondents' were housewives (55 per cent), which reflects the social scenario of professional agricultural graduates in India.

The spousal placement data in Table 5 indicates that nearly half of the respondents' spouses work in the same system. There are interesting gender differences. In the research and academic sector, nearly three-fourths of the male respondents' spouses work in the same system as against 50 per cent in case of female respondents. This reflects male respondents preference for spouse employment in the same system. Financial institutions and state departments do not show any gender difference but less than 50 per cent respondents' spouses work in this system. In terms of employment to both male and female respondents, the private sector offers the least (27.8 per cent).

Nearly three-fourths of married male respondents and their spouses work in the research and education system. There is a greater demand and pressure on women graduates to seek jobs in these sectors. This may potentially lead to a situation where job placements for women employees to avoid family displacements would become a major issue in these sectors in the future.

Married women feel it is convenient if both husband and wife can work in the same organisation or in nearby places. But there are no policies to support spouse employment and a good number of women have to wait for long or remain unemployed, especially when they are to shift their residence due to marriage or transfer of spouse. One specific response (female teacher, 34) to illustrate this is given below.

As a married woman, when I want to join in the same organisation where my spouse is working, I had to forego a period of five years due to non-recruitment of persons in my discipline.

Therefore, spousal placement is crucial for the working women. **Time lag in getting a job:** The time lag between the completion of education and joining the first job is given in Table 6. On the whole, 46.4 per cent of the respondents could secure a job without any time lag, 29.8 per cent had to wait for a year and 23.8 per cent had to wait for more than a year. Relatively, more number of male respondents (49 per cent) were able to get their first job without time lag compared with female respondents (41.3 per cent). Although the difference in time to secure employment by male and female respondents appeared to be small, more female respondents indicated their first job as either temporary or short-term. This is further substantiated by the fact that a relatively greater number of female respondents were working in low-salary jobs compared with male respondents.

**Table 1: Educational Qualification of Respondents**

Highest Qualification	Male		Female		Male + Female	
	N	Per Cent	N	Per Cent	N	Per Cent
PhD	184	58.4	205	30.7	389	39.6
PG	101	32.1	324	48.5	425	43.2
UG	30	9.5	139	20.8	169	17.2
Total sample	315	100.0	668	100.0	983	100.0

**Table 2: Disciplinewise Distribution of Respondents**

Specialisation	Male		Female		Male + Female	
	N	Per Cent	N	Per Cent	N	Per Cent
Agricultural sciences	201	63.8	299	44.8	500	50.9
Animal sciences	51	16.2	99	14.8	150	15.2
Engineering and technology	11	3.5	18	2.7	29	2.9
Home science	3	1.0	151	22.6	154	15.7
Other sciences	47	14.9	99	14.8	146	14.9
No response	2	0.6	2	0.3	4	0.4
Total sample	315	100.0	668	100.0	983	100.0

**Table 3: Marital Status of Respondents**

Status	Male		Female		Male + Female	
	N	Per Cent	N	Per Cent	N	Per Cent
Unmarried	53	16.8	161	24.1	214	21.8
Married	261	82.9	501	75.0	762	77.5
Others	1	0.3	6	0.9	7	0.7
Total sample	315	100.0	668	100.0	983	100.0

**Table 4: Employment Details of Respondents**

System	Male		Female		Male + Female	
	N	Per Cent	N	Per Cent	N	Per Cent
Universities	195	61.9	336	50.3	531	54.1
Research institutes	56	17.8	83	12.2	138	14.0
State departments	44	14.0	148	22.2	192	19.5
Private institutions	10	3.2	36	5.4	46	4.7
Financial institutions	3	0.9	10	1.5	13	1.3
Unemployed	7	2.2	56	8.4	63	6.4
Total sample	315	100.0	668	100.0	983	100.0

