



**SCDF**  
The Life Saving Force

## Innovation Excellence Award 2016

Executive Summary Report



Generations of **Lifesaving** Innovations



INNOVATION  
EXCELLENCE  
AWARD

2016 WINNER

## **OUR MISSION**

To protect and save lives and property for a safe and secure Singapore

## **OUR VISION**

A World-Leading Life Saving Force Through People, Innovation & Partnership  
For an Emergency Ready Nation

## **OUR CORE VALUES**

We take **PRIDE** in saving lives and property  
We **CARE** for our people and those we serve

# CONTENTS

- 04** Foreword
- 05** Organisational Profile
- 08** Leadership
- 13** Customers
- 19** Strategy
- 26** People
- 31** Processes
- 37** Knowledge
- 41** Results
- 50** Organisation Structure
- 51** List of Abbreviations

## FOREWORD BY COMMISSIONER SCDF



Throughout the years, the BE journey has been pivotal for the SCDF as it has allowed us to understand how to improve our performance, and how to keep an organisation whose mission is particularly compelling - to protect and save lives and property - professional, efficient and forward-looking. Today, the SCDF is a much stronger organisation with a clear and sustainable framework to bring us forward towards achieving our 2025 Vision of building “A Nation of Lifesavers”.

Though the SCDF had attained the prestigious Singapore Quality Award with Special Commendation (SQASC) in 2015, we had decided to seek the Innovation Excellence Award (IEA) in 2016, as we strongly believed that we should give due acknowledgement and recognition that innovation is very much part of the SCDF’s organisational DNA. We are glad that the IEA journey has not only allowed us to validate our innovation framework, but has also given us the opportunity to benchmark ourselves against the most innovative organisations globally.

In the SCDF, we believe that “Everyone has the potential to innovate”. The Force sees innovation as a powerful enabler to help the SCDF achieve outcomes that are often beyond conventional means. Innovation is not just about technology, it is a distinctive ability to create a competitive advantage through the solutions we design to meet existing and new requirements. Innovation has enabled the Force to take on the challenge of resource constraints and manage

the complexities of our ever-evolving operating environment. More importantly, innovation has allowed the SCDF to galvanise the power of diversity around common priorities, such as combating terrorism.

All our officers have worked tirelessly to prepare for the IEA assessment. The journey has been unifying in many ways, and the esprit de corps has certainly created an indelible impression with the assessors as to the strong sense of ownership, belief and the desire our officers have in wanting to use innovation to provide better services to those we serve. Our achievement of the IEA was made possible by the collective effort of everyone in the SCDF, uniformed and civilian staff, Full-time National Servicemen (NSFs), Operationally Ready National Servicemen, and all our volunteers.

We are fully cognizant that innovation is a continuous journey rather than a destination. Being in the business of emergency response, the SCDF is committed to stay innovative and always pushing innovation to a new frontier in saving lives and property.

Eric Yap  
Commissioner  
Singapore Civil Defence Force



## ORGANISATIONAL PROFILE



SCDF is one of few emergency organisations globally to provide the full spectrum of emergency services of fire-fighting, rescue, hazardous material (HazMat) mitigation and pre-hospital emergency medical care. We closely-partner relevant stakeholders to formulate, implement and enforce regulations on fire safety and civil defence shelter matters. Separately, we also actively engage our community through a wide-range of public educational programmes and activities to enhance their level of resilience and emergency preparedness.

SCDF achieves world-class outcomes despite being one of the leanest emergency organisations internationally. One of our key thrusts is through imbuing the spirit of continuous improvements in our people and anchoring innovation as one of the key tenets in our quest for excellence. We unreservedly share our best-in-class and innovative practices, systems and processes with the international community.

### *Nature of Main Products and Services*

Our key services are:

- Fire-fighting, Rescue, HazMat Mitigation and Emergency Medical Services
- Civil Protection and Regulation of Fire Safety
- Building Community Emergency Preparedness

### *Our Mission, Vision and Values (MVV)*

The MVV reflects the purpose of our existence, our aspirations for the future, as well as the desired behaviours that we wish to see in our people as we strive to build an emergency ready Singapore (*see Table 1*).

