

Adoption of technology and innovation among rural women for better life-style management

■ B. Jyotsna Devi

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■ **ABSTRACT :** In rural society, though technology use is one aspect of social justice, bringing hope to the hopeless can be facilitated by use of technology to improve their quality of life. Technology could enhance their capabilities and encourage their participation in the process of development. But the promotion of technology can not be accelerated unless a climate of receptivity and an awareness of the importance of technology in modern life are created in the general public. Use of local resources and skills for the design and development of technologies would be helpful towards their speedy acceptance and adoption. The present study was undertaken in Chandragiri and Ramachandrapuram Mandals of Chittoor district of Andhra Pradesh. The total sampling technique was adopted in the selection of respondents. A structured interview schedule prepared based on the objectives of the study, was used for collecting primary data. The major findings of the study showed that one third of the respondents were in the age group of 30-39 years. 84 per cent of the respondents were married. 41 per cent of the respondents were illiterates. Majority of the respondents belonged to the nuclear family system. 38 per cent of the respondents belonged to the income group of Rs. 2001-3000 per month. 85 per cent of the respondents were using modern kitchen ware technologies which enable them to cook quickly and comfortably. This enabled them to have more time to focus on their income earning activities. 76 per cent of the respondents reported that modern communication and information Technologies have helped them in the adoption of modern agricultural equipment, commercial crops, seeds and pesticides and market prices etc. majority of the respondents reported that adoption of new technologies has helped them to increase their incomes.

Author for Correspondence :

→ **B. Jyotsna Devi**

Department of Home Science,
Sri Venkateswara University,
Tirupati (A.P.) India
Email : jyotsnadevi95@gmail.
com

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The nature and field of technology transfer depends upon the stage of a country's development, its resource endowments, requirements and priorities, on the one hand, and availability of technology which can be transferred and terms and conditions on which it

is offered for transfer. The basic features of technology transfer have to be kept in mind while dealing with the transfer of technology to rural areas and selection of technology as appropriate not only from technical point of view but also from socio-economic angle. It has

universally been recognized that technology transfer in rural areas is of special importance because scientific and technological knowledge and other factors of production in India are immobile particularly between modern urban sector and traditional rural sector and the latter cannot sustain itself against competition from the former without systematic and resolute application of scientific information in the various fields in the rural areas. Even for the programmes for removal of poverty and making life of the rural population better and more meaningful, systematic application of scientific knowledge has become an essential pre-requisite.

The innovative technologies already developed in different fields for generating rural economy in agriculture, forestry, poultry, fishery, animal husbandry and for making rural life better by providing better health practices, modern medical treatment, etc. since independence have not been meager. However, there has not been sufficient mobilization of the prospective beneficiaries to take full advantage of such technology transfers. The low technology base of the programmes proposed for technology transfer to rural areas without reliable and relevant information on appropriate techniques, clear cut transfer policy, without adequate technical services supported by the implementing agencies and without clear appreciation of advantages have made technological improvement in rural areas frustrating and the results poor.

In rural society, though technology use is one aspect of social justice, bringing hope to the hopeless can be facilitated by use of technology to improve their quality of life. Technology could enhance their capabilities and encourage their participation in the process of development. But the promotion of technology cannot be accelerated unless a climate of receptivity and an awareness of the importance of technology in modern life are created in the general public. Use of local resources and skills for the design and development of technologies would be helpful towards their speedy acceptance and adoption. Appropriate technologies for rural areas may be defined as "low cost, need based technologies which are most appropriate and suitable to the environment. This will include a technical package which must be technically feasible, economically viable, socially acceptable, environment friendly, consistent with house hold endowment and relevant to the needs of rural people. People will come forward to take advantage of

such technologies and which help the poor to get themselves above the poverty line. An appropriate technology is location specific. It is characterized by the features like local resources, cheap capital and employment for the local people.

■ RESEARCH METHODS

The present research investigation was undertaken in Rural area of Chittoor district in Andhra Pradesh.

The total sample selected for the study consisted of 500 rural women – 250 from Chandragiri and 250 from Ramachandrapuram (RC Puram) Mandals of Chittoor district.

