

ENHANCEMENT OF WOMEN'S PARTICIPATION IN ENVIRONMENTAL SUSTAINABILITY THROUGH EMPOWERMENT – A PROPOSED MODEL

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Abstract

sustainability is now one of the global challenges. Present study focused on the relation of autonomy in decision making and participation in environmental sustainability as expansion of choice rather decision making one of the major dimension of empowerment. Women empowerment and their participation in Following the result it tried to propose an integrated model that could be implemented through holistic approach of education. 350 women as sample form two islands, namely Sagar and Ghoramara of Sagar block were observed and found significant role of Self Help Groups toward both empowerment and sustainability. The study followed Quasi mixed research design it triangulated with both quantitative and qualitative tools. The findings of the study lead to the newer research problems yet to be studied.

Key words: Empowerment, Environmental sustainability, Autonomy in decision making, Self Help Group, Sagar block

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INTRODUCTION:

‘The activist is not the Man who says the river is dirty. The activist is the Man who cleans up the river ----- Ross Perot’

Women are the root of a family, with different kinds of indoor and outdoor responsibilities they deals environmental-social and economic prospects, especially at Sundarbans itself which is an environmentally degraded remote zone where people leaves with “less peaceful days and more stormy nights”. Today the whole world getting united to deal the crucial environmental problems through mitigating gender inequality and the Millennium Development Goals focusing on women empowerment for sustainable development to share the earth with our future generations. In these perspectives the present study considered autonomy in decision making and participation in environmental sustainability as the major variables to observe in the field of Sundarbans on women. So, to understand and study women participation in environmental sustainability through women empowerment and effective strategies regarding these, the researcher designed it.

1. OBJECTIVES:

The study aimed to find out the relative impact of women’s participation in economic growth, decision making process and environmental activities for maintaining environmental balance and to achieve this broad objective the following specific **objectives** were designed:

- To find out the relationship between participation in environmental behaviours and autonomy in decision making;
- To find out the relationship between participation in environmental behaviours and autonomy in decision making in respect of participation in economic growth;
- To study the relationship between autonomy in decision making with participation in environmental sustainability in respect of qualification;
- To suggest some guideline for enhancing women’s participation in autonomy in decision making and environmental sustainability.

2. HYPOTHESES:

- $H_{0,1}$: No significant relationship exist between Autonomy in decision making ($Auto_{Dc.Mk.}$) and Participation in environmental sustainability ($P_{E.SD.}$) among women of Sagar block
- $H_{0,2}$: No significant relationship existed between Autonomy in decision making ($Auto_{Dc.Mk.}$) and Participation in environmental sustainability ($P_{E.SD.}$) among the working women of the Sagar block.
- $H_{0,3}$: No significant relationship existed between Autonomy in decision making ($Auto_{Dc.Mk.}$) and Participation in environmental sustainability ($P_{E.SD.}$) among the non-working women of the Sagar block.
- $H_{0,4}$: No significant relationship existed between Autonomy in decision making ($Auto_{Dc.Mk.}$) and Participation in environmental sustainability ($P_{E.SD.}$) among women economically independent through Self-help groups at the Sagar block.
- $H_{0,5}$: No significant relationship existed between Autonomy in decision making ($Auto_{Dc.Mk.}$) and Participation in environmental sustainability ($P_{E.SD.}$) among women with different level of educational qualification

3. METHODOLOGY:

Variables: The study contains two main variables, as autonomy in decision making and participation in environmental sustainability. The other attribute variables were Profession (Working, Non-working and Self-help group) and Qualification (Below primary, Upper primary, Secondary, Higher Secondary and Under-graduate or post-graduate).

Sample: The researcher considered her population as women of the Sagar block (consisting two islands, namely Sagar and Ghoramara) of Sundarbandelta. In the present study the researcher considered judgement sampling as sampling technique and the total sample size was 350. Sampling design and distribution were as follows:

Researcher selected 350 samples although the samples were classified into different strata according the needs, as for profession 71 were working, 81 were from Self Help Groups (SHG) who became economically independent with SHGs, 129 were of non-working and 69 were belongs to SHG but not involved in economic growth; in an another way for educational qualifications 102 with below primary level of qualification, 84 with upper primary level of

qualification, 72 has secondary level of qualification, 62 with higher secondary level of qualification and 30 with UG or PG levels of educational qualification.

