



Study on gender issues in promoting agri-entrepreneurship among farm graduates

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ABSTRACT

Since 2002, a Central Sector Scheme on Agri-Clinic and Agri-Business Centres (AC&ABC) is in operation in the country to promote entrepreneurship among farm graduates after their formal graduation. A study was undertaken to ascertain the gender issues in establishing and running agri-ventures by the farm graduates who were provided training under AC&ABC scheme. The data were collected from 70 respondents comprising 35 male respondents and 35 female respondents using structured questionnaire through e-mail and telephonic contacts. Findings revealed that majority of female respondents (71.43%) did not venture into AC&ABC due to lack of family support, previous job experience and self-confidence. Prevailing societal attitude might have forced females to avoid starting of enterprise in their native/surrounding villages due to fear of being criticized. The study also revealed gender differences in nature of farm enterprises, motivational factors, site selection, investment pattern, income level, working time as well as cooperation of family and banks. The success of AC and ABC depends on effective sensitization of family members, bank and development officials, more hand holding and financial support and incentives and mass media support for reinforcing the success models across the country.

Key words: Agri-entrepreneurship, Farm Graduates, Gender issues

Over the years, the farming has become knowledge intensive and business oriented. In order to transform the farm graduates into successful agri-preneurs, the Government of India has been implementing a Central Sector Scheme on Agri-Clinics and Agri-Business Centres (AC&ABC) since 2002 (Karjagi *et al.* 2007). The objectives of AC&ABC scheme include supplementing efforts of public extension and other services to farmers on payment basis as per their affordability and to create gainful self employment opportunities to unemployed youths trained in agriculture and allied subjects. The bulk of these farm graduates and post graduates are graduated in 65 Agricultural Universities (AUs) including five Deemed-to-be Universities and other Central Universities having faculty of agriculture. These Universities admit about 40 000 students with an annual outturn of 28 000 farm graduates and post graduates in agriculture and allied sciences. About 55 per cent of the graduates are hailed from rural areas and 36 per cent are girl students (Rama Rao *et al.* 2011). At present, most of the farm graduates look for jobs in Government institutions or private sectors.

The AC&ABC scheme is aimed at retaining farm

graduates to support the desired technological upgrading of farm enterprises and boosting agricultural production process. These graduates are provided enabling environment through two month long training on potential agri-ventures including business, communication and management skills, handholding besides financial assistance through public sector banks. These self employed youth help to empower farmers with new skills and technologies for modern farming. Through agri-ventures they provide need based and demand driven agricultural advisory services and inputs to farmers in business mode. So, they are called as agri-preneurs. The expert advice and services provided by these agri-preneurs is aimed at filling the gap in the public-sector extension system where currently large numbers of input dealers having no educational background in agriculture provide agri-inputs to farmers. Whereas, the Agri-Clinic and Agri-Business Centers could provide a wide range of services, depending on the interests of the graduates (Claire *et al.* 2010).

The AC&ABC scheme is open for male and female farm graduates. So, this scheme has also provided equal opportunity to make available the scientific expertise of female farm graduates to the needy clientele groups. However, out of the total 28 244 trained candidates under the scheme up to 2011-12, the female agri-graduates were about 6 per cent only. Therefore, participation of female graduates in the scheme is an important and sensitive gender

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issue at the moment. Rao and Rupkumar (2005) stated that most of the trainees of ACABC scheme were not successful in taking up agri-entrepreneurship. Seventy percent of the trained graduates were self financed and only 30 per cent have taken out loan from banks (Global Agri Systems 2008). Moreover, so far, none of evaluation studies had focused on problems and prospects of establishing an AC/ABC by male and female entrepreneurs and gender issues in establishing agri-ventures or other related enterprises. So, it was felt to explore the reasons behind lower participation of female agripreneurs in ACABC scheme, which could help the planners to formulate schemes to facilitate and motivate the young women-agripreneurs. By helping them to resolve the problems and constraints in management of agri-ventures, it may be possible to involve them intensively in development of innovative strategies for transfer of technologies to farmers specially women. Further studies on issues related to management of their ventures could also help the future agripreneurs to plan their Agri-Clinic/Agri-Business successfully to serve the farmers in a better way. Moreover, factors which are considered to establish an AC/ABC may vary among male and female agripreneurs.

