

**16th INTERNATIONAL MULTIDISCIPLINARY
SCIENTIFIC GEOCONFERENCE
S G E M 2 0 1 6**



**ECOLOGY, ECONOMICS, EDUCATION AND LEGISLATION
CONFERENCE PROCEEDINGS
VOLUME II**

ECOLOGY AND ENVIRONMENTAL PROTECTION

**30 June – 6 July, 2016
Albena, Bulgaria**

DISCLAIMER

This book contains abstracts and complete papers approved by the Conference Review Committee. Authors are responsible for the content and accuracy.

Opinions expressed may not necessarily reflect the position of the International Scientific Council of SGEM.

Information in the SGEM 2016 Conference Proceedings is subject to change without notice. No part of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of the International Scientific Council of SGEM.

Copyright © SGEM2016

All Rights Reserved by the International Multidisciplinary Scientific GeoConferences SGEM
Published by STEP92 Technology Ltd., 51 "Alexander Malinov" Blvd., 1712 Sofia, Bulgaria
Total print: 5000

ISBN 978-619-7105-66-7

ISSN 1314-2704

DOI: 10.5593/sgem2016B52

**INTERNATIONAL MULTIDISCIPLINARY SCIENTIFIC GEOCONFERENCE SGEM
Secretariat Bureau**

Phone: +359 2 4051 841

Fax: +359 2 4051 865

E-mails: sgem@sgem.org | sgem@stef92.com

URL: www.sgem.org

ORGANIZERS AND SCIENTIFIC PARTNERS

- BULGARIAN ACADEMY OF SCIENCES
- ACADEMY OF SCIENCES OF THE CZECH REPUBLIC
- LATVIAN ACADEMY OF SCIENCES
- POLISH ACADEMY OF SCIENCES
- RUSSIAN ACADEMY OF SCIENCES
- SERBIAN ACADEMY OF SCIENCES AND ARTS
- SLOVAK ACADEMY OF SCIENCES
- NATIONAL ACADEMY OF SCIENCES OF UKRAINE
- INSTITUTE OF WATER PROBLEM AND HYDROPOWER OF NAS KR
- NATIONAL ACADEMY OF SCIENCES OF ARMENIA
- SCIENCE COUNCIL OF JAPAN
- THE WORLD ACADEMY OF SCIENCES (TWAS)
- EUROPEAN ACADEMY OF SCIENCES, ARTS AND LETTERS
- ACADEMY OF SCIENCES OF MOLDOVA
- MONTENEGRIN ACADEMY OF SCIENCES AND ARTS
- CROATIAN ACADEMY OF SCIENCES AND ARTS, CROATIA
- GEORGIAN NATIONAL ACADEMY OF SCIENCES
- ACADEMY OF FINE ARTS AND DESIGN IN BRATISLAVA
- TURKISH ACADEMY OF SCIENCES
- BULGARIAN INDUSTRIAL ASSOCIATION
- BULGARIAN MINISTRY OF ENVIRONMENT AND WATER

HONORED ORGANIZER



BULGARIAN ACADEMY OF SCIENCES

EXCLUSIVE SUPPORTING PARTNER



INTERNATIONAL SCIENTIFIC COMMITTEE **Ecology, Economics, Education and Legislation**

- PROF. DR. L. LAVRYSEN, BELGIUM
- PROF. DR. JÜRGEN H. BREUSTE, AUSTRIA
- PROF. LIDIA CRISTEA, ROMANIA

92. RISKS AND EFFECTS OF AIR POLLUTION IN THE CONTEXT OF THE EXCESSIVE INDUSTRIALIZATION, Prof. Ph. D Floarea Nicolae, Prof. Ph.D Ion Nicolae, Assoc. Prof. Ph.D. Marian Nicolae, Lecturer Prof. Ph. D. Dana Gabriela Constantinescu, Assistant , Bioterra University of Bucharest, Romania711