Our Mission	Our Shared Vision	Our Core Values
To protect and save lives and property for a safe and secure Singapore	A World-Leading Life Saving Force Through People, Innovation & Partnership For an Emergency Ready Nation	We take PRIDE in saving lives and property We CARE for our people and those we serve

*Table 1 Our Mission, Vision and Values*

In the SCDF, we believe that “everyone has the potential to innovate”. We will continue our relentless pursuit in encouraging continuous improvement as a way of life in our people, harnessing innovation and technology as key enablers of a highly effective Force.

### *Our Transformation*

The SCDF has undergone several transformative stages since it was established 27 years ago. In 2012, our leadership led and engaged our people to collectively develop the Transformation Vision 2025 to align and inspire our staff for the future. We conceptualised and adopted an innovative, paradigm-shifting approach of not merely protecting and saving lives, but transforming Singapore into “*A Nation of Lifesavers*”, by taking into account community first response as a key

## ORGANISATIONAL PROFILE *continued*

multiplier in our existing concept of operations. We reviewed the challenges that confronted us in realising this new vision (e.g. the advent of new technologies, evolving operating environment and limited manpower resources) and will continue to strongly leverage innovation and the use of new technologies to deliver our key services.

### *New Infrastructure Developments for the Future*

To better serve the public, we have increased the number of fire stations and fire posts from 16 and 26 in 2010, to 21 and 29 respectively in 2016. Of the 21 fire stations, two are enhanced with maritime fire emergency response capability, namely Marine Command HQ cum Brani Marine Fire Station and West Coast Marine Fire Station.

### *A Lean Structure and Multi-skilled People*

The SCDF comprises 2,316 uniformed officers, 257 civilians and 3,382 NSFs as of Jan 2016. Despite a 31% increase in our responses to fires, rescue calls, HazMat incidents and ambulances cases from 2010 to 2015, our manpower has only grown 6.2% over the same period. This is made possible by our relentless exploration of various approaches on the lean and effective use of resources, such as investing in a multi-skilled workforce, strong engagement with stakeholders to co-create services and leveraging greatly on innovation and technology.

### *Major Facilities, Equipment and Technology Used*

We will continue to leverage new technologies to develop future-ready infrastructures and systems.

Within HQ SCDF, we have a purpose-built facility known as the Innoventure Land that serves as an ideal venue for focus group and brainstorming sessions. It also functions as the nerve centre for innovation-related activities and showcases our bottom-up ideas that have been brought to life. We also have in place Pi-Cube or “Problem, Ideas, Improvement and Innovation” a centralised idea management portal that gives us the platform to solicit, collate and evaluate ideas from across the organisation. This portal is also built on the concept of crowd-sourcing, where problems and ideas identified are also shared with the rest of the organisation to bounce-off and achieve cross fertilised solutions. It also assisted in reducing cycle time from ideation to implementation.

## 2. Organisation Relationships

### *Relationship with Parent Organisation*

SCDF is a member of the Home Team and we are under the purview of the Ministry of Home Affairs (MHA). We work closely with other Home Team Departments (HTDs) and related agencies, leveraging each other’s strengths to achieve the collective goal of ensuring a safe and secure best home in Singapore.

### *Customer Relationships*

Customers are our focus and we recognise that they all have different needs. For better management, we have segmented them based on the broad services that they require from the SCDF to help us better engage and cater our services to their needs, thereby enhancing their experience with us.

### *Partner/Supplier Relationships*

We are constantly looking to forge strong synergistic relationships with various sectorial partners to create value-added services to the community. We constantly encourage participation from external stakeholders for collaboration on innovative solutions/projects and their inputs are sought and incorporated within our Three Stage Innovation Process.

## 3. Organisation Challenges

### *1. Competitive Environment*

As the national authority in providing fire-fighting and emergency services in Singapore, we do not face competition in the traditional sense of the word. Nevertheless, we are driven to constantly improve our service delivery and we leverage the international community to share, learn, adopt as well as to innovate best practices.



## ORGANISATIONAL PROFILE continued

### 2. Strategic Challenges

We have identified the key challenges ahead where there may be opportunities for improvements to the way we operate.