An interview schedule was prepared to collect data from the respondents. The analysis was carried out manually. Statistics like frequencies and percentages were used for interpretation of the data.

Specific objectives of the study:

- To examine the personal, socio-economic, educational, support systems, and situational background of the respondents.
- To study the technologies known to rural women which were beneficial to them.
- To assess the technologies utilized by the rural women in their day-to-day life to reduce drudgery.
- To examine the Attitude of rural women towards various labour productivity enhancing, drudgery relief technologies for adoption.

■ RESEARCH FINDINGS AND DISCUSSION

The results obtained from the present investigation as well as relevant discussion have been summarized under following heads :

Socio-economic and demographic profile:

The socio-economic and demographic data of the rural women by age, religion, caste, education, type of family, occupation etc. is presented to give a brief idea about the profile of the respondents.

Comparing between the Chandragiri and RC Puram, 30 per cent of the Chandragiri respondents were in the age group of 20-29 years, 30 per cent were 30-39 years. 27.2 per cent of the RC Puram respondents were 30-39 years and 26.4 per cent were 20-29 years. 23.6 per cent of the Chandragiri respondents were in the age group of 40-49 years and 23.6 per cent of the RC Puram

respondents were above 50 years. 16.4 per cent of the Chandragiri respondents were 50 years and above, 22.8 per cent of RC Puram respondents were 40-49 years. More than half of (57.6%) of the Chandragiri respondents were Backward Castes and two-fifths (43.2%) of the RC Puram respondents were belonged to open category.

A large proportion of the respondents in general, were married, 11.2 per cent of the Chandragiri and 16.4 per cent of the RC Puram respondents were belonged to widowed, both negligible per cent (2%) of the Chandragiri and (0.8%) RC Puram respondents were divorced.

More than one third (36%) of the Chandragiri respondents had secondary school education and on the whole a greater proportion (51.6%) of the RC Puram respondents were Illiterates. One-third (30.8%) of the

Chadragiri respondents were illiterates, 22.8 per cent of RC Puram respondents had secondary school education. Higher proportion (62.8% and 64.8%) of the Chandragiri and RC Puram respondents were belonged to Nuclear families, each more than one-third (37.2% and 35.2%) of the Chandragiri and RC Puram respondents were belonged to Joint families.

Comparing between the Chandragiri and RC Puram, more than one-third (41.2% and 35.2%) of the Chandragiri and RC Puram respondents were belonged to Home makers. 18.4 per cent of the Chandragiri and 32.4 per cent of the RC Puram respondents were Daily labour. Above one-tenth (17.6% and 12.4%) of the Chandragiri and RC Puram respondents were Entrepreneurs.

Table 1: Percentage distribution of respondents according to their socio-economic and demographic profile					
Socio-economic and demographic profile		Chandragiri		RC Puram	
		No	%	No	%
Age	20 - 29 years	75	30	66	26.4
	30-39 years	75	30	68	27.2
	40-49 years	59	23.6	57	22.8
	Above 50 years	41	16.4	59	23.6
	Total	250	100	250	100
Social status	ST	15	6	51	20.4
	SC	30	12	43	17.2
	BC	144	57.6	48	19.2
	OC	61	24.4	108	43.2
	Total	250	100	250	100
Marital status	Married	217	86	206	82.8
	Divorced	5	2	3	0.8
	Widow	28	11.2	41	16.4
	Total	250	100	250	100
Educational qualification	Illiterate	77	30.8	129	51.6
	Primary	58	23.2	40	16
	Secondary	90	36	57	22.8
	Intermediate	16	6.4	16	6.4
	Degree	9	3.6	8	3.2
Type of family	Total	250	100	250	100
	Nuclear	157	62.8	162	64.8
	Joint	93	37.2	88	35.2
Occupation	Total	250	100	250	100
	Agriculture and allied	24	9.6	14	5.6
	Daily labour	46	18.4	81	32.4
	Animal husbandry	17	6.8	24	9.6
	Entrepreneur	44	17.6	31	12.4
	Home maker	103	41.2	88	35.2
	Tailoring	11	4.4	7	2.8
	Pvt.job	5	2	5	2
Total	250	100	250	100	

Household technologies:

Household appliances also known as consumer electronics are beneficial to women. Modern household appliances help women in maintaining the home with efficiency. Household articles like A.C. Cooler, Fans, Television, DVD Players, Radio, Two-in-one, Water Coolers, Water Filter, Water heaters, Solar Lanterns, Emergency lights, Iron Box, Sewing Machines, Mosquito Repellent Machines help women in Household maintenance.