**Table 5: Employment Details of Married Respondents having Working Spouse**

System	Male		Female		Male + Female	
	N	Spouses* (Per Cent)	N	Spouses* (Per Cent)	N	Spouses* (Per Cent)
Universities	78	73.1	256	43.4	334	50.3
Research institutes	17	76.5	54	50.0	71	56.3
State departments	20	45.0	110	43.6	130	43.8
Private institutions	3	0.0	15	33.3	18	27.8
Financial institutions	2	50.0	10	50.0	12	50.0
Number responded	120	66.7	445	44.0	565	48.8
Total sample	315	100.0	668	100.0	983	100.0

*Note:* \* Per cent of working spouses with respect to number of respondents (male+female) in the same system.

*Job refusal:* Information on refusal of job would shed light on the nature of problems faced by professional agricultural women. Data on job refusal is presented in Table 7. Nearly 32 per cent of both male and female respondents have indicated refusing a job. The reasons given by the 303 respondents who have indicated job refusal are given in Table 8.

On probing the reasons behind the job refusal, it was found that 'factors related to the family displacement' was the foremost cause for both female (30.7 per cent) and male (30 per cent) agricultural professionals. Job refusal due to 'low salary' was the next most important reason, but it was cited by more male professionals (28.3 per cent) than female professionals (21.9 per cent). The striking difference between male and female responses is with respect to accommodation at the workplace; 15.8 per cent female respondents refused jobs due to this, as against 5.8 per cent male respondents. Both male and female respondents expressed the concern on young children and their education. From the data in Table 8, it is evident that reasons for job refusal are nearly the same by both gender groups except in case of accommodation.

Women graduate respondents who were single and posted in a metropolitan city or a remote area said in personal discussions that the provision of accommodation near the workplace by the institute is crucial for them to take up the job.

*Job quitting:* Data on job quitting is given in Table, 9 which indicates that 80.7 per cent of the respondents do not like to give up their jobs. The response of both male and female respondents on job quitting is similar, but the reasons expressed by them, shown in Table 10 are quite dissimilar.

The responses of the 140 respondents who quit their jobs are given in Table 10. A majority reported that they were constrained to quit their jobs due to family displacement (22.5 per cent) and financial security (24 per cent). Family displacement (29 per cent) is the most important reason given by female respondents, whereas change of employment to consultancy or part-time job is the main reason for male respondents (26.7 per cent). Unlike female respondents, male respondents did not consider family displacement as an important reason for leaving their job. Both male (20 per cent) and female (14 per cent) respondents cited professional dissatisfaction as the third important reason. Another significant difference in the reasons cited for quitting job is for pursuing higher studies, predominantly by male respondents (22.2 per cent), whereas female respondents did not consider it an important reason (3.5 per cent).

Female graduates leave their job more often than do male graduates due to family responsibilities and family displacements. In other words, they may be drifting away from professional activity. On the other hand, male graduates leave their job for better professional prospects and higher education, and continue to be in their profession.

Considering the high cost of professional education in agriculture, at Rs 2,00,000 per graduate [Rama Rao et al 1994], losing trained human resources in terms of qualified female agricultural professionals due to family and spousal displacement is a considerable loss to the economy, and needs to be addressed. Thus, spousal employment, which is directly related to family displacement, is crucial for utilising married women professionals in agriculture.

*Job changes:* Most of the agricultural graduates in India are employees in state-supported institutions. In most cases, job changes arise from promotion within the organisation and in some, it is due to mobility to other organisations. The number of job changes indicated by 756 respondents is given in Table 11. Maximum job changes were reported by 49 per cent respondents working in universities, followed by 25.4 per cent in state government departments, and 10.6 per cent in the private sector.

Genderwise data is similar in most organisations except in universities. The percentage of respondents leaving universities is more in case of male respondents (47.7 per cent) compared with 39.2 per cent female respondents.