93. SCREENING ORGANIC COMPOUNDS IN WET WIPES BY SOLID-PHASE MICROEXTRACTION, Dr. Mereke Alimzhanova, Saltanat Muratova, Gulyaim Sagyndykova, Kazhybek Ashimuly, Dr. Michael Nauryzbayev, Center of Physical Chemical Methods of Research and Analysis, al-Farabi KazNU, Kazakhstan..... 719

94. SELECTING ENVIRONMENTAL MARKER PARAMETERS FOR THE REFERENCE BOOK ON BEST AVAILABLE TECHNIQUES OF CEMENT PRODUCTION, Prof. Sivkov S., Prof. Dr. Sc. Potapova E., D. Mendeleyev University of Chemical technology of Russia, Russia727

95. SOCIAL WELL-BEING OF THE POPULATION IN EMERGENCY RISK SITUATIONS, PhD student Assem Omarova, professor Gulnapis Abdikerova, professor Mancia Sadyrova, al-Faraby Kazakh National University, Kazakhstan735

96. SOME CORROSION PROBLEMS IN MUNICIPAL WASTE WATER COLLECTION SYSTEM OF GALATI, Ph.D. Doinita Pirvu-Neagu, Prof. Lidia Benea, Ph.D. Dumitrascu Valentin Marian, Ph.D. Laurentiu Mardare, Dunarea de Jos University of Galati, Romania.....743

97. STUDIES ON IMPROVING THE STRUCTURAL BEHAVIOUR OF STEEL LATTICE TOWERS FOR HIGH VOLTAGE OVERHEAD POWER LINES, Prof. Dr. Eng. Cristina Mihaela Campian, Eng. Vincentiu Cristian Iuhos, Phd. Stud., Technical University of Cluj-Napoca, Romania751

98. STUDY OF FREE SURFACE FLOW IN SEWAGE PIPES, Assist. Prof. Dr. Marius Iliescu, Assoc. Prof. Dr. Mihnea Sandu, Assoc. Prof. Dr. Iinca Nastase, Assoc Prof. Dr. Florin Bode, Lecturer Dr. Elena Iatan, Technical University of Civil Engineering Bucharest Department of Thermo-Hydraulic and Atmosphere Protection Systems, Romania759

99. STUDY OF STORAGE PROTEINS IN ENDOSPERM AND ANTIOXIDANT ENZYMES ACTIVITY OF SOFT WHEAT AND BRACHYPODIUM DISTACHYON INFECTED BY PUCCINIA RECONDITA, Omirbekova N., Zhussupova A., Askanbayeva B., Egiztayeva B., Zhunusbayeva Zh., al-Faraby Kazakh National University, Kazakhstan767

100. STUDY ON THE DETECTION AND IDENTIFICATION OF GENETICALLY MODIFIED SOYA FOOD OR FEED MARKETED IN ROMANIA, Rosculete Elena, Rosculete Catalin Aurelian, Teleanu Elena, University Of Craiova, Romania.....775

SOCIAL WELL-BEING OF THE POPULATION IN EMERGENCY RISK SITUATIONS

A.Omarova
Abdikerova G.
Sadyrova M.

Al-Farabi Kazakh National University, **Kazakhstan**

ABSTRACT

In modern conditions various forms of emergency risk situations could arise. They build serious forms of stress generating a negative impact on social behavior of the population. The stress originated under the influence of emergency risk situations could generate a lot of psychological and social problems. The most important thing is timely to help people and not to bring it to a critical situation. It is important to ensure them with the feeling of protection on the side of public authorities, business structures and non-governmental organizations.

The social well-being of the population has become an important indicator of social well-being of the country. Modernization of the social system, the actualization of subjective positions of individuals leading to the increase of social self-esteem of people on the one hand, made them psychologically sensitive and vulnerable on the another hand. Under these conditions the social solidarity of a society reinforces the civic position of people and their faith in the future.

Social well-being of the population is a subjective measurement indicator. To build a strategy of social behavior focused on the activity, consciousness and social mutual assistance becomes an urgent problem today.

Keywords: social well-being, emergency risk situation, the strategy of behavior, social mutual assistance, social solidarity, measurement indicators.

INTRODUCTION

1.1 The problem setting and study trend

The study of the influence of risks on the social behavior of people in different regions and control their behavior is an important direction in the performance of public and governmental structures of various countries.

