

# A Study on the Present Situation of Disaster Education in Western Yunnan

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**Abstract**—Based on the present situation of carrying out disaster education in Western Yunnan, this paper adopts the form of questionnaire and takes the students and teachers in Western Yunnan as research objects to probe into the current situation of implementing disaster education from the perspectives of disaster experience, disaster education and the demand for disaster education. The survey results show that although disaster education has been paid attention to, most of them only have a relatively narrow coverage in the implementation process. We should focus on school education to establish a systematic disaster prevention and mitigation education system.

**Keywords**—Disaster education; Education status quo; Education requirements; Education system

## I. INTRODUCTION

With the rapid change of the global natural environment and the rapid expansion of the population, natural disasters and man-made disasters frequently occur, which seriously threatens the survival and development of human society. Disaster prevention and mitigation becomes a common mission of mankind and a new topic of national education.

In the region of Western Yunnan, the natural geographical environment is special. The Mountain Hengduan and Ailao are lined up from north to south. There are many seismic zones, various climate belts are staggered, the vertical climate is obvious, and the geographical differences are great. Drought, waterlog, landslides, mudslides, floods, low temperature and frost occur frequently. The disaster losses are enormous, which not only threatens people's life and property safety, but also seriously hinders the development of the regional economy.

Disaster education refers to an education system which is based on disaster prevention safety, geography, education, psychology and other disciplinary knowledge theories, and sets the cultivation of people's disaster awareness and disaster prevention literacy as the core. The purpose is to enable the educated to master the systematic knowledge of disaster prevention and mitigation and the skills of disaster relief and disaster preparedness, take an objective view of the disaster and its development law, carry out corresponding disaster prevention, mitigation, emergency response, post-disaster reconstruction and other activities correctly, and further to cultivate the national disaster prevention and mitigation literacy. Disaster education has the characteristics of practicality,

simulation and experience, and has far-reaching significance for the stability and development of society [1].

As the main place for carrying out disaster prevention education, schools should give full play to their educational function, improve the students' disaster prevention literacy and disaster mitigation awareness through the reasonable setting of curriculum system of disaster prevention education, and further spread to families and society, so as to improve the citizens' disaster prevention and mitigation literacy.

## II. PRESENT SITUATION OF DISASTER PREVENTION EDUCATION AT HOME AND ABROAD

In 1987, the 42nd Session of the General Assembly of the United Nations decided to define the last decade of the twentieth century beginning in 1990 as the "International natural disaster reduction" decade [2]. Under the unified coordination of the United Nations, countries have adopted various disaster prevention and mitigation activities to promote the disaster prevention and mitigation capabilities of each country.

At the same time, countries have set up a disaster education system according to their national conditions. Are You Ready and Distribution Map of Natural Disasters in Australia [3] compiled and printed by Australian Geography Teachers Association, and Disaster Prevention and Public Education in America[4] prepared by the Federal Emergency Management Agency are regarded as the popular science books for public education. However, Japan, as a country with high natural disasters, has started to receive disaster training from kindergarten.

China set up the comprehensive research group on natural disasters in 1989 to master the natural disaster situation in our country comprehensively and formulate comprehensive disaster mitigation countermeasures. At present, more than 20 monographs and over 100 papers have been published. Disaster prevention, disaster mitigation demonstration and other comprehensive disaster education researches have been carried out. After the Wenchuan earthquake in 2008, our country takes May 12 every year as the national day for disaster prevention and mitigation [5], and explicitly integrates the disaster education into the national education system. With the establishment of batches of disaster mitigation research institutions such as the "Institute of Disaster Prevention Science and Technology" of China Earthquake Administration,

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the “Institute of Disaster Prevention and Relief” of Tongji University in Shanghai, and the “Key Laboratory of Environmental Change and Natural Disaster, MOE” of the Ministry of Education, the disaster prevention and mitigation education in our country has been popularized, nationalized and modernized.

### III. THE RESEARCH OF BACKGROUND AND METHOD OF CARRYING OUT DISASTER EDUCATION IN WESTERN YUNNAN

Western Yunnan region is a habitation of many ethnic minorities, where the citizens have low disaster consciousness and low disaster prevention literacy. Although relevant departments of the State have carried out large scale propaganda and education on disaster knowledge, considering the special nature of natural environment and human environment in Western Yunnan, people lack the knowledge of disaster prevention and mitigation, the popularization degree of disaster education is low, and the ability of bearing disaster is low. Therefore, it is a long-term and arduous task to strengthen disaster education and raise all people’s awareness of disaster prevention and mitigation.