**Table 6: Time Lag between Completion of Education and Joining in a Job**

Time Lag	Male		Female		Male + Female	
	N	Per Cent	N	Per Cent	N	Per Cent
No time lag	151	49.0	276	41.3	427	46.4
1 year	83	27.0	191	28.6	274	29.8
2 years	38	12.3	73	10.9	111	12.1
3 years	20	6.5	36	5.4	56	6.1
Above 3 years	16	5.3	36	5.3	52	5.6
Number responded	308	100.0	612	100.0	920	100.0
Unemployed	7		56		63	
Total respondents	315		668		983	

**Table 7: Response on Job Refusal**

Response	Male		Female		Male + Female	
	N	Per Cent	N	Per Cent	N	Per Cent
Yes, refused a job	98	32.0	205	31.9	303	31.9
Never refused a job	208	68.0	438	68.1	646	68.1
Number responded	306	100.0	643	100.0	949	100.0

**Table 8: Reasons for Refusal of Job**

Reasons for Job Refusal	Male		Female		Male + Female	
	N	Per Cent	N	Per Cent	N	Per Cent
To avoid family displacement	36	30.0	87	30.7	123	30.5
Low salary/ not economical	34	28.3	62	21.9	96	23.8
Lack of hostel/ accommodation	7	5.8	45	15.9	52	12.9
Young children	8	6.7	25	8.8	33	8.2
All others	35	29.2	64	22.6	99	24.6
Number responded	120	100.0	283	100.0	403*	100.0

Note: \* N>303 as some respondents gave more than one reason.

**Table 9: Response on Quitting Job**

Response	Male		Female		Male + Female	
	N	Per Cent	N	Per Cent	N	Per Cent
Yes, to give up job	49	19.6	91	19.1	140	19.3
No, to give up job	201	80.4	385	80.9	586	80.7
Number responded	250	100.0	476	100.0	726	100.0

**Table 10: Reasons for Leaving Job**

Reasons for Quitting Job	Male		Female		Male + Female	
	N	Per Cent	N	Per Cent	N	Per Cent
Financial security/ family responsibilities	7	15.6	24	28.0	31	24.0
Displacement of family after marriage	4	8.9	25	29.0	29	22.5
Consultancy/ part-time employment	12	26.7	8	9.3	20	15.5
Professional dissatisfaction	9	20.0	12	14.0	19	14.7
For higher studies	10	22.2	3	3.5	13	10.1
Others	3	6.6	14	16.2	17	13.2
Number responded	45	100.0	86	100.0	129	100

**Table 11: Change of Jobs by Respondents**

Organisation Prior to Change	Male		Female		Male + Female	
	N	Per Cent	N	Per Cent	N	Per Cent
Universities	115	47.7	256	39.2	371	49.0
Research institutes	25	10.4	54	11.2	82	10.9
State departments	63	26.1	129	25.0	192	25.4
Private institutions	30	12.5	50	9.6	80	10.6
Financial institutions	5	2.1	11	2.1	16	2.1
Unemployed	3	1.2	12	2.3	15	2.0
Number responded	241	100.0	515	100.0	756	100.0

*Reasons for job changes:* The data on important reasons for job changes is given in Table 12.

Data in Table 12 on the number of job changes is grouped according to the important reasons for changes. 'Better professional prospects' is the most important reason, given by 36.5 per cent respondents, followed by 'family reasons' by 15.6 per cent, 'departmental policy' by 9 per cent and 'job security' by 8.1 per cent respondents; 11.1 per cent male respondents consider 'academic pursuit' important, which is only 6.3 per cent in case of female respondents.

Family reasons (children's education, marriage, pregnancy, etc) are important reasons for job change given by female respondents (19.5 per cent). Male respondents gave low priority for these reasons (7.6 per cent).