Cent per cent (100 and 98%) of the Chandragiri and RC Puram respondents were using Electric fans. 95.6 per cent of the Chandragiri and 88.8 per cent of the RC Puram respondents were watching television. More than three quarters (87.2% and 81.6%) of the Chandragiri and RC Puram respondents were comfortable using mosquito repellent machines. One-fourth (25.2% and 25%) of the Chandragiri and RC Puram respondents were using DVD Players. 14.4 per cent of the Chandragiri respondents were using electric

iron box and 15.6 per cent of the RC Puram respondents were using water filters. 12 per cent of Chandragiri respondents were using sewing machines.

The data showed that considerable number of women were now making use of modern electronic gadgets like fans for cool air, water filters and purifiers for clean and safe drinking water. Women, who hit her to used crude methods using coal for ironing clothes, were now using electric iron boxes. Electric water heaters have also become very popular. The drudgery of heating water on mud stoves using wood has reduced. Many women were using sewing machines for stitching new clothes as well as for repairing old ones. Some of the women who were better off were using washing machines for washing clothes and coolers and AC's for cool air. A large proportion of the women were viewing TV not only for entertainment but also for education and awareness. DVD's were also used for family viewing of movies. A very small per cent were using solar lanterns. It is a small proportion, nevertheless a beginning.

Table 2 : Percentage distribution of the respondents by household technologies

Household Technologies	Chandragiri		RC Puram	
	No	%	No	%
Television	239	95.6	222	88.8
DVD player	63	25.2	64	25.6
Electric water heaters	9	3.6	10	4
Sewing machine	30	12	16	6.4
Electric iron box	36	14.4	19	7.6
Mosquito repellent machines	218	87.2	204	81.6
Washing machine	3	1.2	0	0
Electric fans	250	100	245	98
Air conditioners	15	6	11	4.4
Water filter	29	11.6	39	15.6
Electric water purifier	20	8	14	5.6
Solar lantern	13	5.2	12	4.8

Table 3 : Percentage distributions of the respondents by latest kitchenware technology

Kitchen Ware Technologies	Chandragiri		RC Puram	
	No	%	No	%
Gas stove	228	91.2	188	75.2
Milk cookers	19	7.6	33	13.2
Pressure cookers	213	85.2	178	71.2
Electric rice cookers	41	16.4	131	52.4
Mixies	210	84	184	73.6
Wet grinders	22	8.8	11	7.6
Vegetable cutters	77	30.8	121	48.4
Juice extractor	76	30.4	68	27.2
Refrigerators	26	10.4	41	16.4

Gradually women were starting to adopt modern innovations for household use.

Kitchen ware technologies:

Kitchen is the place where most of a women's lives are spent. From Dawn to Dusk, women continue to work in the kitchen cooking Breakfast to dinner right through the day. Use of Improved cooking stoves, pressure cookers, electric rice cookers, mixes, low cost grinders, vegetable cutters, juice extractors by women reduce their drudgery in house hold work.