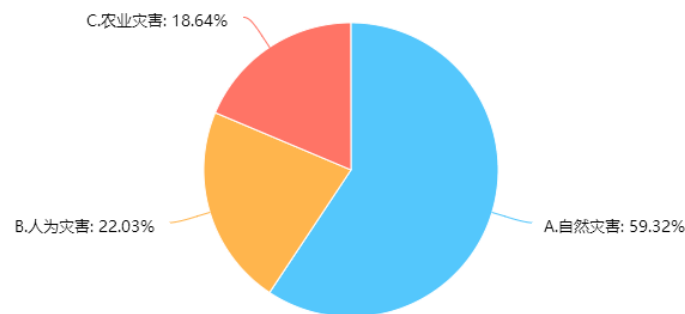


Fig. 1. Distribution of disasters experience

Western Yunnan is adjacent to the South Asian Subcontinent and the Indo-China Peninsula and close to the Bay of Bengal and the South China Sea. It is the world’s most famous tropical monsoon climate zone. Due to the complexity of the terrain, the plenty of high mountains, steep slopes, concentrated rainfall, and the complexity and diversity of the climate, the natural disasters such as the droughts and mudslides occur frequently. Therefore, 59.32% of the respondents mainly experienced the natural disasters.

Agricultural disasters refer to the disasters that endanger crop production due to the suffering of extreme weather conditions by crop production such as cold waves, frost, and drought. Western Yunnan has nearly 1 million mu of fertile land with a higher degree of ripening, the climate is moderate, rainfall is moderate, the light is sufficient, the frost-free period is long, and the agricultural development is better. Thence, it is known as the “Grand Barn in Western Yunnan”. Therefore, although the agricultural disaster is only a weather phenomenon or process in meteorology and its disaster level is generally low, it has a wide impact range, has the characteristics of group-occurring nature, and has far-reaching influence on the daily life of the masses. Nearly one-fifth of the respondents had experienced agricultural disasters.

In this paper, the form of questionnaire was used to distribute electronic questionnaires to Lijiang, Chuxiong, Dali, Baoshan, Dehong, Nujiang, Diqing, Lincang and other places in Western Yunnan. A total of 236 people participated in the survey and the recovery rate of the questionnaire was 100%. At the same time, face-to-face interview was also adopted to conduct in-depth interviews with 50 teachers and students, which mainly focused on the recognition of disaster education and the implementation dilemma of disaster education.

### IV. SURVEYS AND ANALYSIS ON THE CONDUCTION OF DISASTER EDUCATION IN WESTERN YUNNAN

#### A. Survey and analysis of disaster experience

In order to have a deeper understanding of the disaster experience of the respondents, this paper sets options from three aspects including natural disasters, man-made disasters and agricultural disasters and the survey results are as follows:

Due to the continuous development of economy and society, people’s living standard is increasingly improved day by day. People communicate with each other more frequently and the car ownership of motor vehicles is increasing year by year. Therefore, traffic accidents, fire, drowning, and the intentional injury cases also have a certain influence on people’s life and 22% of the respondents had experienced man-made injury.

#### B. Analysis of disaster education

Since ancient times, disasters have been associated with human life. With the acceleration of the social process of human beings, the variety of disasters is increasing, the frequency of occurrence is becoming more and more frequent, the losses caused to the economy and society are becoming more and more serious, and the disasters seriously threaten the survival and development of human beings. Disaster prevention and mitigation has become a major problem for the survival and development of all countries in the world. The focus of disaster prevention and mitigation is to carry out disaster education and enhance national people’s disaster prevention knowledge.

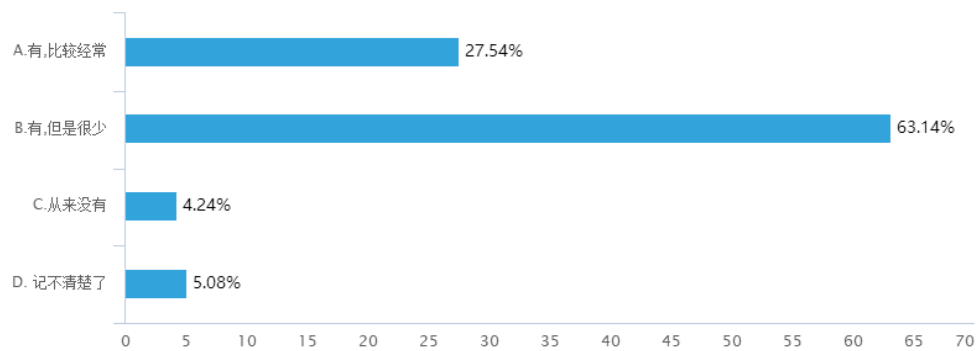


Fig. 2. Situation of receiving disaster prevention education

In view of the disaster prevention education received by the respondents, 63.14% of the respondents have received disaster prevention education during their educational career, but they lacked systematicness and continuity. Although other respondents had accepted the disaster education, most of the disaster education was just limited to the recognition in form. During the course of implementation, the educational task was generally completed temporarily and suddenly, which did not really reach the goal of disaster prevention and control.

