Area Business Continuity Management

Scalable Cross Sector Coordination Framework of Disaster Management for Business Continuity

Japan International Cooperation Agency
Why the “Area BCM” initiative?

Intensifying disaster
Increasing economic loss
Globalizing impacts
Focusing local economy
Highlighted private sector’s role

Climate change, rapid urbanization, industrial agglomeration and unmanaged development intensifies magnitude of recent disasters. And the global economic loss is remarkably increasing. As industries are connected by supply chains and trading networks, damage affects beyond boarders. And its impact may spread throughout the world.

Since a disaster has a significant impact on the local economy, employment and population outflow, business continuity and early regeneration of local industry is essential for reconstruction and normalization of socio-economic activities. Many disaster management forums such as UNISDR highlighted the importance of private sector’s role to increase economic resilience and to foster new opportunities for public private partnerships as part of an overall improved risk governance.
Background of “Area BCM”

Lessons from catastrophes
Limited function of single BCM
New concept is required

The private sector’s role, in reducing damages from disasters and in quick restoration of business operation, is basically fostered by the Business Continuity Management (BCM) System of individual business organization which is standardized as ISO22301. BCM refers to any effort that aims to achieve business continuity by doing whatever necessary to protect company’s production, information, equipment, and employees.

However, we learned from the recent cases that when a major disaster occurs, the damage extends to roads, power supplies and other infrastructure as well. Disruption of those common resources often becomes bottlenecks for effective business continuity in widespread area. Therefore, efforts of individual companies, even if BCMS are prepared, are not enough to achieve the desired level of business continuity. Thus, a new concept of area-wide business continuity management is required.

JICA, in 2013, proposed the concept as Area Business Continuity Management.
Area-wide Business Continuity

Requirements:

- Probabilistic Analysis of Risks and Impacts,
- Management of Critical External Resources*,
- Area-wide Scalability of Management, and
- Private Public Coordination.

Probabilistic analysis of risk and impact is the bases of understanding weakness of industry in an area of concern and formulating area-wide plan of disaster management.

Management of critical external resources aims to effectively share the common business resources among stakeholders in time of a disaster and to strengthen the availability of the resources. Differently to internal resources, such as company’s buildings, facilities, parts and raw materials, the external resources are managed normally by public sector and not controllable by private enterprises. The external resources are also distributed not only for business purposes but also for securing community life. Therefore, in case of emergency that imposes limited allocation of those resource, collaborative efforts are required between the private sector, public sector and the local community to maintain the critical external resources.

Area-wide scalability of management can flexibly expand the management scale based on variable scenarios of disaster and changing situation.

Private-public cooperation and coordination is an essential framework of area-wide disaster management system.

External Resources* : goods and services such as energy, water, transportation and communication infrastructures, which are independent of the business management but are essential for business operation.
Area BCM is a cyclic process of understanding risks and impacts, determining common strategy of risk management, developing the Area BCP, implementing the planned actions and monitoring to continuously improve the Area BCM System, in coordination among stakeholders including individual enterprises, industrial area managers, local authorities and administrator of the infrastructures as well as communities, in order to improve the resilience of local economy to disasters.

Area BCP then designates a framework and direction of coordinated damage mitigation measures and recovery actions of stakeholders in order for business continuation of the industrial area as a whole.
Understanding Risks and Impacts

Scientific and standardized risk assessment

Risk and Impact Analysis
- Identify Predominant Hazard

Hazard Simulation

Risk Assessment
- Vulnerability of Infrastructure, utilities and the area
- Current measures by public sectors and private enterprises

Disaster Scenario

Business Impact Analysis

One of the essential processes is to make risk and impact analysis based on scientific and standardized methodology. It includes identification of the predominant hazard in the area of concern, detail simulation of the specific hazard, disaster risk assessment based on the vulnerability of infrastructure, utilities and facilities and formulation of disaster scenario in which the current capacity of measures taken by both public and private sectors. The scenario will be the bases of each organization’s Business Impact Analysis as well as the area-wide analysis of economic impact.
Coordination hub should be established with the most important and authoritative positions of local and national government as well as the management organization of an industrial cluster in consideration of different types of cooperation as this chart shows. Most simple one is the cooperation among multiple enterprises in the area, who can share critical business resources by linking each BCP/BCM or any system of emergency operation. Public Private Cooperation is an essential framework of sharing the strategy and roles in area-wide disaster management where public sector plays a role mainly as coordinator while private sector as operator of actions. The coordination structure of Area BCM should be organized in such a way as to be able to expand when needed through the damage prospect, critical resource’s condition and changing hazard. The geographical scope of a particular Area BCM depends on local condition or the size of stakeholder’s coordination so that an industrial park, an industrial agglomerated area or even a nation can be its scope.
The Area BCP describes various issues from the organizational structure, industry stats, dominant hazard, risk and impact, business impacts, challenges in the area business continuity, measures to be taken, performance evaluation, and continuous improvement of the Area BCM system in the end.