Data on Chandragiri and RC Puram Mandals showed that majority (91.2%) of the Chandragiri and 75 per cent of the RC Puram respondents were comfortable using Gas stoves. Four fifths (85.2%) of the Chandragiri and 71 per cent of the RC Puram respondents were comfortable using Pressure cookers. 84 per cent of the Chandragiri and 73 per cent of the RC Puram respondents were comfortable using Mixies. In Chandragiri, one-third (30.8% and 30.4%) of the respondents were using vegetable cutters and Juice extractors. 48 per cent of the RC Puram respondents were using vegetable cutters. More than half (52.4%) of the RC Puram respondents were using electric rice cookers as also 16 per cent of the Chandragiri respondents. One-tenth of the Chandragiri and 16 per cent of the RC Puram respondents were using Refrigerators, 8 per cent of the Chandragiri respondents were using wet grinders. Small proportions (7.6% Chandragiri and 7.6% RC Puram) of the respondents

were using milk cookers and wet grinders. When the women were asked about solar energy products, they stated that they have been getting information about solar energy but as yet have not seen any one using them. Innovations which were costly and complex for the respondents to adopt were not received with good will hence their rejection. They need to be trained in the field of utilization of solar energy, solar energy plants for their house hold work, cooking system etc.

IT and communication tools:

Information and communication technology, is often used as an extended synonym for information technology (IT), but is a more specific term that stresses the role of unified communications and the integration of telecommunications (telephone lines and wireless signals), computers as well as necessary enterprise software, storage, and audio-visual systems, which enable users to access, store, transmit, and manipulate information. The communication technologies are Mobiles, DTH, Computer/laptop, Calculator and ATMs very useful in helping to obtain information about Markets, Products, Prices, Health, Education development schemes, welfare programmes etc.

Comparative analysis showed that between Chandragiri and RC Puram respondents nearly cent per cent (98.8% and 94.8%) were having mobiles. Majority (92% and 88%) of the Chandragiri and RC Puram respondents were having DTH. Usage of ATM and debit cards was also in practice and more women were

Table 4 : Percentage distributions of the respondents by IT and communication tools

IT and Communication tools	Chandragiri		RC Puram	
	No	%	No	%
Mobile	247	98.8	237	94.8
Computer/laptops	4	1.6	1	0.4
ATM Cards	46	18.4	40	16
DTH	230	92	220	88
Scientific calculators	19	7.6	12	4.8

Table 5 : Distribution of the respondents according to their agricultural technologies

Agricultural Technologies	Chandragiri		RC Puram	
	No	%	No	%
Tractor	120	48	110	44
Pumping set	145	58	102	40
Tillers	110	44	105	42
Food cutters	25	10	60	24
Seed drill	9	3.6	6	2.4
Pesticide Sprayers	126	50.4	98	39.2

interested in using them. Though many of them did not own computers, they knew it was useful especially internet.

The rural women stated that Communication Technology helped them to be aware of the trends in marketing, demand, supply, prices etc. It helped them to keep in contact with sellers and buyers. Failure to adopt some of the technologies seems to be mainly due to unavailability of the technologies.

Farm technologies:

Agriculture, also called farming, is the cultivation of animals, plants, fungi, and other life forms for food, fibre, biofuel and other products used to sustain life. Agriculture was the key development in the rise of sedentary human civilization, whereby farming of domesticated species created food surpluses that nurtured the development of civilization.

These technologies are used at the farm for undertaking different agricultural operations which are in use for cultivation and for reducing manual labour like tilling operations, spray pumps, food cutters, pumping sets, seed drill processing equipment etc.

The data showed that nearly half of the Chandragiri respondents were using tractors in cultivating operations. 44% were using trailers also 58% had installed pump sets for supplying of water for irrigation. One tenth (10%) of the respondents were using food cutters. Half of the women stated that they were using pesticide sprayers. However, only a small proportion (3.6 %) were using seed drill.

About 44% of the RC Puram respondents stated that they were using tractors in agricultural activities which has eased considerable work load as also 42 % of the women who said they were using trailers also More than one third (39%) were using sprayers for pesticides. 24 per cent were using food cutters. A small per cent (2.4%) of respondents were using seed drills.