With this context, a study was undertaken on farm graduates who have ventured into AC/ABC with an objective to find out gender-wise profile, status of establishment and related factors, types of agri-ventures set up and motivational factors, income, constraints, management issues, association of socio-personal factors with success indicators and to suggest suitable measures to make the AC/ABC scheme a gender friendly farm entrepreneurship model.

MATERIALS AND METHODS

All the male and female farm graduates trained under ACABC scheme up to 2011-12 were taken as population for the study. The study was conducted in 2012 and 2013 using e-mail and telephonic survey methodology. One thousand trained graduates having email address and phone or mobile number were shortlisted from the whole population. Online data collection method with MS Office Outlook was used for the study. Structured questionnaire in the form of user-friendly editable soft copy was sent to the e-mail address of all the shortlisted respondents enclosing therewith a brief note on need and importance of the study. Even though agripreneurs had access to internet facilities within their surrounding, they could not be expected to access internet facilities in view of their extensive and frequent field activities. So their contact numbers in Microsoft Office Excel Comma Separated Values format were entered to send e-sms to their mobile phone for follow up and to select good number of male and female agri-entrepreneurs so that both the gender can be adequately compared to properly understand the realistic picture of entrepreneurship among farm graduates with respect to gender issues. Reminders were sent to the mobile phones of the respondents daily (150 respondents/day). But only 105 agri-preneurs responded, out of which 70 respondents with

equal number of male and female were selected randomly. The collected data were consolidated and analyzed using percentage and Chi-square techniques.

RESULTS AND DISCUSSION

Profile of respondents

The higher number of responses could be obtained from the state of Tamil Nadu with 25.71% male and 22.86% female. No responses could be obtained from the male respondents from Manipur, Mizoram, Nagaland, Odisha, Puducherry, Rajasthan and Kerala states. It was surprising to find that women entrepreneurs from states like Bihar and Jammu & Kashmir showed a good response as compared to educationally progressive states like Kerala and Andhra Pradesh. It seemed that gender mainstreaming could be achieved well in Tamil Nadu as almost equally higher responses could be obtained from both the genders. The quality of online response of female respondents in terms of complete information was strikingly better than male. The general profile of respondents is given in Table 1.

Majority of the male (74.29%) and female respondents (85.71%) belonged to the age group of 25-44 years. The age limit of 25.71 per cent male agri-preneurs was above 44 years, whereas none of female was above 44 years of age. Majority of female entrepreneurs belonged to younger category (< 45 years). Unlike male, females in the age group of 45 years and above were not ready to take up entrepreneurial activities due to their family commitments and physical immobility. Another reason to find the less women graduates as unemployed in the age group of more than 45 years was might be due to the fact that female

Table 1 Gender wise general profile of the respondents

	Particulars	Respondents			
		Male (n=35)	Per-centage	Female (n=35)	Per-centage
Age	Less than 25 years			5	14.29
	25-44 years	26	74.29	30	85.71
	45 years and above	9	25.71		
Education	Bachelors degree level	10	28.57	20	57.14
	Masters degree level	21	60.00	13	37.14
	Ph D degree level	4	11.43	2	5.71
Marital status	Married	30	85.71	27	77.14
	Unmarried	5	14.29	8	22.86
	No previous experience	5	14.29	10	28.57
Previous job experience	Up to 5 years	7	25.00	15	42.86
	6-10 years	10	28.57	9	25.71
	More than 10 years	13	37.14	1	2.86

participation in agricultural education has picked up strongly during last ten years and accordingly more female responses could have found in the younger age categories. More number of the male and female respondents had the education up to Master's degree (60.00%) and Bachelor's degree (57.14%), respectively. About 85.71 per cent male and 77.14 per cent of female respondents were married indicating that they had to deal with the dual responsibility of agri-business and family.