The measures should be balanced in all the stages of Disaster Management Cycle (prevention & mitigation, preparedness & response, rehabilitation & reconstruction), also with combined tactics (strengthening, alternation, backup) and multiple implementation schemes (cooperation & sharing, new investment, risk transfer).
The Area BCM System has its own improving mechanism that monitor the activities of all stakeholders and feedback the lessons to the revised plan. The system, by repeating the process, also needs to continuously address different types of hazards and different scenarios of risks and impacts in order for enhancing the resilience of local economy.
Evaluation of economic benefit through the probabilistic analysis of hazards, damages and mitigations

Accumulated Damage Costs of Multiple Hazards & Probability

Period total or Annual average of damage cost in the area

Expectable Mitigation of Damages by Area BCM actions

Evaluation of Disaster Risk Reduction Investments

As one of the advantageous features of Area BCM, through the analysis of multiple hazards with respective probabilities, it can estimate future damage cost in certain period of years, or even indirect economic loss if there would be sufficient data of damage and impact relations.

The accumulating damage cost and losses will be reduced if effective mitigation efforts were made by Area BCM actions. Then it can be compared with the investment cost for disaster risk reduction in order to evaluate the economic benefit and to find the desirable disaster management investment.
What are the Benefits of Area BCM?

- Cooperate with other partners and clients of each enterprise through enhanced communication.
- Encourage Public sector to invest more robust infrastructure.
- Unifies the efforts of the area, directs toward a common goal, achieve restoration quickly, efficiently and effectively.
- Increase responsibility under the Area BCM. Start establishing own BCP/BCM.
- Increase asset value for investment, Attract other enterprise for newly settling, pull down the disaster insurance cost.
- Enhance supply chain coordination network, promote cooperation among line industry.
- Add redundancy of different scheme’s combination.
- Foster local economy and employment.

Self-Support

Public-Support

Enhancing Resiliency

Community-Support

Outside-Support

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Case study of Area BCM

The new concept of Area BCM is first applied in three industrial agglomerated areas in Indonesia, the Philippines and Vietnam. In Bekasi – Karawang Industry Area of Indonesia, a probabilistic analysis of multi hazards proved that flood inundation is the dominant hazard and then detail simulation was conducted. Through the output, all stakeholders got understand the distribution of inundation, flood depth and its duration, overlaid with their facilities and common infrastructures.
Buildings in industrial park:
- Karawang City and surrounding area is inundated more than 2 weeks.
- Industrial parks however are not inundated, facilities are not damaged.

Electric power and Lifelines:
- Two Substations in Karawang City are inundated over 2m depth and stop the operation for two weeks.
- Some of base stations of telephone and mobile phone stop the operation because of the shortage of electric power.

Transportation infrastructure:
- Freeway is closed both in west and east of Industry Park for more than 2 weeks.
- Primary Road in Karawang City is closed for more than 2 weeks.

Workers of Industrial Parks:
- Many employee will be absent because of the inundation of their houses.
- Traffic condition becomes worse and induces the workers staying home.

Stakeholders are formulating BCP for strengthening transportation networks, alternative port development, power sub stations protection, backup of business resources, environment of stranded workers, etc. The Area BCM System is established and expanding its scope.
How the Area BCM guide you?

Applied methodology in the pilot areas will be summarized to be disseminated for guiding any local economy to raise resilience to disasters.

The first application of the new framework, the Area BCP/BCM in industrial agglomerated areas, has been introduced in ASEAN. Since the concept of Area BCP/BCMs is still new, the experienced members of the private sector are expected to disseminate the lessons and knowledge of Area BCP/BCMs in other industry agglomerating areas and nations. Also, this concept of area-wide resiliency will be applicable not only to industry agglomeration but also for urbanization.

To foster sustainable urban development, together with vital economic growth of each locality, private and public cooperation needs to be strengthened through the new opportunities presented by coordinated risk management.
Where is the Area BCM going?

The Area BCM is a part of JICA’s cooperation strategy of mainstreaming DRR into all development activities. The private sector’s participation in DRR initiative is definitely one of the newly arising agenda we discuss in this context. The previous Hyogo Framework for Action (HFA) unfortunately didn’t make intense discussion on it and consequently require new guidance as to how this might be more effectively represented in the successor framework to the HFA (HFA2). Through the Area BCM together with other newly developed resources, such as the macro economic model to prospect how DRR will be effective, JICA contributes for the thematic research to be represented in the HFA2 by providing the structured cooperation strategy with four pillars and a base.

The recent efforts of the private sector indicate what can be achieved and what challenges remain. The private sector can promote disaster resilience by developing BCPs and establishing BCM systems, as well as strengthening supply chain networks to ensure backup of business operations. The concept of shared resource management is also becoming better understood. In some companies, the BCM plans have included concepts of corporate social responsibility (CSR) in emergency events, by incorporating plans for helping affected people. However there is still more progress to be made. Area-wide disaster management with significant participation of stakeholders is one area where further progress is necessary in order to scale up the coordination system of resilient society. In this, the private sector can provide one key to success.