Comparative data showed that more number of respondents in Chandragiri adopted new equipment available for reducing the drudgery of agricultural operations relative to RC Puram mandal. Most of the women were desirous of adopting new practices but stated that they were constrained by inadequate information about that particular innovation, which may in part be caused by the inability of the extension personnel to reach the farmers

SUM UP:

One third (30%) of the Chandragiri respondents were in the age group of 20-29 years and 30 per cent were in the age groups of 30-39 years. 27.2 per cent of the RC Puram respondents were in the age group of 30-39 years and 26.4 per cent in the 20-29 years age group. Majority (76.4% and 95.2%) of the Chandragiri and RC Puram respondents were belonged to Hindu religion. Majority (57.6%) of the Chandragiri respondents belonged to the Backward Castes. A large proportion of the respondents in general, were married, 11.2 per cent of the Chandragiri and 16.4 per cent of the RC Puram respondents were widows. More than one third (36%) of the Chandragiri respondents had secondary school education and a greater proportion (51.6%) of the RC Puram respondents were Illiterates. Higher proportion (62.8% and 64.8%) of the Chandragiri and RC Puram respondents belonged to Nuclear families.

More than one-third (41.2%) of the Chandragiri respondents and 35.2 per cent of the RC Puram respondents were Home makers. 18.4 per cent of the Chandragiri and 32.4 per cent of the RC Puram respondents were Daily labourers. Above one-tenth (17.6% and 12.4%) of the Chandragiri and RC Puram respondents were Entrepreneurs. The main income generating programmes undertaken by the respondents were stationery shop, sale of palm leaves, production and sale of snacks and bakery items, animal husbandry, poultry vending, vegetable vending, sale of readymade garments, petty provision shops etc. More than one third (38.8% and 36.4%) of the Chandragiri and RC Puram respondents were earning 2001-3000 monthly income. 15 per cent of the Chandragiri and 26.4 per cent of the RC Puram respondents were earning more than 4000 monthly income. The profile of the rural women in the two Mandals showed that majority had low socio-economic status. They belonged to lower state of occupation and income levels and poorly educated.

Cent per cent (100 and 98%) of the Chandragiri and RC Puram respondents were using Electric fans. 95.6 per cent of the Chandragiri and 88.8 per cent of the RC Puram respondents were using television. Majority (91.2%) of the Chandragiri and 75.2 per cent of the RC Puram respondents were comfortable using Gas stoves. Three quarters (85.2%) of the Chandragiri and 71 per cent of the RC Puram respondents were comfortable using Pressure cookers. 84 per cent of the Chandragiri

and 73.6 per cent of the RC Puram respondents were comfortable using Mixes. Nearly cent per cent (98.8% and 94.8%) of the Chandragiri and RC Puram respondents were having mobiles. Majority (92% and 88%) of the Chandragiri and RC Puram respondents were having DTH. 34.4 per cent of the Chandragiri and 31.2 per cent of the RC Puram respondents said television followed by 26 per cent of the Chandragiri and 23.6 per cent of the RC Puram respondents stated that neighbors were their best source of information. 18.8 per cent of the Chandragiri and one-fifth (29.2%) of the RC Puram respondents were using pesticides, spray pumps. Women can play a more positive and active role in development if they are given access and training to improved technologies in their daily activities. Majority of these labour-saving machines are under-utilised in rural areas. Availability of lower prices would enable the technologies within reach.

Implications of the study:

- The problem of opportunity where technology innovation can most benefit rural women needs to be identified with a beneficiary diagnosis.
- Social and economic development, especially among the rural non-literate poor can be achieved through Science and by using/application of simple technology to solve the day-to-day problems and to use in their day-to-day life style.
- By improving their functional skills to satisfy their basic needs and conservation of their resources by generating more and more employment opportunities and to generate income resources to get out of the rut of backwardness.

In the present day context, Science and Technology must meet the needs of the poor and studies of this type would help to develop appropriate technologies for rural women.