The relevance of the study of the emergency risk situations as a factor of social well-being of Kazakhstan population is caused by:

- first, the location of Kazakhstan in the areas of permanent risk arising under the influence of natural and man-caused disasters (earthquakes, floods, melting of snow, chemical emissions).

Ecological effects of nuclear tests in Semipalatinsk test site, the rocket launched from the Baikonur space center and turned it into an area of a toxic landfill considerably affect negatively on social and economic development of Kazakhstan.

- second, the need of choice of the behavior strategy of different social groups in the emergency risk situations;

- third, the need for a detailed sociological analysis and evaluation of social well-being of the population in risk zones.

- fourth, new types of social risks and new forms and methods of their solutions appearing in the context of global change;

- Fifth, the analysis of emergency risk situations in the regional perspective requires the further study.

The consideration of emergency risk situations as a factor of social well-being of the population at the macro, meso and micro level has a theoretical and practical value. To measure the level of social well-being of the population in emergency situations must use not only objective but also subjective indicators.

The aim of the study: to study the social wellbeing of the population in emergency situations and to evaluate the population potentials for further development.

The study objectives:

- to study the emergency risk situations;

- to analyze the current manifestation trends of forms of emergency risk situations.

- to show the main positive and negative factors, and behavior models of different social groups in risk situations on the basis of analysis of sociological research data

- to evaluate the level of ecological consciousness of the population and the perspectives for further development.

1.2 The study of the Problem

The term "social well-being" was fixed in the sociological literature in the 1970s. Similar terms – "subjective well-being", "perception of quality of life" are used in American socio- psychological and economic studies (Andrews, 1983; Diener Ed et al. 2003).

In domestic psychology, the issue of interaction of a man and the environmental elements is reviewed in two directions: 1) the study of ecological consciousness (Jasava, 2000); 2) the study of psychopathological consequences of extremal situations of natural and man-made character (Aleksandrovskii, 1991; Lebedov, (2001).

In studies of L.A. Belyaeva (2001), L.A. Gordon (1994), L.V. Badmaev and G. Gunn (2011) the social well-being of the population is analyzed from the perspective of life strategies, adaptation processes and the development of social infrastructure. There is a tendency to determine a well-being as a self-evaluation process of his/her social status developed under the influence of a number of circumstances of his/her life (A.M. Chuguenko, E.M. Bobkov, 2013).

In Western psychology similar studies are conducted in the framework of behavioral geography, psychology of disasters. Psychological effects of disasters are considered in terms of post-traumatic stress. The specific risk factors are thoroughly studied on the basis of which one can mark appropriate risk groups of those people whose psychological safety may suffer the most. In Western social psychology, and sociology the works of M. Scheier, Carver (1993) Waterman, AS, Schwartz, S. Zamboanga, BL, Ravert, RD, Williams, MK, Agoha, VB, et al. (2010) who studied the interconnection of social well-being with identification and expectations are of paramount importance for our study.

In foreign studies such issues are considered as well: the role of reliable information about the threat in increasing degree of people readiness to disaster (Schmitt, Wiedemann, 2002), the perception and evaluation of risks associated with hazardous geophysical phenomena in those, who lives in a high-risk zone of natural disasters. A number of works are devoted to the study of the specificity of the reactions depending on the character of disaster (McMillen, Fische, Smith, 1997).

Polemic perspective in the analysis of the concept of "Social well-being" and indicators of risk identification

Social well-being as a concept in scientific literature is defined as the objective-subjective characteristics that reflects the level of satisfaction of social needs, as well as positions in comparison with other individuals and social groups.

Since this concept is characterized by both objective and subjective indicators of an individual's status in the social environment, there are different visions and interpretations on the given category in social science. V.M. Chugunenko and E.M. Bobkova (2012) define the social wellbeing as integrating indicator of social status. So the social well-being appears to be a psychosocial instrument for regulating social behavior possessing both inspiring and deterrent potential. In this perspective, the social well-being of the population is provided by emotional and comfortable existence of an individual (usual conditions of life, work and leisure, safety and confidence in the future).