One-fourth male and 42.86 per cent female respondents had previous experience in the range of one to five years, while about 37.14% male respondents had more than 10 years previous job experience in agriculture and allied fields as against 2.86% female respondents. About 25.71% female respondents did not have previous job experience indicating the difficulties to be faced by them while dealing with farmers and other clients without adequate and appropriate agri-business skills and tricks of the trade.

Gender-wise status of male and female participation in AC/ABC

The gender-wise status of male and female participation in AC & ABC scheme is presented in Table 2.

The findings revealed that the number of respondents who completed training and started agri-venture under

Table 2 Gender-wise status of male and female participation in AC/ABC

Particulars	Respondents			
	Male (n=35)	Percentage	Female (n=35)	Percentage
<i>Year of establishment</i>				
Not started AC/ABC till now	5	14.29	25	71.43
1995-2000	1	2.86		
2001-2005	7	20.00		
2006-2010	19	54.29	7	20.00
After 2010	3	8.57	3	8.57
<i>Reasons for not establishing</i>				
Got a permanent job	3	8.58	11	31.42
Working in temporary post	1	2.86	9	22.71
Pursuing higher education			4	11.43
Not doing any work	1	2.86	1	2.86
<i>Factors considered for area selection</i>				
Not revealed	7	20.00	12	34.29
Accessibility, transportation and business potential	10	28.57	7	20.00
Native village due to existing good rapport	7	20.00	2	5.71
Transportation facilities	5	14.29	7	20.00
Road side of a village	3	8.57	1	2.86
Near the native village	2	5.71	4	11.43
Near town area	1	2.86	2	5.71

ACABC scheme after 2005 was high. However, majority (71.43%) of the female respondents did not start any venture. The reasons might be less confidence and lack of family support, experience and exposure (Talukdar *et al.* 1998 and Chandrashekar 2010). It seems the respondents had undergone the training without any predetermined mindset to establish agri-venture after completion of the training. One-fifth of the male and one-third of the female respondents did not reveal any reference factor for selection of area to set up their agri-venture. It indicated that they might have undergone the training under ACABC scheme with the aim and perspective of establishing agri-enterprise once the situation in economical, physical, infrastructural and social aspects would be favorable. Further, non-establishment of AC/ABC by the many agripreneurs might be due to the reasons of getting a temporary or permanent job, moving for higher education and family situation. It clearly shows that these trainees did not possess grit, determination and conviction to start an AC/ABC. They still considered AC/ABC as one of the last choices as professional occupation due to its un-stabilized nature of income, profit and business prospects. Female respondents felt higher level of insecurity than male respondents in doing AC/ABC.

Majority of the male and female respondents considered accessibility, transportation and business potential as main preference factors for selecting location of their agri-venture. Male respondents (20%) indicated preference for choosing the native village or neighboring villages due to their good rapport and possibility of faster access and reach of many clients. However, equal number (20%) of female agripreneurs had considered transportation facility to their native place for quick access to their business venue. It might be the fear of getting criticism from their relatives and fellow villagers as they were expected to undertake extensive field works and maintain multiple contacts with male persons in executing business activities.

Gender wise profile of desired areas of agri-ventures expressed by the respondents

The respondents established agribusiness in different fields of specialization based on the needs of the villagers. Gender wise profile of agribusiness established by the respondents is presented Table 3.

