

**Organizational management, a focus on risk prevention at the College of Sciences and Humanities of the Universidad Juárez del Estado de Durango****Gestión organizacional, un enfoque en la prevención del riesgo en el Colegio de Ciencias y Humanidades de la Universidad Juárez del Estado de Durango**

RANGEL-BURCIAGA, Genaro†\* & MARCELEÑO-FLORES, Susana María Lorena

*Universidad Juárez del Estado de Durango, Master's Degree in Administration*  
*Universidad Autónoma de Nayarit, Doctorate in City, Territory and Sustainability*

ID 1<sup>st</sup> Author: *Genaro, Rangel-Burciaga* / **ORC ID:** 0000-0002-1505-1332

ID 1<sup>st</sup> Co-author: *Susana María Lorena, Marceléño-Flores* / **ORC ID:** 0000-0003-0430-8128

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\* Author Correspondence (e-mail: genariux@hotmail.com)

† Researcher contributing as first author.

## Introduction

In this document, the objective is to identify organisational management under an approach that includes Risk Prevention in the College of Sciences and Humanities (CCH) of the Universidad Juárez del Estado de Durango (UJED), emphasising the actions and priority of offering certainty to students and their families, extending the commitment to risk-free facilities and contexts.

The academic background in the history of the College is described in the heritage of its curricula, the first one was implemented in 1973, between 1981 and 1983 the homogenisation of the CCH and the Preparatoria Diurna (Plan de estudios, 1997).

Updates to the CCH curriculum continued in 1997, 2005 and 2011 according to Nájera (2009); currently the Plan de Estudios del Bachillerato General UJED 2017 (PEBG, 2017) is in force.

As part of the public educational management and administration, the UJED implements the activities for the integration into the process for the Integral Reform of Higher Secondary Education (RIEMS) at the end of 2008 with the publication of Agreements 442 and 444 in the Official Journal of the Federation (DOF, 2008 A) and (DOF, 2008 B).

The UJED mobilises its structure with the actions that supported the entry and validity of the CCH in the National Baccalaureate System (SNB), from 1 November 2012 to November 2018, a period that includes, among others, the projects of the Competitive Fund for Investment in Infrastructure for Higher Secondary Education, PIEMS (2015), PIEMS (2016) and also the development of the Internal Civil Protection Programmes of the CCH, PIPC (2017) and PIPC (2018).

The sum of all the management allowed, in addition, the entry of the CCH in the National Register of Quality Educational Programmes (PNPEC) considering that the current General University Baccalaureate was endorsed by the Council for the Evaluation of Higher Secondary Education A.C. (COPEEMS).

The International Labour Conference, in its Declaration of the Centenary of the International Labour Organization (ILO), for the future of work, calls on all Members to collaborate individually and collectively, on the basis of tripartism and social dialogue, to further develop a people-centred approach to the future of work through three actions, of which the second, in point B.4, emphasises occupational safety and health (ILO, 2019).

Risk management consists of the set of measures that a society takes to intervene in risk-generating factors in order to reduce them and prevent disasters. It involves assessing the measures that can guarantee a timely and adequate response by social actors and institutions at the time of an emergency or disaster (Robles, Wilches, Näslund-Hadley, Ramos and Paredes, 2015).

It is an essential requirement for civil protection actions to have risk diagnoses, to know the characteristics of the events that can have disastrous consequences, whether natural or man-made phenomena. In addition to determining how these events affect the community (CENAPRED, 2014).

The Internal Civil Protection Programme (ICPP) is a planning instrument of an agency, institution or organisation in the public, private and social sectors, which establishes preventive and relief actions aimed at safeguarding the physical integrity of employees and people who attend them, as well as protecting facilities, assets and vital information, in the event of a calamity (GIPIIPC, 1991).

## Methodology

Whereas Del Rio, Martínez, Candelas and Barragán (2012, p.111) describe exploratory research as "...a type of descriptive research whose objective involves familiarisation with little studied or unknown phenomena and can serve to develop methods to be used in more in-depth studies..." (Del Rio, Martínez, Candelas and Barragán, 2012, p.111)." In its flexibility, it also reflects a synthesis that documents organisational management with a focus on risk prevention, compiling relevant information on the actions of recent years and the continuity of ongoing projects.

Any topic of interest can be the subject of study; documentary research involves the collection of documentary materials to investigate the background, development and current situation of the community or situation where the problem to be studied is located; this under the conception of Cuenca, Rangel and Esquivel (2006) as cited by Del Rio et al. (2012). According to them, the logical-methodological sequence of the research process is translated into three main phases: design or work plan; collection and analysis of the material and presentation of results.

The review and study of organisational management with a focus on risk prevention in the CCH contemplates the available documentation and the experience of the institutional actors during the implementation of the Internal Civil Protection Programme (PIPC); in addition, risk analysis is contemplated to identify the disturbing agents and risks that may occur within the facilities and in the areas near the CCH. During the construction of the PIPC and the complementary activities, the Fault Tree and What if methods are used, without forgetting the regulations corresponding to the Guide for the Implementation of the Internal Civil Protection Programme (GIPC, 1991), the Civil Protection Law of the State of Durango (LPCED, 2017) and the General Civil Protection Law (LGPC, 2012).