Because the signs of disasters, the mechanism of disasters, the characteristics of disasters, the hazards and the consequences are different, the response knowledge of disaster prevention and mitigation, the psychological reaction mechanism and behavioral skills of the affected people are different. Therefore, the implementation process of disaster education must be systematic, specialized and refined, so that the disaster prevention information, disaster mitigation skills and normative behavior can be effectively imparted to the public.

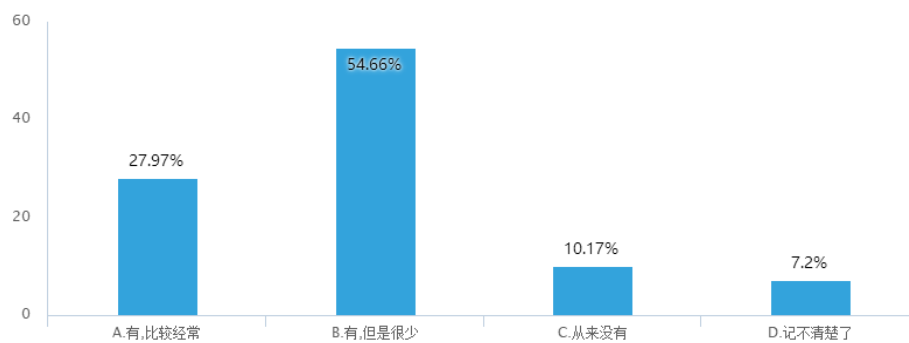


Fig. 3. Safety drills of earthquake prevention and fire prevention carried out by schools in recent two years

In the course of the survey, nearly half (54.66%) of the respondents had participated in the earthquake prevention and fire prevention drills organized by schools in recent two years. However, these activities are usually carried out on days such as the day for disaster prevention and mitigation and the fire safety day to conduct sudden earthquake prevention and fire prevention drills. It has not formed systematic disaster prevention and control system, and the effect of safety drills is not ideal.

### C. Analysis of the demand for disaster education

The 2008 Wenchuan earthquake was highly destructive and affected a large number of areas. The cumulative number of casualties was as high as 46,000, resulting in direct economic loss of RMB 845.2 billion. Behind the tragic data is the lack of

disaster education in our country. After the earthquake, people have low awareness of earthquake disaster mitigation and lack of systematic disaster response skills, resulting in the expansion of aftershock casualties and losses.

After the Wenchuan earthquake, many scholars have appealed to integrate disaster education and research into the sustainable development strategy system and formulate the "The 12th Five-Year Plan for National Disaster Prevention and Mitigation". The administrative department of education affirmed the importance and urgency of disaster education, and the public opinion also paid great attention and expectation to it. As the main place of disaster education, schools have the necessity to establish systematic disaster education system to fundamentally improve the national people's disaster prevention and mitigation literacy.

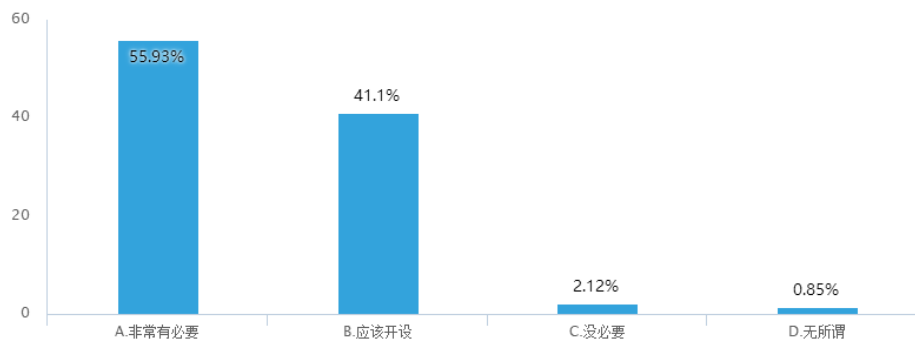


Fig. 4. Necessity for carrying out disaster education

From an analysis of the necessity for disaster education for the mass, it can be seen that up to 97.03% of the respondents believed that there is a need for setting up disaster education courses in schools. People have a high enthusiasm for disaster education. It is expected to establish a disaster education system integrated by schools, families and society so as to enable the educated to master certain knowledge of disaster prevention and mitigation and the skills of disaster relief and

disaster preparedness, effectively carry out post-disaster psychological dredging, take an objective view of the development law of disaster, and correctly conduct corresponding disaster prevention, disaster mitigation, disaster preparedness and disaster relief activities, so as to achieve the purpose of disaster prevention and mitigation, and minimize the losses in the event of disasters.

