

SOCIAL AND COMMUNICATION VARIABLES AND THEIR MEASUREMENT IN CLIMATE CHANGE STUDIES

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ABSTRACT

Climate change is the burning issue at present situation across the world. The word communication is one of the important channel for the transfer of information to public. Updating scientific information is most important for the form women flock because from the research it's proved that these were the primary victims of climate change. With the base the result from the study relives that respondent's fathers and mothers were well educated, the attitude of responds towards higher education is negative. The parents want to marriage their children at the earlier age. This attitude affects the respondents learning behaviour. In all the university campuses internet net and library facilities were available for the students in fledge form. Even though, respondents were not utilizing at the rate of 100 per cent to collect the latest information. In this regard university teachers have to motivate the respondents to utile the facilities in the university campuses to collect the scientific information to update the latest information towards climate change.

Keywords: women research scholars, climate change, communication and variables

INTRODUCTION

Climate change is the most expensive global environmental problem experienced by human community. It is the most serious environmental challenge to the world for economic growth, industrial capitalism, technological development and material prosperity. The scientific investigations indicated that human activities are highly accountable for altering the climate. Agriculture is having reciprocal interaction with climatic conditions; variation in climate like temperature, precipitation and carbon dioxide levels effects drastically the agricultural production and productivity. The changed climatic condition impacts on agriculture being witnessed across the world (Agarwal and Sinha, 1993, Wani et al. 2010). The countries like India are more vulnerable in view of large population depending on agriculture, excessive pressure on natural resources, poor cropping mechanism, limited environmental knowledge, regional differences, unsustainable resource consumption, differential effects on men and women in access and control of natural resources, their low participation in decision-making and lack of scientific technology and input delivery systems. Within a span of one year, the country is experiencing severe droughts and floods in the same region posing serious problems to the farmers, agricultural scientists and extension staff (FAO, 2008 and Vinaya and Shivamurthy, 2015 & 2018).

Climate change causes increased crop losses, food and water insecurity, malnourishment leads to negative health impacts special for women and children (FAO, 2007). Women comprise half of the human resources and they have been identified as key agents of sustainable development (Pardeer, 2010 and Vinaya et al. 2017). In India, women constitute 90.00 per cent of total marginal work force of the country and 78.00 per cent of rural women are engaged in agriculture (DARE/ICAR, 2003). In developing countries like India, women play a key role in the conservation of basic life supporting systems such as land, water, plants, animals and environment, because Indian women have major responsibilities to maintain healthy family as they ensure quality and timely food, water and nutrients. All these women activities are directly associated with the nature and affected by climate change that creates difficult situations for women by amplifying their time for daily activities in fulfilling their family needs (FAO, 2010).

In developed countries, the work performed by women in a society is the indicator of nation's overall progress. However, in developing countries like India, work performed by women in a society is static due to unchanged cultural and traditional norms which restricts women and become more vulnerable to climate change. Women are more sensitive to vulnerable actions posed by climate change in terms of their needs, opportunities and access to resources due to the differences that exist in social settings of varied

cultures and norms, particularly in developing countries (Nirmala and Venkateswarlu, 2012). Women suffered a great extent by malnourishment particularly in low-income group of traditional societies. It's because they are lack of opportunities to access resources in climate change situations (FAO, 2007). In Bangladesh, it was reported that more females died than males during the floods in 1990 due to lack of accessibility for resources to females at the time of emergency (Nelson, 2002). These studies indicated that unchanged cultural patterns in traditional societies restrict the women to access resources at the time of emergency which may be due to lack of awareness, knowledge and concern leading to women becoming more sensitive to climate change.

Considering negative impact of climate change on agriculture, agencies involved in agricultural development have started their efforts to minimize both the negative impacts through their research, education, extension and management. The State Agricultural Universities (SAUs) of India are primarily responsible in growth and development of agriculture through generating and training existing and upcoming human resources for agricultural production, research, education and extension education related activities. To perform works of teaching, research and extension more efficiently as per the demand of present time, it is expected that students, scientists and educationists of SAUs involved, needs to be updated with latest knowledge and awareness about impact of climate change on agriculture for the sustainable development of agriculture.