Research design:As the study followed Quasi mixed research design it triangulated with both quantitative and qualitative tools. Closed type of questionnaire used to asses Autonomy in Decision making and participation in Environmental Sustainability. Besides that literature review, fieldnotes, semi-structural interviews and focus group discussions were also used to collect qualitative data. The scales for quantitative tools were followed different expertise guideline e.g. Autonomy in Decision making according to the dimensions developed and used by Prahlad Kumar and Tinku Paul at their study in Indian Statistical Institute and Environmental Behaviour Scale (EBS) developed by ArchanaSinghal, Pradeep K. Singhal and UrmilaVerma. Moreover, the researcher constructed her Autonomy in Decision Making Scale and Environmental Behaviour Scale on the basis of the pilot study and initial qualitative observations.

5. RESULTS:

1) The relationship between Autonomy in decision making and Participation in environmental sustainability:

Table-1: Correlation between Autonomy in decision making and Participation in environmental sustainability of total sample:

		Auto _{Dc.Mk.}	P _{E.SD.}
Auto _{Dc.Mk.}	Pearson Correlation	1	0.127*
	Sig. (2-tailed)	.	.000
	N	350	350
P _{E.SD.}	Pearson Correlation	0.127*	1
	Sig. (2-tailed)	.000	.
	N	350	350

***Correlation is significant at 0.01 levels**

The 'r' value was significant; therefore the null hypothesis was rejected. So, it could be interpreted that there was significant relationship between autonomy in decision making and participation in environmental sustainability among women of Sagar block.

2)The relationship between Autonomy in decision making and Participation in environmental sustainability in respect to women's participation in economic growth:

Here, in the present study the SHG women considered as women who were participating in the economic growth through the Self-help groups, but through the process of organizing data it also revealed two more groups who were not in the frames of any hypothesis – (i) women neither working nor economically independent through SHG but involved in SHG and (ii) all SHG women (irrespective of economically independent or not). So, finally the following five groups of women observed.

Table: 2.The relationship between Autonomy in decision making and Participation in environmental sustainability in respect to women's participation in economic growth:

Participation in economic growth →	Working women	Non-working women(not participating in the economic growth)	SHG women (participating in the economic growth)	SHG women (not participating in the economic growth)	Total SHG women
'r' values between $Auto_{Dc.Mk.}$ & $P_{E.SD}$ →	-0.069	0.066	0.554**	0.263*	0.423**

**** Significant at 0.01 level, *Significant at 0.05 level**

According to the result, women involved in Self Help Group have significant relationship existed between Autonomy in decision making ($Auto_{Dc.Mk.}$) and Participation in environmental sustainability ($P_{E.SD}$).

3)The relationship between Autonomy in decision making and Participation in environmental sustainability in respect to women's academic qualification:

Table-3: Correlation between Autonomy in decision making and Participation in environmental sustainability among the women with different levels of qualification:

Qualifications →	BP	UP	Sec.	H.S	UG/PG
'r' values between $Auto_{Dc.Mk.}$ & $P_{E.SD}$ →	0.453**	0.171	0.252*	0.086	0.366*

**** Significant at 0.01 level, *Significant at 0.05 level**

So, it could be concluding that there were significant relationship existed between Autonomy in decision making ($Auto_{Dc.Mk.}$) and Participation in environmental sustainability ($P_{E.SD.}$) among women with below primary, secondary and UG/PG levels of academic qualification. But in other two cases no significant correlation were found between women's Participation in environmental behaviour and their autonomy in decision making.

4. FINDINGS OF THE STUDY:

On the basis of the statistical analysis and the interpretations the findings of the present study could be reiterated as below:

- The study revealed **significant relationship** between Autonomy in Decision Making and participation in Environmental Sustainability among women of Sagar block.
- With the more in depth analysis it also found **significant relationship** between Autonomy in Decision Making and participation in Environmental Sustainability among women who were participating in economic growth and became economically self dependent through SHG at Sagar block.
- The relationship between these two variables i.e. Autonomy in Decision Making and participation in Environmental Sustainability were significant in respect to profession and educational qualifications though not in all cases but in many cases as follows:
 - Significant relationship found between Autonomy in Decision Making and participation in Environmental Sustainability among women who were not participating in economic growth but involved in SHG at Sagar block,
 - Significant relationship found between Autonomy in Decision Making and participation in Environmental Sustainability among women who were involved in SHG (irrespective of economically independent or not) at the study area,
 - Significant relationship found between Autonomy in Decision Making and participation in Environmental Sustainability among women with below primary, secondary and UG/PG level of qualifications,