Women's participation was found to be nil in the field of farm machinery supply, soil and water testing lab, contract farming, precision farming and drip irrigation. Alternately, more number of female agripreneurs (11.43%) was found to be involved in crop production, veterinary services and vermicompost, mushroom cultivation, dairying, and poultry production. Whereas, Thanikachalam (2009) had reported that more number of male agripreneurs were involved in seed production, seedling production and nursery management, input supply and veterinary services. The findings have indicated that the field of establishment of agri-venture was decided based on the convenience and comfort of the business opportunities rather than their interest and expertise. Moreover irrespective of region, all the

Table 3 Gender wise profile of agri-venture preferred by the respondents

Desired area of specialization of AC/ABC	Respondents			
	Male (n=35)	Percentage	Female (n=35)	Percentage
Not revealed/established	4	11.43	15	42.86
Crop production	4	11.43	4	11.43
Input supply and consultancy	5	14.29	2	5.71
Veterinary service	5	14.29	4	11.43
Contract farming, precision farming and micro irrigation	2	5.71		
Horticulture	1	2.86	1	2.86
Seed and seedling production and supply, nursery	5	14.29	1	2.86
Vermi-compost, mushroom cultivation, dairying, poultry production	3	8.57	4	11.43
Soil and water testing lab	2	5.71		
Farm machinery supply	2	5.71		
Food processing and preservation			1	2.86
Crop disease management	1	2.86	2	5.71
Landscaping	1	2.86	1	2.86

families of respondents had experienced patriarchal mode of primary income source. Even when, wife/female members of the family were educated, their income or work was considered secondary. Female’s income would be the primary source of money for the family in case of either female headed families or families headed by widows. Unlike male agri-preneurs, concurrence of spouse/family members was found essential to establish AC/ABC by their female counterparts. For male agri-preneurs, spouse/family member’s cooperation was also reported important but not

essential.

Motivational factors to establish agri-ventures

The motivational factors expressed by male and female respondents are given in Fig 1.

Nearly two-third of the male respondents established their agri-ventures with self employment motive. In contrast with male respondents, majority (71.43%) of female respondents did not start agri-clinic and agri-business, which shows that the ACABC scheme need policy change for mainstreaming of gender concerns. Though female respondents had expressed the ambition to earn more, but the lack of enabling environment coupled with number of socio-economic and cultural factors might have not favored them to start their agri-venture even after getting training.

Income pattern of agri-preneurs

Significant difference could be observed between the income pattern of male and female respondents from their agri-ventures like sale of own products, supply of inputs and provision of agri-services. Very few entrepreneurs had taken up product preparation and earning a maximum of ₹ 50 000 per month. Supply of inputs gave a moderate income to majority of the male (22.86%) and female (5.71%) agripreneurs. It is notable that the male agri-preneurs (5.71%) were earning more than one lakh rupees per month as income, whereas females could earn up to the income level of ₹ 18 000 per month from the supply of inputs. It was observed that majority of the male and female input suppliers were providing free consultancy and advisory or facilitation services to farmers, as they have to maintain cordial rapport with their clientele groups and harness the further business prospects. The earned amount per month could be partly supportive in repayment of loan and meet business and family expenditures. The results on account of low income indicate the poor competitiveness, less risk bearing capacity and low constraint facing ability of female agripreneurs. Highest income earned by the male agri-preneurs was more than ₹ 125 000/month from supply of agri-inputs, whereas one female agri-preneur could get up to ₹ 50,000/month

