Available online at http://www.journalijdr.com

IJDR

International Journal of
DEVELOPMENT RESEARCH

ISSN: 2230-9926

International Journal of Development Research
Vol. 1, Issue, 6, pp.016-018, September, 2011

Full Length Research Article

PREDICTIVE CORRELATES OF THE KNOWLEDGE OF NATURAL HAZARDS AND KNOWLEDGE OF ECO-SYSTEM

Sharmila, V. and *Kulasekara Perumal Pillai, S.

Department of Education, Annamalai University, Tamil Nadu, India

ARTICLE INFO

Article History:
Received 5th April, 2011
Received in revised form
8th May, 2011
Accepted 1st August, 2011
Published online 28th September, 2011

Key words:
Natural Hazards,
Eco-System.

ABSTRACT

In the Present investigation, an attempt has been made to study the Predictive Correlates of the Knowledge of Natural Hazards and Knowledge of Eco-System of College Students in Madurai District, Tamil Nadu, India. It is found that 92.5% have average level of the knowledge of Natural Hazards and 79.5% of them have average level of the knowledge of Eco-System. Also it is found that the gender and locality caused no significant difference in respect of their knowledge of Natural Hazards whereas subject group caused significant difference in respect of their knowledge of Natural Hazards. In respect of the knowledge of Eco-System, the gender, locality and subject group caused significant difference. There is significant and positive relationship between the knowledge of Natural Hazards and knowledge of Eco-System of them.

INTRODUCTION

A natural hazard or geophysical hazards is a threat of an event that will have a negative effect on people or the environment. Many natural hazards are related, e.g. earthquakes can result in tsunamis and drought can lead directly to famine and disease. The term ecosystem refers to the combined physical and biological components of an environment. An ecosystem is generally an area within the natural environment in which physical (abiotic) factors of the environment, such as rocks and soil, function together along with interdependent (biotic) organisms, such as plants and animals, within the same habitat. Ecosystems can be permanent or temporary.

Need for the study

Man is unique in many ways and one of these is his ability to subordinate nature and natural resources. So long as the requirements of his economic activities were small in relation to global stocks of critical natural resources, he could count on improving his welfare. However, his economic activities have increased at an exponential rate during the past several decades with the result that the earth's resource base and life support systems have become vastly depleted. The principal manifestations of these impacts are on the global climate, the intricate web of forests, ecology and diversity of living beings and increased transparency of the earth's atmospheric protective shield to harmful ultra-violet radiation. All these are related directly and indirectly with man's economic activities and with each other. They all have serious implications for his future well-being. Since students are the nation builders of tomorrow and are the vital part of our community, such awareness has to rightly start from here. This is why researcher feels that the knowledge of students at college level, towards natural hazards in large is significant, which will evidently say to what extent they are aware and conscious of the various aspects of the environment and its allied issues or problems. So the investigator wants to study the predictive correlates of the knowledge of Natural Hazards and knowledge of Eco-System.

Objectives of the study

The following are the objectives formulated for the present study. To study,

1. The level of knowledge of Natural Hazards of the college students,
2. The level of knowledge of Eco-System of the college students,
3. The significance of the difference between the sub-samples of them in respect of their knowledge of Natural Hazards,
4. The significance of the difference between the sub-samples of them in respect of their knowledge of Eco-System,

5. The nature of the relationship existing between their knowledge of Natural Hazards and their knowledge of Eco-System.

(iii) Arts and Science group students.

5. There is no significant relationship between Knowledge of Natural Hazards and Knowledge of eco-system.

Table 1. The Levels of Knowledge of Natural Hazards and Knowledge of Eco-System of the Entire sample and its six sub-samples

Variables	Levels	Entire Sample	Male students	Female students	Locality		Subject group	
					Rural	Urban	Arts	Science
Knowledge of Natural Hazards	Low	15 1.3%	12 1.0%	03 0.3%	13 1.1%	02 0.2%	15 1.3%	00 0.0%
	Average	1081 92.5%	481 41.2%	600 51.3%	451 38.6%	630 53.9%	694 59.4%	387 33.1%
	High	72 6.2%	39 3.4%	33 2.8%	38 3.3%	34 2.9%	22 1.9%	50 4.3%
Knowledge of Eco-system	Low	56 4.8%	24 2.1%	32 2.7%	22 1.9%	34 2.9%	45 3.9%	11 0.9%
	Average	929 79.5%	403 34.5%	526 45.0%	426 36.5%	503 43.1%	598 51.2%	331 28.3%
	High	183 15.7%	105 9.0%	78 6.7%	54 4.6%	129 11.0%	88 7.5%	95 8.1%

Table 2. T–test values for the knowledge of natural hazards scores and knowledge of eco-system Scores of the sub-samples

Variables	Sub Samples	N	Mean	S.D	t-value	Significant at 0.5 Level
Knowledge of Natural Hazards	Male students	532	24.97	4.58		
	Female students	636	24.78	4.58	0.69	NS
	Rural area students	502	24.69	4.95		
	Urban area students	666	24.99	4.03	1.11	NS
	Arts group students	731	24.57	4.10		
	Science group students	437	25.37	5.03	2.94	S
Knowledge of Eco-system	Male students	532	32.76	7.36		
	Female students	636	31.69	6.58	2.61	S
	Rural area students	502	31.15	5.94		
	Urban area students	666	32.96	7.55	4.44	S
	Arts group students	731	31.27	6.52		
	Science group students	437	33.66	7.40	5.69	S

(Note: S = Significant; NS = Not Significant)

Table 3. The Zero order Correlation between the Knowledge of Natural Hazards Scores and Knowledge of Eco-System Scores