The number of respondents citing other reasons is less than 10 per cent for each, but some of the reasons are worth noting. Two per cent male and 5.5 per cent female respondents cite transfer of self or spouse as one of the reasons. It is remarkable to notice that both male and female respondents did not cite sexual harassment or health as important reasons for job change. This is in stark contrast to experiences of working women in other science and technology organisations as well as those employing engineers [Chakraborty et al 1991; Brush and Rao 1991; Parikh and Sukhatme 1992; Pandey 1998]. The working atmosphere in most agricultural organisations is quite professional and healthy too. *Facilities:* One of the important facilities sought by working women, having young children, is a crèche near the workplace. The response on most physical facilities like school, crèche, separate washrooms and health centre is the same. To illustrate the status of physical facilities, the responses on crèche facility is presented in Table 13.

Both male and female respondents were in agreement on the non-availability of creche facility; 82.9 per cent of the respondents indicated absence of this facility, 11.6 per cent indicated having this facility. Nearly 5.5 per cent cited availability but felt the facility was unsatisfactory. Female respondents made specific mention on the need for this critical facility and expressed anguish at the poor support in maintenance wherever such facilities are available. Female respondents opined that this facility could be supported by the employer as a welfare activity.

Although housing is not a major need, at some places it becomes a very critical factor. The need for accommodation was expressed especially by single women who were posted at metropolitan cities and in remote areas. The responses indicated that this was an important reason for job refusal or job change, especially in case of women respondents. There is, in general, a great demand for accommodation near the workplace.

*Family concerns:* The survey results indicated that family concerns occupy the topmost position in contributing to the satisfaction of both male and female respondents (Table 14). Both female and male respondents (86 per cent) opined that "the present work structure should be modified to enable a woman to combine career, child-rearing and homemaking without a career break".

Responses for the statement 'for a woman career should be secondary to her responsibilities as a wife and mother' are given in Table 15. Only 53.5 per cent male and female respondents agree on the importance of family over career for married female employees. However, 14.9 per cent respondents were neutral and 31.6 per cent respondents did not agree. The genderwise responses are same from both male and female respondents. The responses reflect societal values and expectations set for married professional women, which they are expected/ constrained to fulfil. However, the fact that only half of the respondents agreed to family over career reflected the change in outlook of both

**Table 12: Reasons for Job Changes**

Reasons	Male		Female		Male + Female	
	N	Per Cent	N	Per Cent	N	Per Cent
Better professional prospects	102	40.6	181	34.4	283	36.5
Family reasons	19	7.6	102	19.5	121	15.6
Departmental policy	29	11.6	41	7.8	70	9.0
Job security	22	8.7	41	7.8	63	8.1
Academic pursuit	28	11.1	33	6.3	61	7.9
Job/project terminated	5	2.0	38	7.2	43	5.5
Better emoluments	18	7.2	22	4.2	40	5.2
Transfer of self/spouse	5	2.0	29	5.5	34	4.4
Overall dissatisfaction	15	6.0	17	3.2	32	4.1
Sexual misbehaviour	—	—	2	0.4	2	0.2
Others *	8	3.2	19	3.7	27	3.5
Number of responses	251	100.0	525	100.0	776**	100.0

Notes: \*\*N>756 as some respondents gave two reasons of equal importance.  
\* Others include accommodation, health.

**Table 13: Crèche Facility Provided by the Employers**

Status of Creche	Male		Female		Male + Female	
	N	Per Cent	N	Per Cent	N	Per Cent
Not available	183	83.6	405	82.7	588	82.9
Unsatisfactory	13	5.9	26	5.3	39	5.5
Satisfactory	23	10.5	59	12.0	82	11.6
Number responded	219	100.0	490	100.0	709	100.0

**Table 14: Perception on the Statement "the Present Work Structure Should Be Modified to Enable a Woman to Combine Career, Child-rearing and Homemaking without a Career Break"**

Response	Male		Female		Male + Female	
	N	Per Cent	N	Per Cent	N	Per Cent
Strongly agree	244	79.2	588	88.6	832	85.6
Neutral	41	13.3	42	6.3	83	8.5
Disagree	23	7.5	34	5.1	57	5.9
Number responded	308	100.0	664	100.0	972	100.0