Technological Drivers and Increasing Risks of Catastrophic Events
<ul style="list-style-type: none"> <li>Increasing connectivity world-wide may expose Info-Comms Technology (ICT) systems to greater risks of Cyber-attacks, and the spread of misinformation through social media may impede our ability to respond effectively. However, we believe that IT can provide a major opportunity for us to transmit time-critical information to better prepare the community in emergencies and deploy data analytic tools to sharpen our operational capabilities.</li> <li>The expanding petrochemical and biomedical sectors come with inherent HazMat risks. The terrorist threat remains prevalent and epidemiological challenges such as Severe Acute Respiratory Syndrome (SARS), bird flu and Ebola can impact Singapore. There is a need to remain vigilant, constantly review our regulations to manage our risks, and continuously enhance our capabilities to mitigate such emergencies.</li> <li>Infrastructure is being built with increasing density as the population grows in land-scarce Singapore. We are seeing buildings that are taller, more complex and increasingly more unconventional in design. We need to enhance both our operational capabilities as well as maintain an effective regulatory regime to address these complexities.</li> </ul>
Demographic Changes and Manpower Constraints
<ul style="list-style-type: none"> <li>A growing and greying population in Singapore will inexorably increase the demand for our emergency medical services as part of the national healthcare system. Based on projections, the number of residents aged 60 and above is expected to reach 900,000 by 2020 – forming 18% of the population. The shrinking resident workforce will tighten our manpower resource availability especially when traditional non-graduate jobs in the fire-fighting and/or paramedic schemes of service may no longer appeal to the younger generation.</li> </ul>

### 3. Organisational Directions

We have developed four organisation directions and eight Force Broad Strategies, anchored closely to leveraging innovation and technology (*see Table 2*) to address the above challenges and these form the basis of our five-year master-planning process:

Organisation Direction	8 Force Broad Strategies	Definitions
Operational Excellence	1) Effective Response to Threats 2) Enhanced Community Self-Help 3) Risk Management-based Civil Protection	Amid the changes arising from terrorism threat, rapid urbanisation and globalisation, we will continually upgrade our capabilities, leverage new technologies, and to pursue innovations so as to stay as a viable and effective Life Saving Force
Public Protection	4) Leveraging on Emerging Technologies and Innovations 5) Effective Resource Management	We seek to create paradigm shifts in design requirements and modeling to meet the challenges of new building designs and construction materials used. As our expertise matures, we also strive to be the premier organisation in sharing our best practices in the regional and international arena
Community Preparedness	6) Engaged & Competent Workforce 7) Service Responsiveness and Transparency	With globalisation and influx of foreigners expected, we will promulgate continuing interest in safety and security programmes so as to ensure that the population is mentally resilient and conversant in emergency procedures in the event of catastrophic events
Organisational Excellence	8) Forging Strategic Partnerships	We seek continuous transformation through eliminating red tape, innovating for excellence to meet public expectations of our response times, enhancing our emergency capabilities and integrating knowledge management for organisational effectiveness. We will continue to attract and inject new talent in the renewal and management of our workforce

Table 2 Our four organisation's direction and eight Force Broad Strategies to meet future challenges

### 4. Performance Improvement System

Our performance improvement system is categorised into five areas:

- Monitoring
- Feedback
- Projects/Learning from Others
- Process Reviews/Audits/Assessment
- Training and Development

# LEADERSHIP



## 1. LEADERSHIP

### 1.1 Senior Leadership

1.1a Describes how the organisation's senior management develops the organisation's mission, vision and values, and communicates them to key stakeholders

#### ***Our Senior Management***

Senior Management (SM) comprises of Directors of Staff Departments, Division Commanders and Directors of Training Institutions. Together, they work closely as a team and stand guided by our Mission, Vision and Values (MVV) to provide leadership to our organisation.

Our SM is instrumental in providing strategic directions across different domains of work, some of them are also involved in high-level policy setting with international committees like the International Fire Chiefs Association of Asia (IFCAA), the International Search and Rescue Advisory Group (INSARAG), Asia Pacific Regional Group, the INSARAG Steering Committee under the ambit of the United Nations Disaster Assessment and Coordination (UNDAC) Advisory Board as well as the ASEAN Committee on Disaster Management (ACDM).