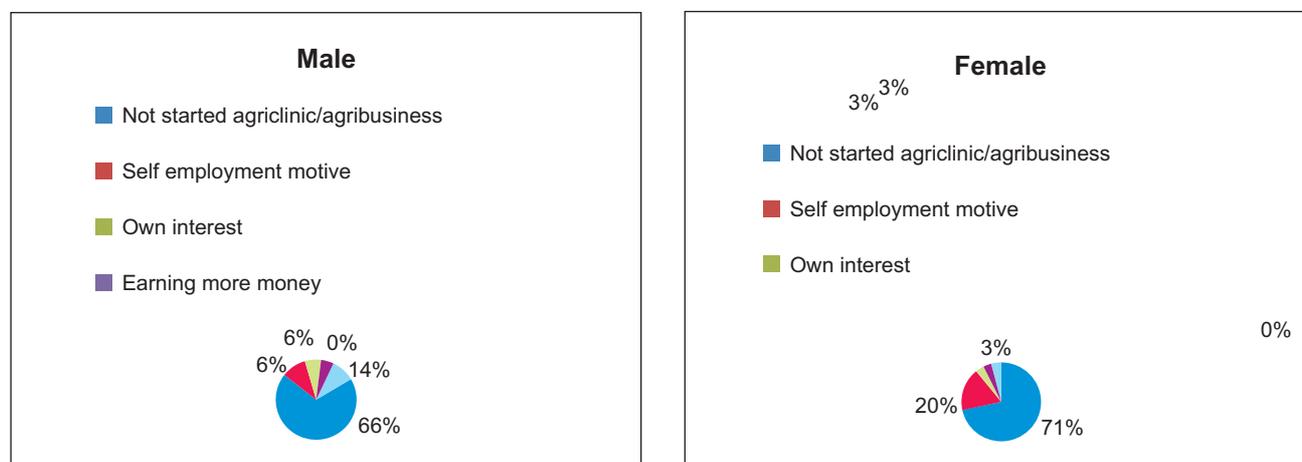


Fig 1 Gender difference of motivational factors in establishing agri-ventures

from the agri-services.

Profit and loss are like two sides of any business. Agri-ventures provide highest income during on-season and lowest income during off season. The income of the agripreneurs and number of farmers covered per month were directly proportional to each other. As the male agripreneurs bravely invested a huge sum of money for establishing and running agri-venture, they were earning more than their female counterparts. It was found that the male agripreneurs had invested in the range of ₹ 6.0 lakhs to ₹ 20.0 lakhs per unit, whereas the female agripreneurs could invest in the range of ₹ 3.0 lakhs to ₹ 6.0 lakhs per unit only. It clearly show that investment cost and income were directly proportional to each other. It was observed that non-cooperation of the spouse/family members had also influence on poor investment of female entrepreneurs. It was found that factors like selection of enterprise, total investment, own money for investment and services extended were also directly connected with the cooperation of family members and spouse. It was the obvious reason for higher investment by the male agripreneurs as against the female agripreneurs. Such a situation might have also resulted in de-motivated mind setup among the female agripreneurs.

Constraints faced in establishing and managing AC & ABC

The constraints realized by the respondents in establishing and managing their agri-ventures are depicted in the Table 4. Only one fifth of the male and 2.86 per cent of the female respondents did not realize any constraint in establishing and managing agri-ventures, which shows maximum number of respondents had faced some sort of constraints and did not find a favorable and enabling business environment. The main constraint reported by male and female agripreneurs in establishing AC & ABC was financial shortage. They had arranged fund from outside, relatives and friends with the consent of spouse, family members and friends. However, the respondents were under mental pressure after investing the borrowed money in AC & ABC. This may be due to anxiety for repayment of money, managing competitors and curiosity for maximum coverage of customer to earn more and fulfill other family commitments.

Non-availability of skilled labourers was one of the felt constraints of female agripreneurs, as they had to necessarily take the help of male labourers for physical work particularly with respect to supply of inputs in the AC and ABC. The cost of service and supply was higher than the profit gained through AC & ABC which was expressed as the second most important constraint by male agripreneurs. In fact, agripreneurs could be able to manage the local competitors by providing extra consultancy services in free of cost to farmers in many places. The female agripreneurs running agri-clinics could feel relaxed while doing disease identification, field visits and field treatments. Agripreneurs could visit and analyze the field problems during their convenient times. Farmers also brought diseased

Table 4 Constraints faced by the respondents in setting up and managing agri-ventures

Constraints faced*	Respondents			
	Male (n=35)	Percentage	Female (n=35)	Percentage
Not started AC/ ABC	5	14.29	25	71.43
No constraint	7	20.00	1	2.86
Non cooperation from the bankers	5	14.29	3	8.57
Non-cooperation from the farmers	3	8.57	4	11.43
Diseases in livestock	1	2.86	2	5.71
Dominance of local farmers	4	11.43	1	2.86
Financial shortage	8	22.86	5	14.29
Less income	2	5.71	4	11.43
Lack of family support	2	5.71	13	37.14
High work load	2	5.71	4	11.43
Free consultancy services leading to financial loss	8	22.86	3	8.57
Lack of skilled labour availability	2	5.71		38.57

*Multiple responses

or affected part of the plants to agri-clinic to get the consultation. These were some of the advantages of running AC & ABC especially for female agripreneurs. Approaching the bank officials was also one of the constraints faced by the agripreneurs.