To understand effectively the emotional sphere of human life and emotions and emotional basis of relations, to create conditions for inner satisfaction as well as to extend rights and possibilities of citizens are also mostly considered in the study. The people, caught in extreme situations, experience a number of stages in their psychological conditions. We could highlight the following stages of human social well-being in these situations:

1. The initial stage is characterized by sharp emotional shock which is characterized by a general physic stress with a predominance of feeling of despair and fear with sensitive perception.

2. The next stage comes psychophysiological demobilization, a significant deterioration of well-being and psycho-emotional state with a predominance of feelings of confusion, panic reactions, lowering the moral standards of behavior, decrease of the effective level of performance and motivation to it, depressive tendencies. At this stage, the psychological condition of a man is more dependent on him, that is, on his personal characteristics.

3. The third stage is characterized by the stabilization of individual's mood and well-being. However, a low emotional background is maintained and contacts with surroundings are limited.

4. Then comes the recovery phase when the interpersonal communication is activated. At this stage, a man undergone an extreme stress, there is a complex emotional and cognitive processing of the situation, the evaluation of own experiences and feelings. Survivors of an extreme situation, the work efficiency is reduced as well as critical attitude to own capabilities (Nurmuhametova,).

Social well-being of the population could be classified according to their appearance. There are 39 different identifiers ("symptoms") which build the social well-being could be structured in 5 main groups:

- The first is connected with individual character of emotional and psychological reactions of the individuals (stress, depression, dissatisfaction, frustration, anxiety, instability and psychological fatigue and etc.);

- The second one is connected with individual behavioral response of individuals (the reduction of birth rates, emigration, growth in the number of suicides, drug addiction, alcoholism, violence and etc.);

- The third one is connected with the socio-political sphere (protest actions readiness to them, the growth of political activity, activation of social and political movements and etc.);

- The fourth one is connected with the economic sphere (the gap of economic indicators, lowering of indicators in economic activity, high demand);

- The fifth is connected with the general reaction of the society (anomie, social disintegration, reduced cohesion of society members) (Tolstova U.N., Voronina 2011).

Currently there are four methodological approaches to the definition of risk:

- engineering, based on statistics, payment frequency, probabilistic safety analysis, the construction of "danger trees";

- model based on constructing models exposures to individual, social, professional groups, etc.;

- expert, when the probability of the event is determined based on a survey of experienced professionals, i.e. expert;

- sociological, based on a survey of the population.

Methodology and research method. The empirical part of the work is connected with the field of sociological research conducted in Tarbagatai district of East Kazakhstan oblast from September to December, 2014. The individuals from 18 villages were involved in the study. 320 respondents make the sampling. The method of individual standardized interview was used. The study has involved residents of the villages of the above-mentioned area who experienced the natural disaster. With 95% of the correct interval the statistical error does not exceed $\pm 2,5\%$. The information obtained in the course of the study was processed by a computer program SPSS. Additionally, the authors conducted a desk study (a traditional analysis of documents). In the framework of this method the analysis of documents from secondary sources was conducted.

The increased interest in the study of social well-being of the population that experienced the danger of a natural disaster in Tarbagatai district of East Kazakhstan oblast is determined by a number of reasons:

First, a variety of climatic conditions of East Kazakhstan predetermines a significant exposure of its territory to a wide range of emergency situations of natural character.

Second, the regions which are subject to greater risk and various disasters are characterized by the fact that the population has shaped a special attitude to disasters.

Third, the evaluation of social well-being of the population that undergone a disaster has an impact on further solution of their socio-economic problems in searching for effective measures. Evaluation and measurement of social well-being of the population in emergency situations of East Kazakhstan made it possible to determine the effective form of social behavior of people in such situations, as well as to conduct preventive work among the population in order to minimize their negative consequences, and to ensure an effective social and economic protection of the affected population by government institutions and society as a whole.

Results

The research is aimed at identifying the degree of concern of the local population in emergency situations of natural character. To the question "Do emergency situations of the community are of great concern?" 82.2% of respondents answered that it cause them

a great concern, 17.5% noted that the emergency situations concern them to a certain extent.