5. DISCUSSION:

After analysing the quantitative and qualitative data the researcher made the interpretations and presenting the discussion according to objectives in the following way:

Objective: 1 - The relationship between participation in environmental behaviours and autonomy in decision making:

Women empowerment and sustainable development both are very much interlinked. *The Addis Ababa Action Agenda of the Third International Conference on Financing for Development that endorsed by 193 UN Member States, on 27th July, 2015 takes step of a foundation for implementing the 2030 Agenda. Women's empowerment found very much visible in this agreement: in their resolution, the Heads of State and Government and High Representatives reaffirm that gender equality, women empowerment and full realisation of their human rights are vital to achieve sustained, inclusive and equitable economic growth. Moreover, their full and equal participation and leadership in the economy as well as in society is the base of sustainable development.* The present study also support this interconnection and it found significant relationship between autonomy in decision making and participation in environmental sustainability among women of Sagar block. So it could be interpreted that women's participation in environmental sustainability might be enhanced by the activities of women empowerment as these are influencing each other.

Objective: 2 - The relationship between participation in environmental behaviours and autonomy in decision making in respect of participation in economic growth:

Although the previous objective found significant relationship between participation in environmental behaviours and autonomy in decision making for total sample, but the in depth study to observe the relationship between these two variables in respect to women's participation in economic growth shows that the relationship was not significant for working and non-working women but it was significant among women who were involved in Self Help Groups (irrespective of economically independent or not) at the Sagar block. More specifically the study finds the significant relationship between autonomy in decision making and participation in environmental behaviour among women who were participating in economic growth and became economically independent through SHG at Sagar block; even more importantly, the significant

relationship between these two variables also found among women who were not participating in economic growth but involved in SHG at Sagar block. It also to remind that the objective 1 and 2 has inferred that women's participation both in economic growth as well as environmental behaviour were higher for SHG women than working or non-working women. Qualitative analysis to look after the reasons behind these findings revealed that the SHGs were more involved in green orientation that brings their motivation toward environment. So, through discussion of this objective it could be interpreted that planed development and monitoring of Self Help Groups might be enabled for participating both of autonomy in decision making and environmental sustainability.

Objective: 3 - The relationship of qualification on autonomy in decision making with participation in environmental sustainability:

The study found significant relationship between autonomy in decision making and participation in environmental sustainability among women with below primary, secondary and UG/PG levels of qualifications which means the relationship may not be significant in all cases but in maximum cases. The previous objectives were found discrete results regarding the impacts of formal educational qualifications that sound doubtful to the role of formal educational system to promote environmental behaviour. An expert working with environment – human dealings at Sagar Island says, presently 'education' works for 'employment' not to motivate pupil to shape up behaviours especially toward environment. This also to remind that the average age of the sample for present study was 37.5 years and environmental education was not introduced at formal education during the time of the present sample group but as in the study the relationship between the mentioned two variables finds significant in maximum cases of qualification so it could be positive determinant for these. Still it needs to study with younger ones.

Objective: 4 - Guidelines for enhancing women's participation in autonomy in decision making and environmental sustainability.

The late Prime Minister Mrs. Indira Gandhi first pointed out that *poverty was the greatest polluter and unless it was eliminated through national and international efforts it was futile to talk about protecting the planet from environmental disaster* at the 1972 Stockholm conference, which was called the 'U.N. Conference on Human environment'. The concept of micro finance

and self-help group was a great effort to eradicate poverty. With considering all these efforts it has been assumed that the economic independence helps women to be empowered and they could raise their voice by holding a decision making part as well as they also would be conscious regarding their surroundings; effectively toward environment. In short, the assumption was economic empowerment could disseminate awareness and encourage women participation in environmental issues.

‘Sagar’ is the biggest island of world heritage Sundarbans, and faces several environmental hazards almost every year. The Government of West Bengal had set up the Sundarban Development Board, Department of Sundarban Affairs etc. to encourage the developments to meet the local needs. Although these departments primarily emphasises to the construction of infrastructures, roads, bridges, culverts for better communication between this remotest land to main land; but it also attempting social forestry division, agriculture extension programme, promoting unconventional sources of energy at streets, jetty, schools, market places, awareness camps through environmental campaigning, Bonbibifestival, celebration of Sunderbans Day etc. to endorse alternative livelihood for planned and scientific environ-economic progress. There were approximately 2,000 (two thousand) Self Help Groups at the Sagar block but still women centred activities hard to find so the researcher not yet capable to collect data regarding women participation in both environmental and economic activities. Most of the environmental activities like ‘Nirmal Gram’ or ‘Anandandhara’ focussing on hygiene and beautification. The discussion of the findings from the present research helps to configure a collaborative model to promote enhancing women’s participation in autonomy in decision making and environmental sustainability through women empowerment activities. And it supports the Objective (24.2) (e) of Agenda 21 of United Nations Environment Programme: Environment for development – *‘to assess, review and implement, where appropriate, curricula and other material, with a view to promoting the dissemination to both men and women of gender-relevant knowledge and valuation of women’s roles through formal and non-formal education, as well as through training institutions, in collaboration with non-government organizations.’*