Gender issues in establishing and managing agri-ventures

Gender plays a vital role in establishing and successfully managing any kind of business. As shown in Table 5, the present study also reveals certain gender issues in AC and ABC scheme. With regard to site selection, farm graduates who have good rapport among their own village people established AC & ABC in same village in order to attract more customers/ beneficiaries. On the other hand, Karjagi *et al.* (2007) reported that many married agripreneurs had settled in semi-urban areas and not ready to give up their township, convenience, luxury life style for AC & ABC. Because not like other businesses, agri-venture needs dedicated service oriented business ethics to serve the farmers in a better way. Under such circumstances providing good education and luxury to child and family members is difficult in rural areas, which might have forced the female agripreneurs to give up their idea of establishing AC & ABC.

The study revealed that female agripreneurs were mostly dependent either on their employees or male members of their family to functionally setup a venture. Moreover, they wanted an accompanying male assistant for undertaking village visits at late evening/night times and visiting remote villages even at day times. These are some gender specific variations in characters and attitudes, which have evolved and become social norms for women while doing any

Table 5 Gender issues perceived and encountered in establishing and managing agri-ventures

Gender issues	Respondents			
	Male (n=35)	Percentage	Female (n=35)	Percentage
<i>Status of establishment</i>				
Established	30	85.71	10	28.57
Will establish in future	3	8.57	7	20.00
No plan to establish	2	5.71	18	51.43
<i>Preference for site</i>				
Own village	12	34.29	6	17.14
Rural area	17	48.57	14	40.00
Semi urban area	3	8.57	13	37.14
Urban area	5	14.29	2	5.17
<i>Working time of AC & ABC</i>				
Only during peak hours	15	42.86	12	34.29
From morning to evening	11	31.43	19	54.29
Only during convenient times	9	25.71	4	11.43
<i>Labour assistance</i>				
No need for labour	18	51.43	6	17.14
Need technical labours only	2	5.71	4	11.43
Need non technical labours only	6	17.14	22	62.86
Need technical and non-technical labour	9	25.17	3	8.57
<i>Cooperation from the spouse/parents</i>				
Yes	24	68.57	11	31.43
No	6	17.14	16	45.71
Unmarried	5	14.29	8	22.86
<i>Cooperation from the parents and in-laws</i>				
Yes	23	65.71	22	62.86
No	6	17.14	5	14.29
No in-laws	6	17.14	8	22.86
<i>Comfortable while approaching bank</i>				
Yes	30	85.71	15	42.86
No	5	14.29	20	57.14

business including AC & ABC. It is still a reality that our Indian society has female abuse, eve teasing and sexual harassments, which are greatly affecting participation of women in AC & ABC directly or indirectly.

Majority (68.57%) of the married male agri-preneurs got their spouse cooperation, while 45.71 percent of the female agri-preneurs did not get the cooperation of their husbands in establishing/managing AC & ABC. Majority of the male and female agri-preneurs stated that in-laws/parents were ready to take care of their children/family in their absence. It shows that in-laws/parents were not objecting to allow the female to do income generative activities, but the field work matters a lot in case of AC & ABC. Besides, the in-laws/parents and family members of female respondents also desired and expected that they

should earn with low investment and also fulfill all the social and family responsibilities without fail. High majority (85.71%) of the male respondents felt comfortable while approaching the bank officials. Experience, exposure and education are the three major factors, which made them more confident to approach the bank officials. In case of female agripreneurs, more than half (57.14%) did not feel/perceive comfortable to approach the bankers which showed lack of confidence and articulation of their financial needs before bankers. Definitely this kind of destabilized mind set of female respondents might have led them to drop their plan for setting up agri-venture. Nevertheless male counterparts were found extremely careful in making bold financial investments and lending from banks, relatives and friends.

