



TOWARDS RESILIENT SAFETY & SECURITY ORGANISATIONS

How are Dutch emergency services organised? And how does the organization model contribute to a safe & resilient society? In this article John van Trijp & Annemarie Breur examine the Dutch Model. The so called Safety regions came into existence as a result of the Safety Region Act 2010: the Safety Regions should provide citizens with enhanced protection from hazards, provide superior emergency assistance & after care during and post crises and disasters, provide regional governance of the individual emergency services and enhance the operational and administrative mitigation capabilities.

Currently we have 25 Safety Regions with over 30,500 service personnel of which ca. 90% are member of the regional fires services while the remaining 10% are mainly member of the regional medical services. As such the fire service has a major impact on the way a Safety Region functions.

As Safety Regions are relatively new they are still in the process of development. At the same time society wants the Safety Regions to adapt to societal changes. One example is the introduction of the Netherlands of the self-reliant society where citizens are invited to be less dependent of official institutions and to be more self sustaining when a major crises of emergency occurs. To cope with this changing society, Brandweer Nederland (Netherland Branch Organization of Fire Services) presented in 2010 a new strategy called “The Fire Service the Day after Tomorrow”. This strategy was introduced in order to change the current fire service doctrine into one that focuses more on risk management and less on mitigation. This should fit well with the self-reliant society. Today, the fire services (in casu the Safety Regions) are busy enhancing the safety awareness of civilians and companies; ensure improved fire safety and operationalization of a new mitigation doctrine. The organizations as such are focusing on improved quality and learning capabilities. New quality and safety management instruments were recently developed under the Cicero and Aristotle programs. The management programs are based on the EFQM Excellence cycle and are specifically designed to create a learning organization.

ORGANIZATIONAL RESILIENCE

Scientific research suggests a resilient organization is of the utmost importance to cope with all new and present day (safety)



challenges. Organizational Resilience is often described as: The ability of an organization to prevent disruptions in the operational process from occurring; When struck by a disruption, being able to quickly respond to and recover from a disruption in operational processes. In other words: what can the organization endure and how soon are we again on top of things. For emergency response organizations in general and Safety Regions in particular this is a prime issue. Next to the self-reliant society it is of great importance the Safety Regions change and adapt to this societal process. Within the framework of Organizational Resilience (also known as “Operational Resilience”) a quantitative model was developed. This model contains a set of five different items:

- » The level of Resilience;
- » The level of Awareness;
- » The level of importance of keystone vulnerabilities;
- » The level of Adaptive Capacity
- » The level of Quality.

These five items are made up of 22 different attributes in total with individual weights all contained in a mathematic equation. The outcome of the equation can be anything between 0.00 en 22.54 resilience units. The highest value (22,54) represents maximum Organizational Resilience possible a Safety Region

can have. To this we must add the following note: the higher the value does not automatically mean a Safety Region is better in Organizational Resilience or is “more resilient”. For a proper interpretation resilience should be related to the regional safety challenges or Hazard and Risk Profile. A Safety Region just needs enough Organizational Resilience to cope with these safety challenges and no more. One can imagine that a Hazard and Risk Profile dominated by industrial plants requires a different amount of resilience than a Profile dominated by woodlands. Hence, to function properly we expect all Safety Regions to possess different amounts of Organizational Resilience. It is not our intention to cast a generic Organizational Resilience value in iron by making it part of the Safety Regions Act or any other bylaw: we interpret it more like a “organizational philosophy”.

CICERO PROGRAM: A VISION ON QUALITY AND ORGANIZATIONAL MANAGEMENT

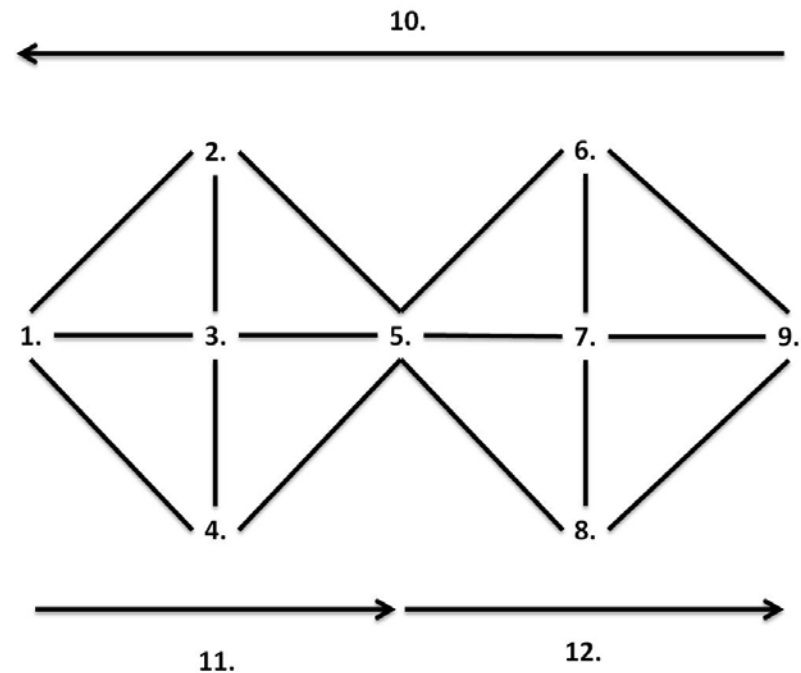
In the Dutch Cicero Program a set of quality management tools are developed specifically designed for the regional fire services. For instance a new audit system with self-assessment formats and audits on operational and tactical levels. From current and relevant Dutch safety legislation a new framework has been developed with quality procedures and bench marking tools. The program as such reached completion so the developed quality procedures and tools are in the process of being