#### ***Mission Centric Leadership Framework***

We use a Leadership Framework (*see Figure 1.1.1*) to help us identify and assess potential leaders for development to ensure continuity and flow in the leadership pipeline. This framework provides clarity on the leadership attributes to be nurtured and key areas to be further developed.

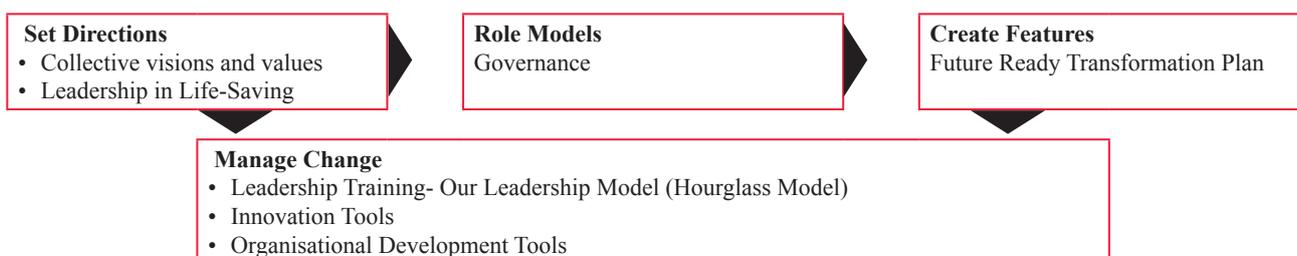


Figure 1.1.1 Our Leadership Framework

#### ***Our Mission, Vision and Values (MVV)***

A review of the MVV together with our stakeholders is conducted during the annual Management Advance to ensure that these critical statements remain relevant and aligned with our strategic goals and objectives. To ensure ownership, the review will always take into account inputs and recommendations from all levels of the organisation. We adopted a new

LEADERSHIP *continued*

vision statement in 2012 – ‘A World-Leading Life Saving Force’ – that clearly articulates our aspirations to be among the world’s best emergency services provider and to provide leadership at the global level (*see Table 1.1.2*).

<p><b>Vision</b> - “World Leading” demonstrates SCDF’s aim and determination to become one of the world’s best, able to direct or influence in our field of expertise. It also represents our aspiration to become a leader for others to emulate. “Life Saving Force” is SCDF’s slogan which encapsulates the spirit of the Force and underscores our commitment to save lives.</p>		
<p><b>Tenet 1 - People (Strategic Assets)</b> We believe in our people to drive our organisation forward and are committed to invest in our people to invest in our people to develop their fullest potential</p>	<p><b>Tenet 2 - Innovation (Strategic Enabler)</b> We will continue our relentless pursuit in harnessing innovation and technology as key enablers of a highly effective Force</p>	<p><b>Tenet 3 - Partnership (Strategic Partnership)</b> We strive to forge strategic partnership with different communities to promulgate interest in safety and security programmes to ensure that the population is familiar with emergency procedures and resilient against contingencies, so as to collectively achieve an emergency ready nation</p>

Table 1.1.2 Clarity of the Vision Statement

The MVV is frequently communicated to all stakeholders across a variety of channels and forums. This is the common ground upon which staff can work within and across unit and departmental lines to build a professional, forward-looking organisation.

### 1.1b Describes how the organisation’s senior management engages key stakeholders to drive the organisation’s performance

Across the SCDF, we have many engagement scaffolds and formal opportunities for both internal and external stakeholders to be engaged by SM. Besides dialogues, meetings, and conferences, Commissioner also personally pens email messages to his staff and visits Departments/Units to engage the man on the ground and, in so doing, reinforce our MVV. Other members of SM, especially the Division Commanders, also do likewise and leverage face-to-face dialogues as a key platform by which to solicit feedback from staff as well as to share new and important developments in SCDF with our people.

External platforms include local forums like Lionhearters Forum, Fire Safety Manager/ Accredited Training (A-CERTs) Seminar and Pro-Enterprise Results (PER) Survey and international forums like IFCAA, ASEAN Committee on Disaster Management and UNDAC Advisory Board.