Table 1. Do emergency situations in the community are of great concern? N=320

Answer option	Frequency	Percentage	Valid percentage
Yes, it cause a great concern	256	80,2	80,2
Yes, it worries to some extent	56	17,5	17,5
No, it doesn't cause any concern	2	0,8	0,8
It is difficult to answer	6	1,5	1,5
Total	320	100,0	100,0

Responses to the question, "What do you think on what main factors the life safety and reduction of risks of emergency situations depend?" showed that the 53.2% respondents put the first place the responsibility of each person. According to the respondents the state policy (16.6%), the organization and quality of work of the Ministry of Emergency Situations (10.3%) take the next important factors in reducing the people's life safety and emergency risk situations.

Table 2. What do you think on what main factors the life safety and reduction of risks of emergency situations depend?

Answer option	Frequency	Percentage	Valid percentage
on each person	170	53,2	53,2
on state policy	54	16,6	16,6
on the organization and quality of work of the Ministry of Emergency Situations	33	10,3	10,3
on the development of society	15	4,8	4,8
on the environment condition	20	6,3	6,3
on disaster prevention	15	4,8	4,8
on human upbringing	10	3,2	3,2
on the international situation	3	0,8	0,8
Total	320	100,0	100,0

The next question bears an evaluation character. Respondents were asked to grade their knowledge necessary for dynamic performance in emergency situations (fire, flood, hurricane and etc.). Only 5.6% of respondents evaluated themselves 5 points. 4 points were given by 16.7% of respondents. 32.5% of respondents evaluated their knowledge to 3. The highest percentage was to mark 2 - 37.3%. At the same time, there were people who evaluated their knowledge to 1.

Table 3. How do you evaluate your knowledge necessary for dynamic performance in emergency situations (fire, flood, hurricane and etc.) (5 - excellent ... 1 - bad)?

mark	Frequency	Percentage	Valid percentage
5 - Excellent	18	5,6	5,6
4	53	16,7	16,7
3	104	32,5	32,5
2	119	37,3	37,3
1 - bad	26	7,9	7,9
Total	320	100,0	100,0

The results obtained to the question "How much are you concerned about the situation created by natural phenomena (earthquakes, floods, hurricanes, landslides, flooding, forest fires and so on)" confirmed our belief regarding the number of concerned and indifferent people. Thus, 66.7% of respondents are concerned much. 18.3% of respondents noted that they were partly concerned, 12.7% answered that they had nothing to worry.

The answer to the question "What do you think whether the work of the Ministry of Emergency Situations has changed in recent years for the better?" showed that respondents in general positively evaluated the work of this institution. 69.7% of respondents gave a positive evaluation. The answer "it hasn't changed" was given by 8.7% of respondents, "it has become worse" by 1.6%.

The next question was about respondents' evaluation of activities undertaken by the government for emergency prevention and recovery. Grading the responses showed the following: high - 46.8%, average - 43.7%, low - 4.8%. Those who find it difficult to answer were 4.8% of respondents.

CONCLUSION

The measuring of social well-being of the population in conditions of modernization of Kazakhstan's society refers to a number of urgent problems of modern social structure.

Sociological analysis of social well-being of the population has conducted on the basis of the subjective evaluation and respondents' perceptions due to their social status in society. For the empirical measurement of social well-being not only subjective but also objective components of respondents' personality are of paramount importance. The level of education, social status, ideals, life plans, values, motives, attitudes, self-evaluation and satisfaction with their situation constitute both objective and subjective indicators of the empirical measurement of social well-being of the population. In psychological research much emphasis is given on the emotional state of the individual. In sociological studies it is given on objective evaluation, i.e. the interpretation of the positions of the interviewed people on the basis of their social status taken into account the structure of society.

Social well-being of an individual can be considered as individual personality as a social phenomenon, which reflects the processes of shaping of consciousness and self-identification in integrated form.