■ REFERENCES

- Bharati, R.A. and Badiger, C. (2008).** Impact of National Agricultural Technology Project on Empowerment of Women in Agriculture through Self Help Groups. *Karnataka J. Agric. Sci.*, **21**(4): 561-564.
- Bimlasen, G. (2007).** Women Power: The Changing Scenario, Better Books, Panchakula, pp. 121-129.
- Cadima, X., Terraraz, F., Salazar, M., Calderon, R., Antezana, I., Iriarte, V., Ajnota, E., Gonzales, R. and Ferrufino, N. (2009).** “Preserving Biodiversity of Andean Roots and Tubers: Working with Women,” Poster presented at the 15th ISTRC Symposium, Lima Peru, on November 2009.
- Carr, M. and Hartl, M. (2010).** Lightening the Load: Labour Saving Technologies and Practices for Rural Women. Rugby, UK: International Fund for Agricultural Development and Practical Action.
- Carr, M. and Hartl, M. (2010).** Leightening the Load: Labor Saving technologies and Practices for Rural Women. Rome: IFAD and Practical Action Pvt. Ltd.
- Catherine, Ragasa (2012).** Gender and Institutional Dimensions of Agricultural Technology Adoption: A Review of Literature and Synthesis of 35 Case Studies, the International Association of Agricultural Economists (IAAE) Triennial Conference, Foz do Iguacu, Brazil 18-24 August, 2012.
- Croson, R. and Gneezy, U. (2009).** Gender differences in preferences. *J. Economic Literature*, **47**(2):1-27.
- Datar, G., Del Carpio, X. and Hoffman, V. (2009).** “Can a market-assisted land redistribution program improve the lives of the poor? Evidence from Malawi,” Policy Research Working Paper Series 5093, World Bank, Washington, DC.
- Davis, K., Nkonya, E., Ayalew, D., Kato, E., Odendo, M., Miiro, R. and Nkuba, J. (2010).** Impact of farmer field schools on agricultural productivity, poverty and farmer empowerment in East Africa.”IFPRI Research Report. IFPRI, Washington, DC.
- Devries, J. and Nierenberg, D. (2010).** For Poor Households in Rwanda, One Cow Makes a Difference. The Huffington Post, 24 March.
- Doss, C.R. (2009).** “If women hold up half the sky, how much of the world’s food do they produce?” Paper prepared for 2010 FAO State of Food and Agriculture. Mimeo.
- Duvendack, M. and Palmer-Jones, R. (2011).** “High Noon for Microfinance Impact Evaluations: Re-investigating the Evidence from Bangladesh,” MPRA Paper 27902, University Library of Munich, Germany.
- Eva M. Rathgeber (2011).** “Rural Women’s Access to Science and Technology in the Context of Natural Resource Management”. UN Women, in cooperation with FAO, IFAD and WFP, Institute of Women’s Studies, University of Ottawa. Expert Group Meeting Enabling rural women’s economic empowerment: institutions, opportunities and Participation, Accra, Ghana 20-23 September 2011.
- FAO (2011). *The State of Food and Agriculture: Women in Agriculture- Closing the Gender Gap for Development*. Rome: FAO.
- Fletschner, D., Anderson, C.L. and Cullen, A. (2010).** Are Women as Likely to Take Risks and Compete? Behavioral Findings from Central Vietnam. *J. Development Studies*, **46**(8): 1459-1479.