Female respondents were more labour dependent than male. However, many male as well as female respondents involved their relatives and family members for providing moral and physical support wherever technical and non-technical labourers were not available.

Association of socio-personal factors and other success indicators

Several socio-personal factors tend to have association with success indicators of agri-venture and this association has gender-wise implications for success or failure of the enterprise. The details on this account are highlighted in Table 6.

Support of in-laws and parents is very crucial for any female to take up any kind of activity. The study evidenced that there is a significant correlation between encouragement of in-laws/parents and expansion/restructuring plans of AC & ABC and time to attend family functions. Hence, sensitization of in-laws about encouraging their daughter-in-laws for setting up of business ventures will go a long way to promote agri entrepreneurship and thereby facilitating sustainable agricultural and rural development. For this, mass media and special programmes should be mobilized to create awareness and motivation to provide the necessary moral support for budding entrepreneurs. For both male and female agripreneurs, cooperation from the spouse matters a lot in spending time to attend family functions and expansion/restructuring plans of AC & ABC. There is a significant correlation between cooperation of the spouse for social activities. The spouse has to not only give moral support but also share the risks and benefits accrued out of business ventures as India is known for family oriented business ventures and their success is clearly visible and well recognized in the society.

Marital status plays a vital role in approaching the bank officials and expansion/restructuring plans for both male and female. Marriage determines a person's life where to live, how to live and with whom to live. There was a significant correlation between marital status and easiness in approaching the bank official. Practice makes a man perfect is a proverb, which stresses the importance of practical experience. In case of female, there is a significant

Table 6 Gender-wise association of socio-personal factors and success indicators

Socio-personal factors	Success indicators	Female 'p' value	Male 'p' value
Encouragement of in-laws/parents	Management of constraints	0.89	0.87
	Strategy of managing the competitors	0.24	0.19
	Expansion/restructuring plans of AC & ABC	0.027*	0.45
	Time to attend family functions	0.001*	0.35
Cooperation from the spouse	Time to attend family functions	0.01*	0.02*
	Management of constraints	0.98	0.39
	Strategy of managing the competitors	0.30	0.44
Marital status	Expansion/restructuring plans of AC & ABC	0.02*	0.02*
	Easiness in approaching the bank officials	0.00*	0.004*
	Expansion/restructuring plans of AC & ABC	0.08	0.06
Previous experience	Strategy of managing the experience	0.61	0.61
	Management of constraints	0.05*	0.23
	Source of knowledge updation	0.64	0.10
	Total investment on AC & ABC	0.04*	0.46
Education	Linkage with other service providers	0.002*	0.089
	Income from trading and sale of inputs	0.00*	0.000*
	Income from own product sale	0.00*	0.003*
	Total investment	0.003*	0.248
	Extension services	0.000*	0.248
	Informational sources	0.009*	0.346
	Motivational factors	0.02*	0.274

* Significant at 5% level; P-Probability value

association between previous experience and management of constraints and total investment. It denotes that the male agripreneurs were anyhow managing all the practical difficulties with or without previous experience. In the mean while the study revealed that females were investing more for AC/ABC, if they have previous working experience

in the same field. Education influences more in female agripreneurs attitude than male. It is observed from the study that female has more common sense, conscious mind and clear decision making skill than male irrespective of education, experience and exposure. In contrast with that statement, the study revealed that education has a positive correlation with linkage with other service providers, income, total investment, extension services, information sources and motivational factors of female agripreneurs (Parimaladevi *et al.* 2006). In case of male, education is positively correlated with income. Education is one of the means which gives confidence, courage and positive attitude to do innovative activities for female.

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