In the development of Indian agriculture, contribution of women is well accepted by policy makers, planners and academicians. Many experts have suggested that to develop agriculture as whole, there is need to encourage women entrepreneurs, educationists, women researchers, women extension educationists and women agricultural administrators to motivate and contribute significantly to develop the half of woman force involved in the agriculture. It is noticed that as compared to male, women's participation in agricultural education, research and extension activities is low (GFRAS 2012). However, from last two decades, considerable woman research scholars have shown their interest to be a part of agricultural education, research and extension activities. It is high time to give confidence and build up capabilities amongst woman agricultural scholars. To understand the climate change situations the social and communications variables performance a very important role. It is thus, vital to understand the social and communication variables and their measurement in climate change studies.

METHODOLOGY

The present study was undertaken in four State

Agriculture Universities (SAUs) of Gujarat which are located at different zones in Gujarat by covering entire state (Fig.1) viz. Anand Agricultural University (AAU), Anand, situated in the middle of Gujarat, Junagadh Agricultural University (JAU), Junagadh located in western part of Gujarat, Navsari Agricultural University (NAU), Navsari situated in south Gujarat and Sardarkrushinagar Dantiwada Agricultural University (SDAU), Sardarkrushinagar which is situated in north Gujarat. The postgraduate woman research scholars' were selected. A total sample size of 195 postgraduate woman research scholars of which, 80 from (AAU), 45 (NAU), 38 (JAU) and 32 (SDAUs) were selected for the study.

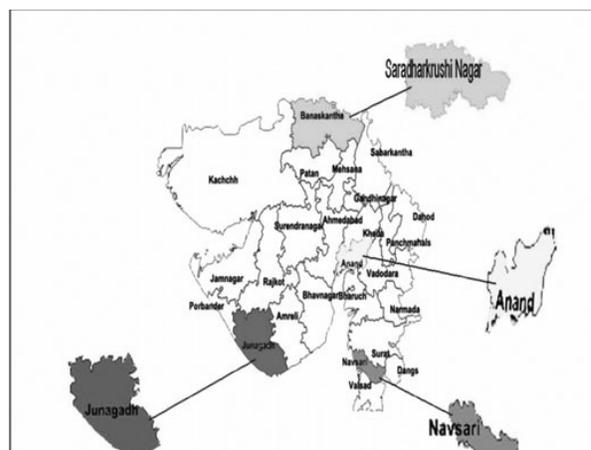


Figure 1: Map showing the location of State Agriculture Universities (SAUs) in Gujarat

Social and communication features a person is important to define the acquaintance of an individual towards a topic. For the study the social and communication variables were selected based on the respondent's eminence. The data was collected from the respondents by using the pre tested interview schedule and the collected data is analysed with the simple statistics.

RESULTS AND DISCUSSION

Social variable their measurement in climate change studies

(1) Involvement in extracurricular activities

Extracurricular activities are important for the mental and physical development of the researchers. They can learn, acquire and adapt new things by exposing themselves indifferent competing situations. The involvement of woman postgraduate researchers in extracurricular activities also indicates her interest in learning aspects other than study. To understand this variable towards climate change issues, the resulted observed from Table 1 that nearly half (50.77 per cent) of the postgraduate woman research scholars studying

in higher agriculture education had poor level of involvement in extracurricular activities, followed by 30.77 per cent, 13.85 per cent and 4.62 per cent of them had average, below average and above average level of involvement in extracurricular activities, respectively. There were enough opportunities for the postgraduate woman research scholars to get involved in extracurricular activities, both at college level and university level. Considering the study load and

research works, postgraduate woman research scholars might not be able to spare more time for extracurricular activities. This might be the reason to have poor and average level of involvement in extracurricular activities amongst the great majority (90.00 per cent) of the postgraduate woman research scholars. These findings are in line with Ajit (2004), Dahake (2009), Dobariya (2011) and Vyas et al. (2017).

Table 1 : Social variable their measurement in climate change studies

n=195

Sr. No.	Social variables	Number	Per cent
A	<i>Involvement in extracurricular activities</i>		
1	Poor (0 to 36 score)	99	50.77
2	Below average (37 to 72 score)	27	13.85
3	Average (73 to 108 score)	60	30.77
4	Above average (109 to 144 score)	09	04.62
5	High (145 to 180 score)	00	00.00
B	<i>Father's education</i>		
1	Illiterate	23	11.79
2	Up to primary school	00	00.00
3	Up to high school	08	04.10
4	Up to higher secondary school	29	14.87
5	Graduate and above	135	69.23
C	<i>Mothers Education</i>		
1	Illiterate	25	12.82
2	Up to primary school	07	03.59
3	Up to high school	12	06.15
4	Up to higher secondary school	51	26.15
5	Graduate and above	100	51.28