These initiatives could be figureout with a dynamic diagram, as shown in following fig.1:

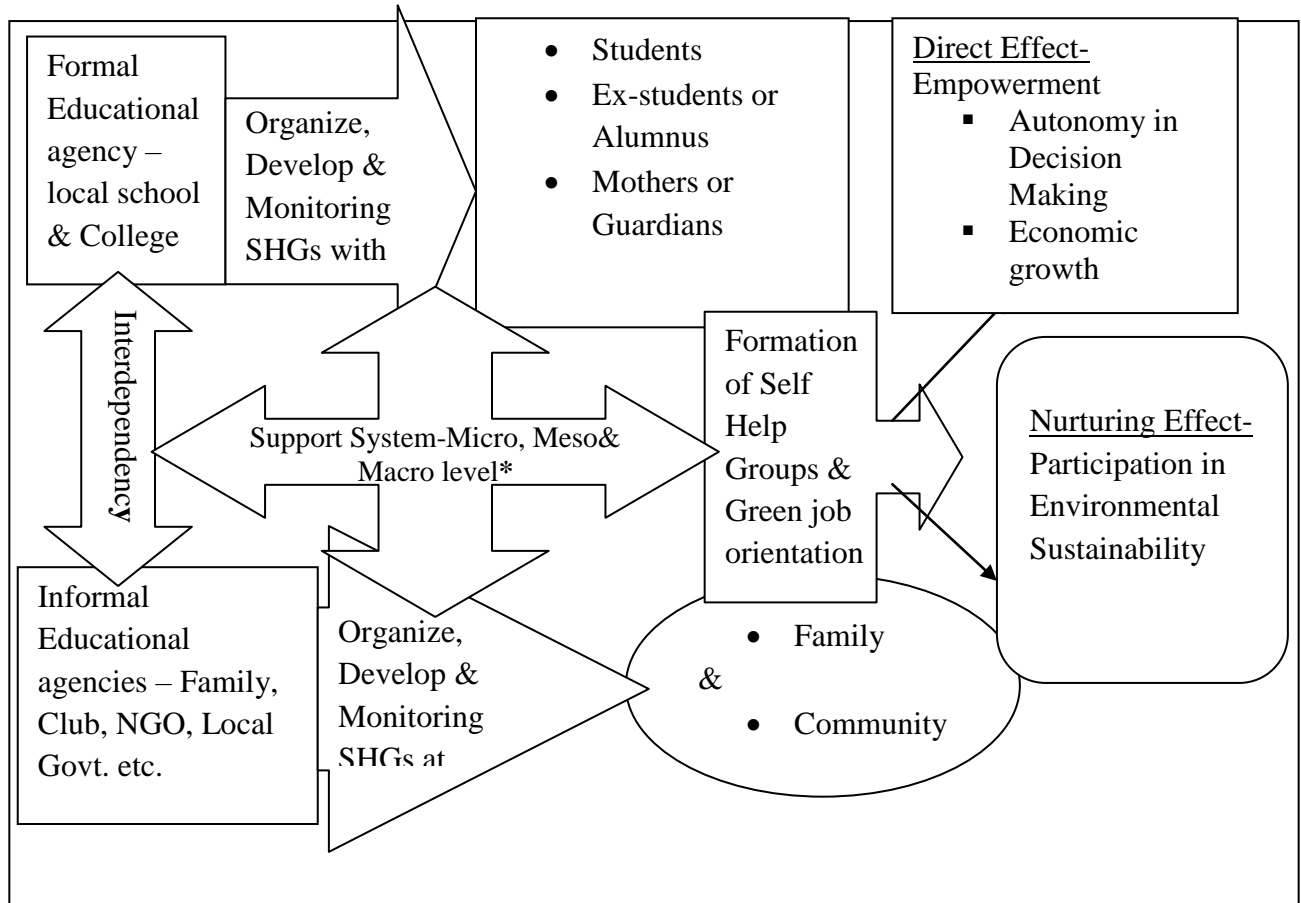


Fig.1: Proposed Empowerment model for environmental sustainability

* The Support system will be as described at fig.2.