### 1.1c Describes how the organisation’s senior management reinforces values and demonstrate behaviours that champion innovation

#### **Leadership at the Front**

Our SM demonstrates leadership at the front in the most literal of ways as they are always ready to respond to major incidents and take command of ground operations. One such incident was the Pulau Bukom incident on 28 Sep 2011 where most of the senior leadership were on site during the height of the incident to direct and coordinate the operation. Our Division Commanders have also personally led 17 overseas humanitarian rescue operations (codenamed ‘*Operations Lionheart*’) to disaster struck countries since 1990.

Our SM also demonstrates leadership at the front by leading in innovation efforts through platforms such as the Management Advance and the monthly Unit 3I Committee meetings, which provides the ground the opportunity to share and showcase innovative solutions applied at the workplace. Furthermore a review in 2012 led to the transfer of the appointment of a Chief Innovation Officer (CIO) from that of a Staff Officer to a Department Director. This move further testifies to SM’s commitment towards championing innovation in SCDF.

SM builds a supportive environment for learning/training and one way they do this is by establishing customised systems like Pi-Cube. Pi-Cube empowers staff to contribute ideas freely and encouraging prototyping activities for sharing and cross-pollination of ideas, such as Force-wide innovation-focused events like the 3I Convention and Unit Ideathons. The Innovation Creativity and Enterprise (ICE) Committee is chaired by DC with Departmental Directors and Unit Commanders as members. The committee steers innovation by identifying challenges, setting targets and assessing the

## LEADERSHIP *continued*

feasibility of projects. Our Innovation Office (I-Office) is overseen by Director SPD, who manages our innovation focus and challenges. The I-Office implements and oversees programmes and initiatives that sustain innovation drive, and constantly reviews the Innoventure Scheme to ensure its relevancy.

Our very own InnoventureLAND, centrally located at HQ SCDF, serves to facilitate brainstorming, as well as host project meetings, presentations and group discussions. InnoventureLAND is a symbol of our efforts to create a culture of innovation and it reinforces our philosophy that **'everyone has the potential to innovate'**.

### 1.2 Organisational Culture

#### 1.2a Describes how the organisation enables learning, innovation and the achievement of strategic goals

Innovation is one of the main vehicles priming the SCDF to achieve our strategic objectives. Our innovation drive focuses on key processes with the intention of making quantum leaps in these processes. This innovation culture is embedded in our basic philosophy that **'everyone has the potential to innovate'**. Ideas come from individuals and teams from across all levels of the organisation.

#### *Culture anchored on PRIDE and CARE*

Every organisation develops its own unique culture around its set of core value. For us, we have over time distilled the core values of **PRIDE** and **CARE** as key to supporting our life-saving mission and these values are also aligned with the wider civil service ethos of Integrity, Service and Excellence. The values are translated into policies and desired behaviours and the culture is permeated through sustained practices and programmes. Our culture enables our officers to demonstrate the attributes of **Innovation, Learning and Service** in the achievement of our strategic goals.

#### 1.2b Describes how the organisation embraces new ideas and learn from failures

#### *Culture of Innovation*

Our personnel are constantly on the lookout for better and more efficient processes and equipment that can improve our operational readiness and effectiveness. We have undergone many radical paradigm shifts in our efforts to implement game-changing new ideas. The innovation framework also ensures that we allow our staff to experiment and we have a tolerance for setbacks.

One of our notable examples is the Light Fire Attack Vehicle (LFAV). In fact, the initial concept for what is to become the LFAV, was not able to meet the operational targets set, as the vehicle was designed with a water tank on board, as do all conventional fire engines. This prevented any chance of it being agile and quick. The first generation of the LFAV was later conceptualised and designed in-house by our own officers to meet the challenges posed by a highly urbanised Singapore with narrow streets and buildings in close proximity to one another. In order to do so, we had to step away from entrenched firefighting mindsets. We did away with the concept of having a water tank on board by tapping on the well-developed islandwide network of water hydrants. We also embarked on a job redesign in order to operationalise a four men crew concept in firefighting.