The review of the documented actions and the contexts of the projects of the Competitive Fund for Investment in Infrastructure for Higher Secondary Education PIEMS(2015) and PIEMS(2016) play a relevant role in promoting management actions within which the ACOESSI project is included, which is based on an offer of specialised services for students; the discussion and Analysis of the feasibility study; it contemplates a population of 1624 students, of which the sample of 263 students represents 16.19% of the total number of students contemplated in the study.

The sequence of the organisational management is identified in the different moments, in the previous evaluation, in the process of attention to the regulations and attention to the recommendations proposed by the RIEMS, continuing with the process of entering the National System of Baccalaureate, including the construction of the Internal Programme of Civil Protection.

As part of the documents requested to belong to the National Register of Quality Educational Programmes and finally the follow-up to the actions and background to the project of Implementation of the Centre of Attention to the Community of the College of Sciences and Humanities of the Juárez University of the State of Durango.

## Results

The results presented provide continuity and are the product of comprehensive, collegiate and institutional work; the focus of the risk assessment is strengthened with the actions determined in the Internal Civil Protection Programme 2017-2018 and the Internal Civil Protection Programme 2018-2019. For CCH it is important to report the situation inside and outside the facilities, the College currently has an average of 250 adults involved in academic or administrative activities, in addition the average number of 2000 underage students, represent the degree of institutional responsibility; in this sense the approach of the Atlas of Natural Risks of the Municipality of Durango (2012)

...explains how natural phenomena, in their destructive nature, appear recurrently, unpredictably and inevitably... in the Municipality of Durango; they have also caused changes to the landscape and in some cases economic losses due to damage to infrastructure. In recent years, these phenomena and the processes of urban expansion have increased the magnitude of the devastation. (p.4).

It is for this reason that, as a result of the design, implementation and approval of the Internal Civil Protection Programmes and based on the opinion of the duly accredited experts, the following results have been identified in the risk assessment.

Structural risks, in which by observation a low level of risk is determined, due to the absence of structural damage to walls, columns, slabs and beams, including the absence of inclination, separation, deformation, cracks, subsidence and water filtration. The service ramps and stairs are safe and in good condition, homogeneous, with handrails and artificial lighting.

The hydrosanitary installation, the gas installation report and the electrical system are appropriate and without risk. There is no substation or emergency power plant.

The air-conditioning systems have protected installations and physical grounding.

Non-structural risks include fire extinguishers, warning systems and fire protection systems; the material and personal protective equipment to deal with emergencies is complete. There are no risks in the finishes of the building due to: window coverings; coverings; floor and unevenness; false floors; tiles. No risks from non-structural elements were identified in: shelves and shelving; antennas; ceilings; lamps; elevators; window and door frames; doors and windows; suspended elements and false walls. Glass is fitted with anti-burst film.

Risks during an evacuation in the exits, evacuation routes and signage are defined and correct; emergency brigades, medical services and first aid are prepared, trained and coordinated; communication systems are in place; counting and safety zone coordinators are trained. There are no portable blackboards, mats, flower pots, filing cabinets or furniture in corridors that pose a risk; furthermore, the evacuation route is marked, identified and free of objects that restrict the flow of people, such as equipment, furniture, tools and cleaning items that may be out of place when not in use.

Internal hazards do not identify objects at risk of falling, such as lamps, chandeliers, loudspeakers, grilles, glass sideboards and doors, chandeliers, soffits, shelves, pictures, mirrors, toxic or flammable liquids, flower pots and other hanging objects.

Installations are free of risk from objects that can slide and tip over because they are not properly anchored, such as display cabinets, gas tanks, subdivisions of spaces not attached to the ceiling and floor.

Fire risks are low and are determined by the presence of combustibles, paper, books, cleaning liquids and substances for the control of noxious fauna. However, there are no solvents such as paints, thinner or turpentine and the electrical system is adequate.

There are no barbecues, electric flavourings, candles or candle lights and as for objects that can cause a fire, there are coffee pots and gas containers and installations.

The risk is medium in the immediate surroundings within a range of approximately 500 metres due to the presence of electricity transformers, large trees, busy streets, establishments with installations and L.P. gas tanks, as well as two petrol stations.

There is no risk from overhead tanks, poles with electrical wiring in poor condition, pylons with high-voltage power lines, damaged buildings, uneven pavements, open sewers, billboards, hazardous substance warehouses, PEMEX plants, garbage dumps, railway tracks, rivers and hillsides, coasts or dams. There are mechanical workshops, carpentry shops and multi-purpose halls with no direct risk to pupils.

Disruptive phenomena of socio-organisational origin do not present a risk in the three scenarios: Air, land or river accidents, acts of terrorism or sabotage, acts of vandalism, sit-ins, rallies, marches and sit-ins.