**Table 15: Perception on the Statement "for a Married Woman, a Career Should be Secondary to Her Responsibilities as a Wife and Mother"**

Response	Male		Female		Male + Female	
	N	Per Cent	N	Per Cent	N	Per Cent
Agree	160	52.0	357	54.2	517	53.5
Neutral	49	15.9	95	14.4	144	14.9
Disagree	99	32.1	207	31.4	306	31.6
Number responded	308	100.0	659	100.0	967	100.0

**Table 16: Mobility of Scientists from and to ICAR System during 1987-97**

Change	Number of Mobile Graduates		
	Male	Female	Both
ICAR to universities	6	9	15
ICAR to ICAR institutions	5	15	20
ICAR to others	2	9	11
Total moving out of ICAR	13	33	46
Universities to ICAR	6	5	11
Others to ICAR	2	2	4
Total moving into ICAR	8	7	15

**Table 17: Estimation of Mobility of Scientists from ICAR and Universities**

Mobility	Number Moved in a Decade
From ICAR to universities	720*
From universities to ICAR	400*

Note: \* Estimations based on ICAR strength of 5,461 and universities strength of 19,420.

male and female respondents from the traditional view of family over career.

**Mobility:** Agriculture being a state subject, mobility of agricultural graduates in state departments is greatly restricted. In the central sector, there is implicit understanding or practice encouraging mobility. Thus, most cases pertaining to mobility refer to moving from one job to another, either for better prospects or for personal reasons. Quantified information on mobility of respondents would reflect the scenario and help to discuss the means to improve it. ICAR being the single largest employer of agricultural graduates in the country, and as it provides policy support to agricultural universities, flow of professionals in the ICAR system would reflect the typical scenario in the country.

The mobility of graduates from ICAR to other systems and vice versa over a decade is given in Table 16. Of the 114 respondents belonging to the ICAR system, 46 indicated mobility. Of these 46, 20 moved to institutions within the ICAR system, 15 moved to universities and 11 moved to other systems. The data does not show any gender specificity. On the other hand, only 15 respondents indicated joining ICAR institutes from other systems in the same period. Of these 15, 11 respondents came from universities and four came from other systems. Thus, the mobility of respondents between university and ICAR institutes is low.

**Estimation of mobility of scientists:** Based on the survey sample, estimation of mobility of scientists from ICAR and universities is given in Table 17. Considering the sample as representative of the mobility of agricultural graduates in the country, the estimated number of graduates joining ICAR from universities is given in Table 17. During 1997, there were 5,461 scientists in ICAR and 19,420 scientists in the universities.

The estimated number joining ICAR from universities in a decade is about 400. The estimations pertain to a decade and the mobility is 40 per annum in absolute terms. The estimations appear reasonable as the average level of recruitment of senior scientific personnel (other than ARS at entry level) by ASRB is less than 150 per year. In absolute terms, the mobility of scientists from universities to ICAR is very small compared with the scientist strength of 19,420 in the universities.

Assuming that most of the mobility of scientists in ICAR and universities is between these two systems only, the estimations reveal an interesting trend. The estimated number of university faculty moving to ICAR (40) is about half the number of ICAR scientists moving to universities (72) in a year. This is viewed from the relative sizes of the two systems, with universities having thrice the number of scientists in ICAR, few from universities are able to enter ICAR as against ICAR scientists entering universities.

It is desirable that at least 5 per cent of the total scientific staff move to other systems in a year so as to infuse new ideas and new work relations to sustain the research pace. Considering the size of the two systems – about 25,000 scientists in ICAR and the universities together – about 1,250 scientists can move between the two systems. But the actual mobility observed is only one-tenth of this, which is through direct recruitment. Thus there is a need to increase mobility through other means. ICAR being the apex body that provides policy guidance to the two systems, it can bring in policy changes to improve the mobility of scientists between the two systems.