(2) Fathers education

The level of education of father plays an important role in shaping their children desirable behavior. In extension we read that home is the fundamental unit of civilization, children learn and adapt behavior from their parents. Usually children take the fathers advice for each and every decision regarding their career, if the father is educated he can guide better. Considering significance of father's education in building children's behavior and their career, this variable was decided to study. The collected data pertaining presented in the Table 1 indicate that majority (69.23per cent) of the postgraduate woman research scholars studying in higher agriculture education had graduate and above graduate level of their fathers' education, followed by nearly 14.87 per cent of them were with up to higher secondary school level

of educated father, 11.79per cent of them were with illiterate father while 4.10 per cent of them were with up to high school level of educated father. It might be due to they realized the importance of the education in their daughters life to shape their career. This finding is in agreement with the findings of Kotadiya (2001) Ajit (2004), Patel (2007) and Dobariya (2011).

(3) Mother's education

Mother is considered as the best and the first teacher of any child and she plays very vital role in developing and inculcation of good tradition and custom among children. Such lessons help children in mounting good habits leading towards growth and development of life. This motivating behavior of mother plays key role on the development of their daughters because generally girl children are very close to

their mother than boy children. Considering this, level of mother's education was studied in relation to climate change issues. It is observed from the Table 1 that slightly more than half (51.28 per cent) of the postgraduate woman research scholars had graduate and above graduate level of their mothers' education, followed by 26.15 per cent of them were with higher secondary school level of mothers' education, 12.82 per cent were with uneducated mothers, 6.15 per cent of them had mothers with up to high school level of education and 3.59 per cent of them had mothers with up to primary level of education. From this table it can be concluded that 77.43 per cent of the postgraduate woman research scholars were with up to higher secondary to graduate and above graduate level of education of their mother. This finding is in agreement with the findings of Patel (2007) and Dobariya (2011).

Communication variables and their measurement in climate change studies

(1) Habit of information collection

Table : 2 Information collection habit and its measurement in climate change studies

n=195

Sr. No	Information collection categories	Number	Per cent
1	Poor (0-20 per cent)	100	51.28
2	Below average (21-40 per cent)	95	48.72
3	Average (41-60 per cent)	00	00.00
4	Good (61-80 per cent)	00	00.00
5	Excellent (81-100 per cent)	00	00.00

(2) Library exposure

Library is the place where scholars can get all the required information for their academic assignments, research studies and feature growth. The library exposure of the respondents

Table 3 : Library exposure and its measurement in climate change studies

n=195

No	Frequency of use	Up to 1 hr		1 to 2 hrs		Above 2 hrs		Total	
		No	%	No	%	No	%	No	%
1	Everyday	52	26.67	29	14.87	06	3.08	87	44.62
2	Twice in a week	13	6.67	26	13.33	04	2.05	43	22.05
3	Once in a week	22	11.28	18	9.23	00	0.00	40	20.51
4	Once fortnight	09	4.62	06	3.08	02	1.03	17	08.72
5	Once in a month	06	3.08	01	0.51	00	0.00	07	03.59
6	Once in 3 month	01	0.51	00	0.00	00	0.00	01	00.51
Total		103	52.82	80	41.03	12	6.15	195	100.00

The result shown in Table 13 indicates that 44.62 per cent of the postgraduate the woman research scholar had everyday exposure of library facility out of which, nearly

It was conceptualized and measured in view of the sources utilized by the respondents and time spent by them to gather useful information to gain more knowledge and understanding of the research topics and their subjects. Habit of information collection was expected to play a key role on the sensitivity the postgraduate woman research scholars towards climate change. To understand this, data were collected based on frequency and type of information sources used by the scholars in terms of text books, reference books, report of seminar symposium, research journals, newspapers, consulting teachers and discussion with others. It was obvious from Table 2 that slightly more than half (51.28 per cent) of the postgraduate woman research scholars studying in higher agriculture education had poor tendency of information collection, followed by 48.72 per cent of them with below average level of tendency of information collection.

It was very surprising and socking to note that postgraduate woman research scholars studying in SAUs of Gujarat had poor and below average level of information collection habit. The reason for poor and below average level of information collection tendency by respondents might be due to their tendency to gather general information on the other than study materials and media like television and daily newspapers which are least information provider sources of information related to agriculture and agricultural research. Hence, there is need to motivate them to develop habit to collect the research related information from text books, reference books, reports of seminars, symposium, conferences, research journals and maintaining good contact with teachers or experts as well as developing habit of discussion with others for the growth of their career and developing themselves as an employable personalities. This finding is in the line with the findings of Mary (2006), Christian (2010) and Dobariya (2011).

was measured in terms of their frequency and duration of use of library. Generally it can be assumed that people having high library exposure have good knowledge of different components that are available in the library.