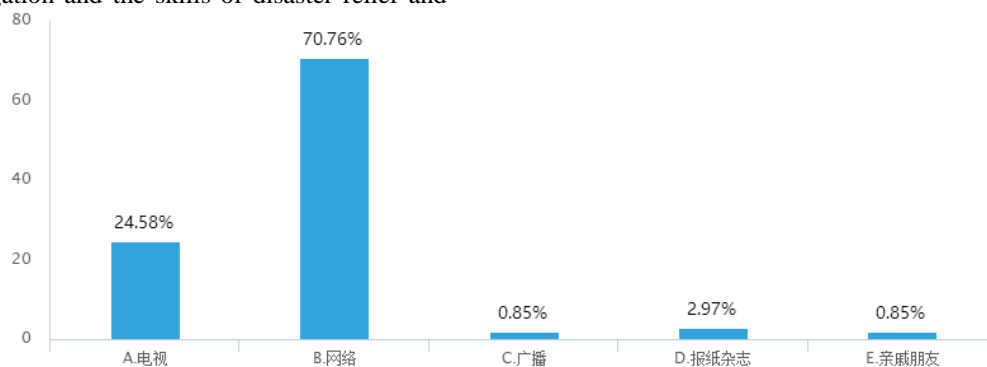


Fig. 5. Main ways for acquiring disaster information

With the development of information age, people can gain access to disaster information through more and more diverse means, and network becomes an important way to know the disaster information (accounting for 70.76%). In combination with the practical and simulation characteristics of disaster education, people should make full use of tools such as network-based platform and artificial intelligence to develop systematic, scientific and integrated simulation training for disaster simulation in the course of disaster education, which can give full play to the role of disaster education.

## V. CONCLUSION

Seen from the results of this survey, disaster education has been paid attention to by the national education department, but there is a lack of unified planning for the disaster education system in the course of implementation and most of them are embodied in the emergency and sudden education models such as “one-day education” and “concentrated education”. Disaster education has not been set up in combination with local practice, lacks communication and cooperation with social

groups, and has problems such as formalized education model, narrow coverage and so on.

The United States, Japan and other developed countries have realized from the long-term disaster prevention and mitigation practices that disaster education is the best disaster prevention and mitigation and disaster relief assistance. They conducted systematic and normative disaster education early in the national education system, carried out disaster education research, and formed a perfect disaster education system. As a country with multiple natural disasters, the disaster prevention concept of Japan is “Self-help, So-help, and Public assistance” [6]. Disaster prevention and mitigation first relies on one, then relies on people, and finally relies on the government. It can be seen that improving the citizens’ disaster prevention and mitigation literacy is the fundamental purpose of disaster education.

Disaster education is different from the general knowledge education, and has the characteristics of practicality, simulation and systematicness. According to the situation of this survey, aiming at the current situation of disaster education in Western Yunnan, the following suggestions are put forward:

School is the main place for disaster prevention and mitigation. It should establish systematic disaster education system, integrate disaster prevention and mitigation educations into the teaching system of the general education, set up a long-term plan for disaster education in different stages and grades, and enhance the practicality of disaster education.

Set up an integrated disaster education system of "School-Family-Community", introduce social forces into the classroom, employ the survivors or rescue workers experiencing disasters to act as the "visiting professor" of the school's disaster education so as to expand the knowledge scope of classroom education, and at the same time promote the results of classroom education to the family and society and realize the nationalization of disaster education.

Set up a model of cycle learning for disaster prevention and mitigation, set up disaster education courses from preschool education, establish an infant-primary school-middle school-high school-university integrated disaster education system, set up different education courses according to the different ages and aiming at the contents of the same disaster prevention, and carry out circular reciprocation to realize the universalness and popularization of the disaster education.

Establish the school disaster educational simulation laboratory, fully apply modern multimedia technology means, and simulate the earthquake, mudflow, fire, traffic accident and

so on, to improve the student's emergency response mechanism.

Pay attention to the effects brought by the low-grade agricultural disasters such as droughts, low temperature and frost, promote agricultural disaster insurance, and carry out good economic recovery and construction in the aftermath of disasters and psychological dredging of disaster-stricken people.

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