### What Can Be Done?

The present work gives the profile of working agriculture women professionals. For a more efficient and effective utilisation of this workforce, the study points to certain policy initiatives. The major problem of working women professionals in agriculture

relates to placement and mobility – especially when both respondent and spouse are working. Much of the potential of professional women in agriculture could not be harnessed due to spousal displacement. Increasing mobility among different systems would greatly reduce this problem. Since ICAR and state agricultural universities (SAUs) work together, there is a need to increase mobility of scientists between the two systems. ICAR, being the apex body and single largest employer in the field of agriculture, should take the lead in initiating policies aimed at improved mobility of scientists between the two systems and influence the SAUs to follow suit.

The following policy initiatives are recommended for action. – There should be a policy for free exchange of scientific personnel in the same cadre between the SAUs and ICAR. Deputation may be allowed for the scientific manpower from the SAUs and ICAR in the same cadre for a period of five years. This would improve mobility between the systems and stem spousal displacement. During leave period, the institutes may be permitted to hire persons on a contract basis giving preferential treatment to spousal employment.

– The option to work reduced hours can be given to young mothers. This will enable them to cope with office and motherhood responsibilities and also reduce demands for long leave to take care of young children.

– Institutes need to run creches with trained staff and make it available to employees at nominal rates as a welfare activity.

– Preferential allotment of accommodation to single women employees would help in providing security and reduce problems arising out of family displacement. ■■■

*Address for correspondence:*

nss@ernet.nic.in

ramarao@naarm.ernet.in

### References

- Ali, Reza Talaie (1996): 'Country Paper-Islamic Republic of Iran, Agricultural Education Systems in Asia', Asian Productivity Organisation, Tokyo, pp 139-54.
- Brush, E G and A Rao (1991): 'Issues of Professional Women in Agricultural Research in Developing Countries', ISNAR Staff Note 91-110, ISNAR, The Hague.
- Brush, E G, D Merrill-Sands, D P Gapsin and V L Mabesa (1995): 'Women Scientists and Managers in Agricultural Research in Philippines', ISNAR Research Report 7, ISNAR, The Hague.
- Chakraborty, Radha, Ashok Jain, P S Nagpaul, Anju Chawla and Geeta Mehta (1991): 'Women Scientists in R and D and Academic Organisations', DST Project Report, National Institute of Science and Technology Development Studies, New Delhi.
- Hubeis, A V S (1994): 'State-of-the-Art of Gender Issues in Indonesia', proceedings of the regional workshop on Gender Issues in Teaching and Research Programmes in Agriculture and Natural Resources of the South-East Asian University consortium members, college, Laguna, Philippines, pp 63-82.
- Jaraiah-Masud (1994): 'State-of-the-Art of Gender Issues in Malaysia', proceedings of the regional workshop on Gender Issues in Teaching and Research Programmes in Agriculture and Natural resources of the South-East Asian University consortium members, College, Laguna, Philippines, pp 95-103.
- Manju, Pandey (1998): 'Science Post Graduate Women in Northern India', DST Project Report, BHU, Varanasi.
- Parikh, P P and S P Sukhatme (1992): 'Women Engineers in India', DST sponsored Project Report, IIT, Bombay.
- Pell, A N (1996): 'Fixing the Leaky Pipeline: Women Scientists in Academia', *Journal of Animal Science* (US), Vol 74, p 11.
- Rama Rao, D, U Muralidhar and J C Kalla (1997): 'Planning Agricultural Education in India', *European Journal of Agricultural Education and Extension*, Vol 4, No 1, pp 67-80.
- Rama Rao, D and N Sandhya Shenoy (1998): 'Professional Women in Agriculture', DST Project Report, National Academy of Agricultural Research Management, Hyderabad.