*The Support System:

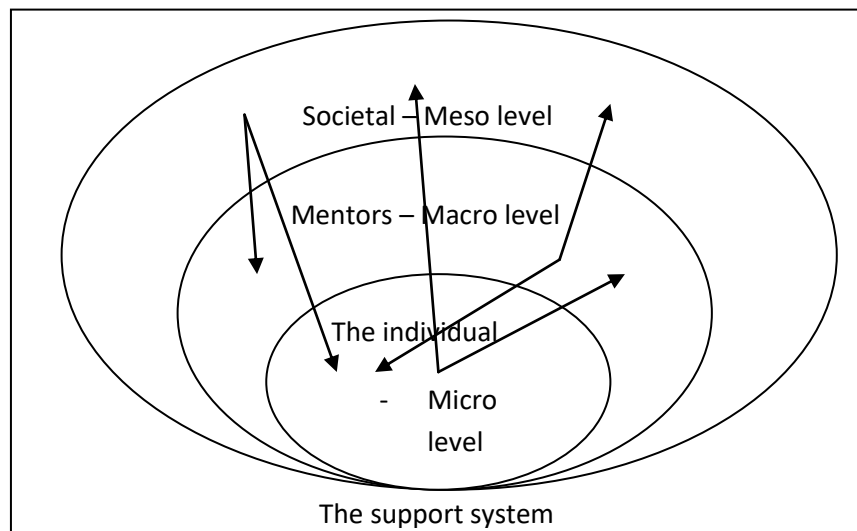


Fig. 2: The Support System- Micro, Macro & Meso level

A study on the history of women education in 19th Century (Shome&Mitra; *Pioneers of Formal Women Education in 19th Century*, Kolkata: Chandramukhi Basu and Kadambini Ganguli) shows the three level support system; the same also applicable at the Empowerment Model for Environmental Sustainability. Here, women would acquire their innate micro support with the great help of macro support from their family and people who were closely related to them and after sometimes they would also gain the meso- level of support from the societal acceptance.

❖ Implementation of the model:

- To implement this model it needs to impart environmental sustainability in the concept of all round development as a broader and integrated sense of education which would be able to inter-connect the different agencies both formal and informal education in an inter-dependable manners.
- The formal agencies of education like local school, college or any other educational institutes would organize, develop and monitor the Self Help Groups with their students, alumnus or guardians for the sake of their participation in economic growth with a hidden objective of green orientation.
- The informal educational agencies like family, club, NGO, local govt., local mass media would also organize, develop and monitor the Self Help Groups with families and community stakeholders to move toward environmental sustainability.
- It needs to develop a liaison of interdependency between formal and informal agencies of education.
- Families and community should be enriched from both ways support system of formal and informal agencies to form SHGs and disseminate sustainable practices.
- A holistic approach needs to inter-linked all the sources of education and environmental sounds from different corners may procreate sustainable lifestyle among community.
- Formal education also needs to treat environmental issues in an inter-disciplinary way with introducing integrated approach. Besides institutional environmental activities it also could develop institution – society bondage through entrepreneurship, in short, every educational higher institute could frame off-campus SHG to encourage self-employment or group business with a nurturing effect of environmental orientation.

- To implement the model it is urgently required to develop interactive holistic bondage of micro-macro-meso support system and integrated community based co-curricular activities with environmental values and objectives.

6. IMPLICATION OF THE STUDY:

The study has its implications in the scope of the follow-up actions of its outputs. The main objective of this study was to find out the impact of vulnerability, profession and qualification on women's participation in autonomy in decision making and environmental sustainability. The findings of the present study revealed some gaps as well as some discrepancy of autonomy in decision making and environmental sustainability. The identified gaps were finding new research problems. Prescribed model in the findings of the study could be implemented to disseminate the impacts of women empowerment for enhancing their participation in environmental sustainability. It also raised the agenda of integrated community based co-curricular activities and interactive school-society bondage to inculcate the community mobilization toward women's participation in economic growth and environmental sustainability.