Over the years, we have rewritten the LFAV capability to be the first compact urban firefighting vehicle in the world with a fully integrated Compressed Air Foam (CAF) system. The CAF technology is indeed a breakthrough in fire mitigation. It extinguishes fire four times faster than water while using 70% less water which effectively minimises water damage to properties during firefighting operation. In November 2015, we rolled-out our latest version of the fire appliance and in addition to the integrated CAF system, the 5<sup>th</sup> Generation LFAV is designed and equipped with both fire-rescue and medical capabilities to provide enhanced support during emergencies.



**1.3 Corporate Governance and Social Responsibility**  
 1.3a Describes how the organisation establishes a governance system to ensure accountability and transparency

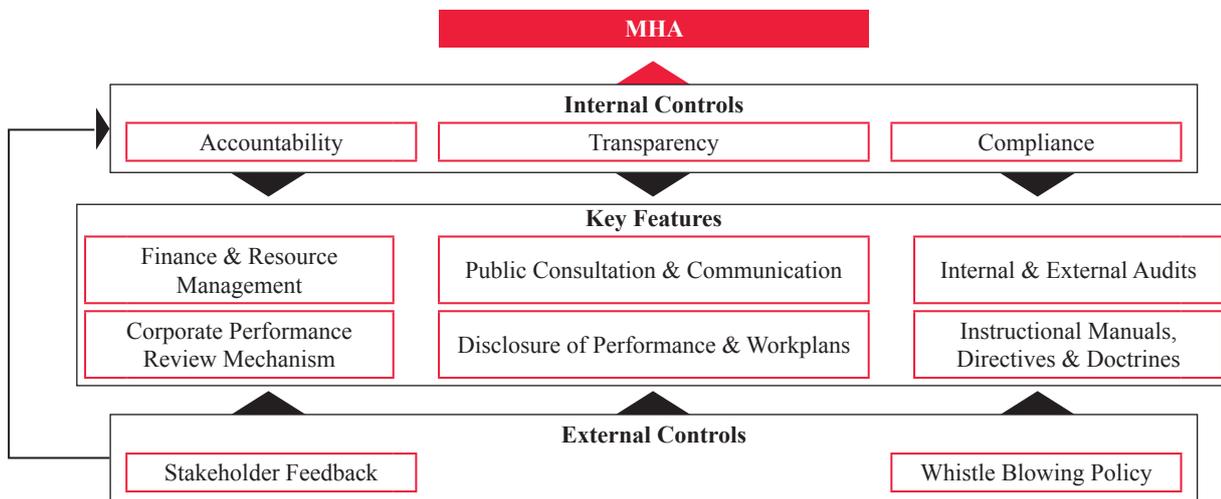


Figure 1.3.1 Corporate Governance Framework

**Our Corporate Governance Framework**

Our corporate governance framework (see Figure 1.3.1) is setup to ensure that we are able to consistently deliver on the mission and in accordance to proper standards and controls. The framework is anchored on the principles of accountability, transparency and compliance.

**Life-Saving Beyond Borders**

The SCDF recognises that we have responsibilities not only to our country but also to the wider regional and international community as a member of the emergency services fraternity. Leveraging our strengths, this is done at various levels in the fields of field operations and training.

As part of SCDF’s efforts for Global Humanitarian Outreach, the SCDF’s Operation Lionheart Contingent has obtained the INSARAG External Classification as a Heavy Urban Search Rescue (USAR) Team, being the first in Asia to attain this classification in 2008 and later recertified in 2013. To date, the SCDF Operation Lionheart Contingent has been deployed for 17 overseas missions with the first deployment taking place in 1990. Regionally, the organisation leads the ASEAN Emergency Response and Assessment Team (ERAT). SCDF has an on-going programme with several Asia-Pacific and European countries to exchange views, skills and experiences on emergency preparedness and disaster management. It has UNDAC trained officers on standby for deployment under the United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA) to disaster-hit countries for rapid disaster assessment and coordination. Its UNDAC members have participated in several international rescue missions. It is also one of the founding members of the Asia-Pacific Humanitarian Programme (APHP) under UNOCHA to support UNDAC teams. APHP members are also constantly on stand-by for deployments.