implemented nationally. In a number of Safety Regions the first experiences with an audit; a self assessment and the use of the new set of quality procedures and bench marking tools are collected. We expect during the course of 2014 these instruments will be used in a large number of Safety Regions. The fire service made the choice to use the EFQM Excellence Cycle as a basic framework for the type of audits to be performed. The Excellence Cycle mainly focuses on stimulating organizations to continuously develop itself combined with an optimal anticipation of changing circumstances.

ADAPTATION OF THE EFQM CYCLE

The Cycle has been slightly adapted to fire service use and consists out of 1. Leadership; 2. Management of Co-workers; 3. Policy & Strategy; 4. Management of Resources; 5. Management of Processes; 6. Co-workers; 7. Customers & Partners; 8. Society and 9. Administration & Financiers complemented with a tenth theme named: Innovation & Learning which is introduced to enhance the performance of the organization dynamically. These themes are covered by the known Deming Circle (Plan – Do – Check – Act) and serve as a reference for drawing up policy ambitions, procedures and indicators to perform self assessments and audits. The audit scheme used mainly focuses on two distinct levels: the operational and the tactical level. The operational level deals with the basic quality of the fire service organization like the day to day operational processes (primary, supporting and control processes) and the operational managers who bear responsibility for level of basic quality at their level. The tactical level primarily focuses on the control and design of the fire service organization. The Chief Fire Officer and his staff



Cicero EFQM Excellence Cycle. 1. Leadership; 2. Management of Co-workers; 3. Policy & Strategy; 4. Management of Resources; 5. Management of Processes; 6. Co-workers; 7. Customers & Partners; 8. Society; 9. Administration & Financiers; 10. Innovation & Learning; 11. Organization and 12. Result. (van Trijp, J. M. P., & Breur, A. (2013). First overview of the relationship between quantitative dynamic operational resilience and the Dutch Fire Services occupational safety and quality management program Cicero. Paper presented at the European Safety and Reliability Conference, ESREL 2013, Amsterdam, Netherlands.)

officers bear prime responsibility for the quality at this level. Currently the Safety Regions are developing a method to support organizational audits. These audits intend to assess the level of quality of the Safety Region in relationship to strategic governance.

COMPARISON OF ORGANIZATIONAL RESILIENCE AND FIRE SERVICE QUALITY MANAGEMENT INSTRUMENTS

We compared the relationship between quality management instruments specifically designed for the Dutch fire services and the level of organizational resilience of this organization. More specific: we looked into the quality operating procedures as described in the Referentiekader Brandweer (Fire service reference book, also known as “Clearing House Standard Operating Procedures”): to what extent do they say something about organizational resilience?

The Clearing House can be accessed through the Internet and consists out 143 sets of processes: 69 sets primary processes; 28 sets secondary or supporting processes and 46 sets control processes. These 143 sets were compared to the 22 attributes which are described in previously developed quantitative model for organizational resilience. Next we judged the contributory level these sets present to the level of organizational resilience. Previous research showed fire service organizational resilience is equal to the Safety Region organizational resilience. We assumed the processes and indicators from the Clearing House are identical to those of the Safety Regions. Research showed the sets of processes mainly focus on the readiness of a Safety Region to cope with disaster or crisis: 73% of all sets deal with this particular aspect. Because the focus lies so much on readiness and subsequent “paper work” it looks as if the prime concern of quality management is “how the organization is ready on paper”. This observation is supported by

the high levels (over 10%) of enhanced awareness of expectations, obligations and limitations in relation to the community of internal and external stakeholders; of enhanced understanding of the trigger factors for crises; of increased awareness of the internal and external resources available; of better understanding of minimum operating requirements from a recovery perspective and of importance of computers, services and specialized equipment. All these attributes are part of “plans on paper” and are by definition static as they deal with knowing and understanding. We found one exception only to these findings: the response of the organization after the disruption has struck was also rated higher than 10%. This attribute has clearly a dynamic nature. We conclude to grow from the perspective of quality management into a Safety Region with a high level of organizational resilience it is necessary to focus on those attributes that play a major role in the quantitative model for organizational resilience. An example is the degree of creativity and flexibility that the organization promotes or tolerates. To support the process of becoming a more resilient Safety Region we find it of the highest importance to see new sets of processes be developed. These new sets should address the dynamical aspects of the organization on the operational; tactical and strategic levels. From the conducted research we also conclude the quality management procedures and processes as currently being introduced with the Dutch fire services (and Safety Regions) just cover 2% of organizational resilience. From this we must conclude the quality management program Cicero currently underway does not enhance organizational resilience. From the conclusions we presented it may be clear the organizational resilience of the Dutch Safety Regions require further research and it is as such subject of a research project at the VU University Amsterdam.