- GenARDIS (2010).** Small Grants that make big changes for women in agriculture. Published by APC 2010.
- Gillwald, A., Milek, A. and Stork, C. (2010).** *Gender Assessment of ICT Access and Usage in Africa*. Volume One 2010 Policy Paper 5. ISSN: 2073-0845.
- Ibrahim, H.I., Kigbu, A.A. and Mohammed, R. (2011).** Women's experiences in small scale fish processing in Lake Feferuwa fishing community, Nasarawa State, Nigeria. *Livestock Res. Rural Development*, **23**(3): 2011.
- IEG (Independent Evaluation Group) (2011). *Impact Evaluations in Agriculture: An Assessment of the Evidence*. Washington, DC: World Bank.
- IFAD (2010). "Promoting women's leadership in farmers and rural producers organizations." Special session of the third global meeting of The Farmer's Forum in conjunction with the Thirty Third Session of IFAD's Governing Council Meeting. IFAD Headquarters, Rome. 12-13 February, 2010.
- Josily, Samuel, Kunnal, L.B. and Ashalatha, K.V. (2011).** Impact of microfinance on the upliftment of rural women – *An Economic Analysis*, *J. Rural Development*, **30** (2) : 127-141.
- Kasangaki, P. and Oguya, V. (2011).** Contributing to extension – the question and answer service voucher system, paper presented at the International Conference on Innovations in Extension and Advisory Services, November 15-18, Nairobi, Kenya.
- Kingiri, A. (2010).** Gender and Agricultural Innovation: Revisiting the Debate through an Innovation System Perspective, Research Into Use Programme (RIU), UK's Department for International Development (DFID), Discussion Paper 06.
- Kinwa-Mzinga, A., Ragasa, C. and Ulimwengu, J. (2012).** Gender Assessment of the Agricultural Sector in the Democratic Republic of Congo, Draft Paper, IFPRI, Washington, D.C.
- Kip-Tot, E. (2011).** Farmers teaching farmers: challenges and opportunities of using volunteer farmers in technology dissemination, Paper presented at the International Conference on Innovations in Extension and Advisory Services, November 15-18, Nairobi, Kenya.
- Kwapong, Olivia A.T.F. (2009).** A comparison of ICT and knowledge usage among female distance learners in endowed and deprived communities in developing countries. *E-Learning & Digital Media*, **6** (2) : 164-174.
- Lalitha, K. and Prasad, G. (2009).** Empowerment of women: DWCRA programme. *Southern Economicst*, **47** (23-24) : 13-16.
- Lyam, J. (2011).** "Overview" in Module 6 on Agricultural Research within an Agricultural Innovation System," *Agricultural Innovation Systems Sourcebook*. Washington, D.C.: World Bank.
- Mamudu Abunga Akudugu, Emelia Guo and Samuel Kwesi Dadzie, (2012).** Adoption of Modern Agricultural Production Technologies by Farm Households in Ghana: What Factors Influence their Decisions? *J. Biology, Agric. & Healthcare*, **2**(3) : 1-13, www.iiste.org.
- Meinzen-Dick, R., Quisumbing, A., Behrman, J., Biermayr-Jenzano, P., Wilde, V., Noordeloos, M., Ragasa, C. and Beintema, N. (2010).** "Engendering agricultural research." IFPRI, Washington, D.C.
- Nagayya, D. and Koteswara Rao, D. (2010).** 'Micro-finance and Support Organisations in the Southern States of India'. *J. Rural Development*, **28** (3) : 285-300.
- Peterman, A., Behrman, J. and Quisumbing, A. (2010).** A review of empirical evidence on gender differences in non-land agricultural inputs, technology, and services in developing countries, Washington, D.C. IFPRI.
- Ragasa, C. (2011).** Improving Gender Responsiveness of Agricultural Extension, in IFPRI. 2011. "Gender in Agricultural Development and Food Security." (Forthcoming). 411-430
- Rajani, K.G. and Vijay Lakshmy, K.V. (2014).** Involvement of SHGs for Women Empowerment in Kerala - A theoretical approach. *Internat. Rev. Res. Emerging Markets & Global Economy (IRREM)*, An Online International Monthly Journal (ISSN: 2311-3200) 2014, **1** (2) : 66-80.
- Sani, B. (2011).** "Increasing the outreach of information to farmers in Nigeria: The Nigeria agricultural question and answer service (NAQAS) approach," paper presented at the International Conference on Innovations in Extension and Advisory Services, November 15-18, Nairobi, Kenya.
- Spielman, D., Ragasa, C. and Rajalahti, R. (2011).** Thematic Note 1: Designing Agricultural Research Linkages within an Agricultural Innovation Systems Framework" in Module 6 on Agricultural Research within an Agricultural Innovation System," *Agricultural Innovation Systems Source book*. Washington, D.C.: World Bank.
- Waters-Bayer, A. (2011).** "Farmer-managed innovation funds drive multi-stakeholder learning processes," paper presented at the International Conference on Innovations in Extension and Advisory Services, November 15-18, Nairobi, Kenya.

■ WEBLIOGRAPHY

Halliday, A. (2010). UN Body Shows a Global Dream to Weavers. India Express.com, July 9. <http://www.indianexpress.com/news/un-body-shows-a-global-dream-to-weavers/644150/>.

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15th Year