**Involvement and Contributions to the Community, Society and Environment**

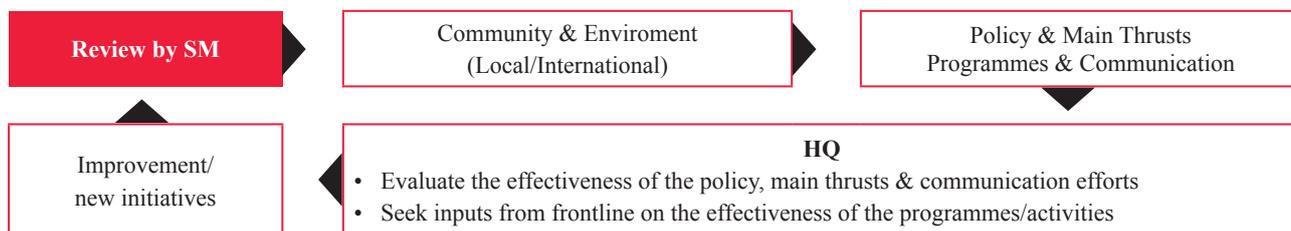


Figure 1.3.2 Review and evaluation process



## LEADERSHIP *continued*

We adopt a two-pronged approach to evaluate the effectiveness of our community and environment efforts. This is done annually to ensure that the necessary policies, key thrusts and supporting communication efforts are in place.

Our Units/Depts will evaluate the effectiveness of the programme or activities organised and submit quarterly reports (*see Figure 1.3.2*). The input is then tabled for deliberation at the SM level.

In providing assistance to Adopted Homes, units previously only provided cleaning services. Now, units also initiate efforts to check the fire evacuation plans and fire safety facilities of the Adopted Homes. This allows them to benefit from the professional assistance provided. In addition, by expanding SCDF's outreach to more charities, more recruits are engaged in SCDF's corporate citizenry programme. This benefits the recruits as it adds a fresh dimension to their training.

To inculcate corporate social responsibility in our people, lessons on CSR have been introduced in the Public Affairs Officers Course conducted at CDA, as well as participation in Water and Electricity Conservation. This allows promotion of CSR to be done in a structured and consistent manner and also greater involvement of our people towards Environmental Sustainability Programmes. In addition, all SCDF premises have achieved the Water Efficient Building Award and are certified "Friends of Water" by the Public Utilities Board (PUB).

To improve direct involvement in our contribution to the environment, participation in Environmental Sustainability Programmes was introduced. As such, all SCDF units are stakeholders for the cleanliness and upkeep of various waterways within their territorial boundaries.



CUSTOMERS continued



**LIFELINE:** Madam Michelle Lim meeting Mr Ken Gong for the first time yesterday since his cardiac arrest last month. (Source: The New Paper, 19 Feb 2016)

**WOMAN HELPS SAVE MAN USING NEW SCDF PHONE APP**



**2. CUSTOMERS**

*Integrated Customer Management Framework*

We adopt the Integrated Customer Management Framework in *Figure 2.1* to guide us in understanding and anticipating the needs of our customers so that we may create value and superior experiences for them. There is strong leadership commitment with Senior Management (SM) championing a culture of innovation, service and customer-centricity throughout SCDF. The department directors and unit commanders drive the delivery of our key services through the Innovation Creativity and Enterprise (ICE) Committee which steers innovation by identifying challenges, setting targets and assessing the feasibility of projects. The Director of Service Excellence Department (SED), who is the SCDF's Service Champion, ensures that our policies, systems, directives and guidelines on providing quality customer service are relevant and up-to-date through regular reviews and innovative improvement efforts.