Pair	d.f	Calculated value of 'r'	Table value of 'r' at 0.05 Level	Remarks
Environmental Knowledge Scores Environmental Ethics Scores	1166	0.069	0.062	+S

(Note: + = Positive; S = Significant)

Hypotheses of the study

1. The level of Knowledge of Natural Hazards of the college students is low.
2. The level of Knowledge of eco-system of the college students is low.
3. There is no significant difference in the environmental knowledge between,
   (i) Male and Female students,
   (ii) Rural and Urban area students,
   (iii) Arts and Science group students.
4. There is significant difference in the knowledge of Eco-System between,
   (i) Male and Female students,
   (ii) Rural and Urban area students,

Knowledge of Natural hazards Test and Knowledge of eco-System Test

Knowledge of Natural Hazards Questionnaire was constructed and validated by the investigator. The Knowledge of Natural Hazards test used in this investigation contains 58 multiple choice items and needs one hour for students to answer. The maximum mark for a question is 1 and the minimum mark is 0. So the respondents can score at the maximum of 58. The Knowledge of Natural Hazards test has constructed validity. Its intrinsic validity was found to be 0.87. The reliability of the test by split-half technique was found to be 0.76. Knowledge of Eco-System Questionnaire was constructed and validated by the investigator. The Knowledge of Eco-System test used in this investigation contains 63 multiple choice items and

needs one hour for students to answer. The maximum mark for a question is 1 and the minimum mark is 0. So the respondents can score at the maximum of 63. The Knowledge of Eco-System test has constructed validity. Its intrinsic validity was found to be 0.89. The reliability of the test by split-half technique was found to be 0.79.

The Sample

Random sampling technique has been used in the selection of the sample and as many as 1168 college students studying in Arts and Science colleges situated in Madurai district, Tamil Nadu, India. There are 2 Government colleges, 18 Aided colleges and 12 self finance colleges in Madurai district, Tamil Nadu, India. Out of these Arts and Science colleges as many as 10 colleges have been chosen. All the available college students studying in each of these selected Arts and Science colleges were chosen as sample. This sample of 1168 college students studying in Arts and Science colleges is found to have the following 6 sub samples.

Male students	: 532
Female students	: 636
Rural area students	: 502
Urban area students	: 666
Arts group students	: 731
Science group students	: 437

Statistical Techniques Employed

The test of significance (t-test) was used in order to find out the significance of the difference between the means of the (a) Knowledge of Natural Hazards scores and (b) Knowledge of Eco-System scores. Pearson's product-moment 'r' was computed between Knowledge of Natural Hazards scores and Knowledge of Eco-System scores.

Important Findings

The following are the important findings of the present investigation:

1. In respect of the entire samples 1.3% of them belong to the low level, 92.5% of them belong to the average level and 6.2% of them belong to the high level of the Knowledge of Natural Hazards. This trend is seen in respect of the subsamples too (vide: Table-1). This finding reveals that out of the entire sample majority of the students are at average levels in the Knowledge of Natural Hazards.
2. In respect of the entire samples 4.8% of them belong to the low level, 79.5% of them belong to the average level and 15.7% of them belong to the high level of the Knowledge of Eco-System. This trend is seen in respect of the subsamples too (vide: Table-1). This finding reveals that out of the entire sample majority of the students are at average levels in the Knowledge of Eco-System.
3. There is no significant difference in the Knowledge of Natural Hazards between the male and female students (vide: Table-2).
4. There is no significant difference in the Knowledge of Natural Hazards between the rural and urban area students (vide: Table-2).
5. There is significant difference in the Knowledge of Natural Hazards between the arts and science group students. Moreover the science group students are found to be better than their arts counterparts in respect of their Knowledge of Natural Hazards (vide: Table-2).
6. There is significant difference in the Knowledge of Eco-System between the male and female students. Moreover the male students are found to be better than their female counterparts in respect of their Knowledge of Eco-System (vide: Table-2).
7. There is significant difference in the Knowledge of Eco-System between the rural and urban area students. Moreover the urban area students are found to be better than their rural counterparts in respect of their Knowledge of Eco-System (vide: Table-2).
8. There is significant difference in the Knowledge of Eco-System between the arts and science group students. Moreover the science group students are found to be better than their arts counterparts in respect of their Knowledge of Eco-System (vide: Table-2).
9. There is significant and positive relationship between the Knowledge of Natural Hazards and Knowledge of Eco-System of the college students (vide: Table-3).

Conclusion

The present investigation is a very unique study conducted in a developing country like India to study the Knowledge of Natural Hazards and Knowledge of Eco-System. The study has revealed that the majority of the college students have average level of the Knowledge of Natural Hazards and Knowledge of Eco-System.

REFERENCES

1. John A. Cross, (1997). Natural Hazards and Disaster Information on the Internet, Journal of Geography, 96: 6.
2. Mahmood Hosseini, Yasamin O. Izadkhah, (2006). Earthquake Disaster Risk Management Planning In Schools, A Journal of Disaster Prevention and Management, 15: 4.
3. Naga subramani, P.C. & Kulasekara Perumal Pillai S (2010). A Study on Environmental Knowledge of B.Ed. Trainees, A Journal of New Horizons in Educational Research, 2(1).
4. Siriganaya & Prapasri, (1980). Class Experiment in a Closed Eco-System, Journal of Science and Mathematics Education in Southeast Asia, 3: 2.
5. Odum, EP., Fundamentals of Ecology, Third Edition, Saunders New York, 1971.
6. WWW.learning.gov.ab.ca
7. WWW.heldref.org.journal
8. WWW.scholar.lit.vt.edu.