Disturbing phenomena of geological origin are not considered to pose a risk to the school, such as tidal waves or tsunamis, falling pylons, collapsing buildings, earthquakes and earthquakes, overexploitation of groundwater and water wells, soil erosion, landslides, mudslides, cracking and subsidence of the ground.

The distance between the Cuali petrol station and the information centre is 300 linear metres.

The distance between the Lucky Gas station and the Information centre is 590 metres.

In the case of leaks or spills, there is a risk of unexpected explosion, but no risk of exposure to radioactive materials or chemical poisoning.

Disruptive phenomena of hydrometeorological origin do not exist for flooding by river, lake, dam or rain; it is not common to be affected by hurricanes, thunderstorms, hail storms, tornadoes, snowfall and drought. However, there is the possibility of risk from high winds, torrential rains, frost and extreme temperatures.

Disturbing phenomena of ecological health origin in soil, water and air pollution are not present, however there is a risk of plague and epidemics.

The review of facilities and equipment reduces vulnerability, seeking a situation of zero risk, but after the assessment, actions can be identified to address the high, medium and low levels of risk that may occur; it is also possible to identify them beforehand through a logbook and a programme of preventive and corrective maintenance activities.

The Community Care Centre is a project in the process of implementation, which seeks to consolidate and formalise the different projects and efforts of the CCH UJED. This document considers this Centre to be a strength with an immediate impact on the campus community in risk prevention and integral health care.

### **Discussion**

At the time in the different documents referred to herein, the approach to risk prevention in the CCH does not show a clear precedent; starting with the Plan of Studies (1997) and the consecutive ones; followed by the time of the beginning of the RIEMS and described by Nájera (2009), and even in the Internal Regulations (2019) this absence is maintained. However, it is clear that the facts were manifesting a reality that led to the fulfilment of the objectives set out in the RIEMS, which are part of the internal spirit of the CCH and are subsequently reflected in the Internal Civil Protection Plans.

Gradually, the two stages that sow the approach to risk prevention in the CCH are the following: a) The projects of the Competitive Fund for Investment in Infrastructure for Higher Secondary Education (PIEMS) (2015) and PIEMS (2016). PIEMS (2015) and PIEMS (2016), in which a report is requested on the institutional situation and its security conditions; but they are also a source for strategically defining and financing institutional strengthening plans; and b) The CCH's internal civil protection programmes, PIPC (2017) and PIPC (2018), from their projection, implementation and interdisciplinary follow-up.

Risk prevention is not excessive when facing an incident and the damage caused, supervision is relentless and alerts are triggered by any of the people within the College's facilities. Surveillance systems, revision logs, supervision and maintenance schedules, as well as drills are sources of information to train, inform and act appropriately in risk reduction.

It is worth mentioning that in the UJED, the Day High School has had a similar process; each campus in autonomy has managed its Internal Civil Protection Programme; at a national level the PIPC was requested to the campuses that belong to the SNB, in such a way that this has generated a strength in the baccalaureate educational organisations in Mexico.

### **Conclusions**

Organisational management with a focus on risk prevention at the Colegio de Ciencias y Humanidades has been developed in accordance with the requirements requested by the different levels of authority, considering the corresponding regulations and methodologies; the spirit of improvement that has existed in the CCH, finds within the multiple benefits and questions generated by the Comprehensive Reform of Upper Secondary Education, the possibility of identifying in the present work the benefits obtained in the reduction of risk within the facilities; it also allows highlighting the great value of the actions that guarantee a safe stay in the facilities of the College.

The organisational management within the CCH adds to the university, municipal, state and federal provisions for the benefit of institutional and individual strengthening, to give way to the approval of the two Internal Civil Protection Programmes; as indicated by the RIEMS and the actions carried out by the UJED.

This type of organisational approach is not possible with isolated activities; as has been identified with the participation of the different bodies involved; this is an inter-institutional and interdisciplinary vision in which the awareness of the CCH community was achieved, in its individuals and in its formal and informal organisational structure.

These actions pave the way for designing and implementing more strategies in risk prevention and health care. Risk prevention is a daily commitment of educational organisations in coordination with governmental and social spheres; this work promotes and strengthens training, dissemination and the adoption of a culture of prevention in society.

The disruptive phenomena of chemical-technological origin, those of geological origin and those of sanitary-ecological origin in their condition of external phenomena, represent a medium risk level for the CCH mainly due to rain, hail, floods, snowfall and sub-zero temperatures, heat stroke due to temperatures above 35 degrees Celsius, the existence of two gas stations and finally the presence of a pandemic, which was not active during the elaboration of the Internal Civil Protection Programmes.

The present research contributes to the task of documenting organisational management actions; in this case, in strengthening the approach to risk prevention. Dissemination of actions and continuous training help to generate a timely response capacity in a well-informed community. The quality of information, its veracity, relevance and availability are part of this continuous communication and monitoring. The various surveillance mechanisms, plans, strategies and systems identify risk points and trigger timely alarms that in turn activate action protocols.

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