26.67 per cent, 14.87 per cent and only 3.08 per cent of them exposed it for one, one to two and more than two hours, respectively. It was seen that 22.05 per cent of the

postgraduate woman research scholar had exposure of library facility twice in a week, out of them 13.33, 6.67 and 2.05 per cent of them explored it for one to two hours, up to one hour and above two hours, respectively. The table also shows that 20.51, 08.72, 03.59 and 00.51 per cent of the postgraduate the woman research scholar had tendency to use library facility once in a week, once fortnight, once in a month and once in three month.

From the above table it can be interpreted that majority (66.67 per cent) of the postgraduate the woman research scholar had either every day or twice in a week exposure of library facility. The result indicates that majority of the postgraduate woman research scholars had considered library as an important source to update the information. Library facilities in SAUs of Gujarat have been well equipped with newspapers, thousands of current journals, books, internet facility and useful information in different

forms which might have played role in arousing interest to take regular and frequent visit of library among them. This result was in line with the views expressed by Patel (2004_b), Christian (2010), Dobariya (2011) and Divya (2013).

Internet exposure

The internet exposure refers to the frequency of use of internet facility made by the postgraduate woman research scholars studying in higher agriculture education. Internet has become one of the most powerful media today. Internet is an effective communication tool in everyday life of students, teachers and research workers. It provides updated worldwide information without any delay to the postgraduate woman research scholars. Internet also provides global information pertaining on the climate change problems, climate change research and mitigates technologies invented for it. To get updated information regarding climate change internet was powerful tool to respondents.

Table 4 : Internet exposure and it's measurement in climate change studies

n=195

No	Frequency	Up to 1 hr		1 to 2 hrs		Above 2 hrs		Total	
		No.	%	No.	%	No.	%	No.	%
1	Everyday	64	32.82	45	23.08	43	22.05	152	77.95
2	Twice in a week	14	7.18	13	6.67	00	0.00	27	13.85
3	Once in a week	04	2.05	00	0.00	00	0.00	04	2.05
4	Once fortnight	09	4.62	01	0.51	00	0.00	10	5.13
5	Once in a month	02	1.03	00	0.00	00	0.00	02	1.03
Total		93	47.69	59	30.26	43	22.05	195	100.00

It was observed from Table 14 that slightly more than three fourth (77.95per cent) of the postgraduate woman research scholars studying in higher agriculture education of SAUs of Gujarat had every day exposure of internet, out of which nearly 32.82per cent, 23.08 per cent and 22.05per cent of them used it for up to one, one to two and above two hours in a day, respectively. It was also evident that rest nearly 13.85per cent of the postgraduate woman research scholars had exposure of internet twice in a week. From the table it can conclude that around 92 .00 of the postgraduate woman research scholars studying in SAUs of Gujarat utilized internet facilities regularly for updating their knowledge towards different topics. The high internet exposure among the postgraduate woman research scholars might be accounted for the reason that internet is being considered as an integral part of the life in these days for everyone to acquire and updated global information, research related references, information pertaining to climate change and many other useful information. This result was in line with the findings of Patel (2004_b), Patel (2007), Christian (2010), Dobariya (2011) and Divya (2013).

CONCLUSION

From the results its interpreted that around 70 per cent of the postgraduate woman research scholars studying in higher agriculture education had graduate and above graduate level of their fathers' education in support that slightly more than half (51.28 per cent) of the postgraduate woman research scholars had graduate and above graduate level of their mothers' education. Even though their fathers and mothers were educated the attitude of responds towards higher education is very low. The parents want to marriage their children at the earlier age. This attitude affects the respondents learning behaviour. Along with this (51.28 per cent) of the postgraduate woman research scholars studying in higher agriculture education had poor tendency of information collection, 44.62 per cent of the postgraduate the woman research scholars had everyday exposure of library one to two hrs. The library and internet are the two important sources for the collection of information. Slightly more than three fourth (77.95per cent) of the postgraduate woman research scholars studying in higher agriculture education of SAUs of Gujarat had every day exposure of internet. In all the university campuses internet net and library facilities

were available for the students in fledge form. Even though, respondents were not utilizing at the rate of 100 per cent to collect the latest information. In this regard university teachers has to motivate the respondents to utile the facilities in the university campuses to collect the scientific information to update the latest information towards climate change.

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