7. CONCLUSION:

In conclusion, it has to accept that places within Sundarbans definitely varies with their situations, problems and needs. Moreover, the issue of women's participation in autonomy in decision making and environmental sustainability especially at islands like Sagar and Ghoramara are very much field specific issues. The study recommends for special attention of Govt. and policy makers to design programmes for women empowerment with focusing to enhance their participation in environmental sustainability. The study had observed that different administrative departments of Sundarbans development concentrating on infrastructural development that may not be sound enough to environment and there is a clear gap for women-centric environmental activities. The Sundarbans Day had been celebrated on 21st August, 2012 and 11th December both in 2014 & 2015, seminars - campaigning on these days obviously significant to spread up environmental awareness and attitudes but that doesn't ensures to reach to a great percentage of women folk. The W.B. Govt. declared to band plastic carry-bag in Ganga SagarMela 2016, which is unquestionably a brilliant effort to promote public participation

in sustainable development but the same point is also here, that it does not ensure sufficient effort for women's participation in sustainability. The arrangements and monitoring of SHGs might be useful to attain both of women participation in environmental sustainability and autonomy in decision making. Eventually, the speed of the globe back-gearred by the backwardness of women-folk, in this situation the issues regarding women's involvement claims its priority first. Education as a tool to achieve sustainable development could be used with an integrated and holistic approach through its formal and informal agencies, although educational institutions itself could respond as key to mobilize the community enrichment.

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12. REFERENCES:

- [1] Ackermann, F. (1997). *Why Do We Recycle? Markets, Values and Public Policy* (Washington, DC, Island Press).
- [2] Amatya, A. (2015). Focusing on Women and Children in the Sustainable Development Goals. *J Nepal Health Res Counc*; 13(31): I-II.
- [3] Anderson, Jogers, Lindskog&Martinsson (2013). Learning for the future? Effects of Education for Sustainable development (ESD) on Teacher Education students. *Sustainability*, 5, 5135-5152.
- [4] Ajzen, I. &Fishbein, M. (1980). *Understanding Attitudes and Predicting Social Behavior*(Englewood Cliffs, NJ, Prentice Hall).
- [5] Banerjee, A. (2012). Environment, population and human settlements of Sunderban Delta. *Biodiversity and Conservation* , 21 (5), 1289-1307.
- [6] Borman, F. H. &Kellert, S.R. (Ed). (1991). *Ecology, economy, ethics: The broken circle*. New Haven: Yale University Press.
- [7] Bose. S. (2010). *Problems of management of storm surges and human plight: A case study of Sunderbans Region, India*. Storm Surges Congress, Hamburg
- [8] Dua. (1999). Role of Indian women in environmental protection; *University News*, 37 (7)

- [9] Fishbein, M. & Ajzen, I. (1975). *Belief, Attitude, Intention, and Behavior: an introduction to theory and research* (Reading, MA, Addison-Wesley).
- [10] Kollmuss, A. & Agyeman, J. (2010) Mind the Gap: why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, 8(3), 238-26.
- [11] United Nations Development Programme Human Development Reports; June Olatumile (2013). Environmental professional's perception of the usefulness of knowledge and awareness of climate change. *Journal of Educational and Social Research*, 3(3)
- [12] Rishi & Mudaliar (2014) Climate stress, behavioral adaptation and subjective wellbeing in coastal cities; *American Journal of Applied Psychology*, 2 (1) pp.13-21
- [13] Sengupta, M., Pal, S., & Majhi, P. (2013). The Relation among Environmental Action, Self Efficacy and Self Determined Motivation of Trainee Teacher: A Structural Equation Modelling Approach, *Indian Journal of Educational Research*, 2 pp. 170 - 176
- [14] Sengupta, A & Sonwani, D. (2012) Sustainable Development in India with Reference to Agricultural Sector, *International Journal of Emerging Research in Management & Technology*
- [15] Tewari (2009) Environmental literacy and awareness among the women of Mountain Region of Uttaranchal, India: A situational analysis
- [16] Thakur, A. (2012) A Study on Role of Women in Controlling Environmental Pollution at Household Level, *IJCAES: Special issue on basic, applied & social sciences*, 2 pp. 289-292
- 17[UNEP] (1989) *Environmental data report*. 2nd ed. Oxford. Indicators for Sustainable Development: Theory, Method, Applications A Report to the Balaton Group 122
- [UNEP] UNEP (1989). *The state of the environment*. London. United Nations (current). *Statistical yearbook*. New York: UN.
- [18] Yanqin, S. (2010) The Awakening of Women's Environmental Awareness and their Participation in the Environmental Protection Action, *Journal of China Women's University*, 4