At the social level (the level of society as a whole and large groups) such as unemployment, violence, terror and other macro-factors influence on the social well-being of an individual and social groups. The threat of ecological catastrophe and poverty problem, food security, the increasing social instability, the loss of established cultural values of ethnic groups, and other global problems complement the current list of macro factors influencing the social well-being of people at the level of society.

At the socio-psychological level the changes taking place in the social structure and its influence on the social well-being of an individual and social groups.

At the intrapersonal level of social well-being is determined by the individual psychological characteristics of an individual such as activeness or passiveness, self-esteem or self-destruction, reserve or sociability, self-sufficiency or inferiority.

Currently, the social well-being of the population is becoming a main indicator of a healthy society in the words "Erich Fromm".

The research shows that the people who live in high-risk areas worry a lot about their situation. People have become more independent from state care and believe that they should be responsible for their future themselves. However, they do not deny the positive role of government policy in this area. They also appreciate the activity of the Ministry of Emergency Situations. People have become more self-critical, most of them evaluated their knowledge necessary for dynamic performance in emergency situations at 2 points. Among the respondents there are also people who evaluated their knowledge to 1 point. However, respondents who evaluated their knowledge to 3 are not in the minority group. They are a little behind the respondents who evaluated their knowledge to 2. All in all this is a good trend which shows a growth of the population's self-consciousness. Evaluation of respondents concerning the activity of the bodies in conducting various measures of a preventive nature and disaster recovery shows a positive trend:

REFERENCES

- Andrews F.M. Population Issues and Social Indicators of Well-Being, The University of Chicago. Human Sciences Press, 1983, Volume 6, pp 210-230;
- Dreier Ed, Oishi Shigehiro, Richard E. Lucas Personality, Culture and Subjective Well-Being: Emotional and Cognitive Evaluations of Life, *Annu. Rev. Psychol.* 2003, Vol. 54, pp 403 – 425;
- Евсвин V.A. Psychology of attitude to nature. Moscow.: Smysl, 2000, - 456 p.;
- Александровски Y.A. Psychogenic in extreme conditions, *Medicine*, 1991, -96 p.;
- Лебедев V.I. Extreme psychology. Psychology of activity in a technically and ecologically closed systems. M.: UNITY-DANA, 2001. - 431 p.;
- Байраева L.A. Prosperity, adaptation, survival, *Sociological studies*, 2001, - № 8 - 4-15;
- Гордон L.A. Social adaptation in modern conditions, *Sociological studies*, 1994, № 1, pp 74-82;
- Байраева L.V., Gunn G.V. Social well-being of the population as an indicator of development of social infrastructure of Buryatia village, *Oecumene*, 2011, № 3. Pp 90-100;
- Ситугуенко V.M., Bobkov E.M. New trends in the study of social well-being of the population. *Sociological studies*, 2013, №1, pp 15-23.
- Scheier M.F., Carver Ch.S. On the power thinking: the benefits of being optimistic *Current directions of psychological science*, 1993, Volume 2, pp 26-30.
- Waterman, A.S., Schwartz, S.J., Zamboanga, B.L., Ravert, R.D., Williams, M.K., Brown V.B., et al. The Questionnaire for Eudaimonic well-being: Psychometric properties, demographic comparisons, and evidence of validity. *The Journal of Positive Psychology*. 2010, Volume.5, pp 41-61.
- Schütz H., Wiedemann P.M. Hazardous Incident Information for the Public: Is it sufficient? *The Australasian Journal of Disaster and Trauma Studies* ISSN: 1174-4707 Volume 2000-2 // url: <http://www.massey.ac.nz/~trauma/issues/2002-2/shuetz.htm>

- [13] McMillen J.C., Smith E.M., Fisher R.H. Perceived benefit and mental health among three types of disaster. *Journal of consulting and clinical psychology*, 1997, vol. 65, pp.733-739.
- [14] Nurmuhametova A.A. The content and objectives of psychological assessment of the population in emergency situations. <http://do.gendocs.ru>
- [15] Tolstova Y.N., Voronin N.D. Expansion of the concept of the social tension measurement and its use for the measurement of social tensions (Part 1). *Measurement of Public Opinion*, 2011, №5 (105), pp 25-36.