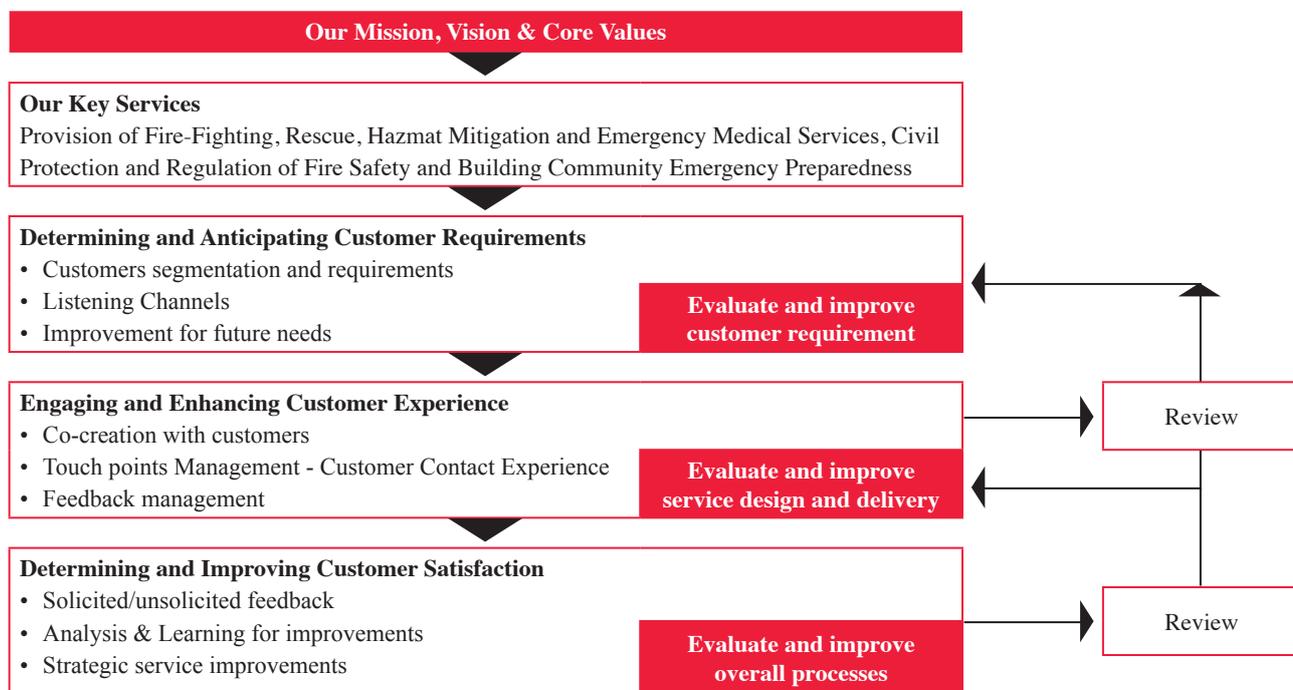


Figure 2.1 Integrated Customer Management Framework



## CUSTOMERS continued

### 2.1 Customer Requirements

#### 2.1a Describes how the organisation segments markets and customers and understands their current and future requirements

Our customers are segmented according to the key services they require of us. *Table 2.1.1* provides our customer segments, their requirements and our service commitments to them.

Customer Segment	Customer Requirement
<b>Fire-fighting, Rescue, HazMat Mitigation and Emergency Medical Services</b>	
<ul style="list-style-type: none"> <li>• General public</li> <li>• Patients and victims</li> <li>• Next-of-Kin</li> </ul>	<ul style="list-style-type: none"> <li>• Fast response to emergency 995 calls</li> <li>• Fast response to incidents</li> <li>• Professional and compassionate services</li> <li>• Protect life and prevent fire spread</li> <li>• Effective and speedy rescue</li> <li>• Minimal damage to property</li> <li>• Speedy, safe and comfortable conveyance to hospital</li> <li>• Save life / preserve life</li> <li>• Effective pre-hospital care</li> <li>• Fast and easy access to Fire Investigation Report</li> <li>• On-site retrieval and payment for Fire Incident Report and Ambulance Report</li> </ul>
<b>Civil Protection and Regulation of Fire Safety</b>	
<ul style="list-style-type: none"> <li>• General public</li> <li>• Permit/waiver applicants</li> <li>• Building owners</li> <li>• Building Professionals</li> <li>• Fire Safety Offenders</li> </ul>	<ul style="list-style-type: none"> <li>• Prompt counter service</li> <li>• Easy payment through GIRO, credit cards and cheques</li> <li>• Consultation or queries on Fire Code/ Fire safety related matters</li> <li>• Competent and professional advice</li> <li>• Flexible and autonomous building plans</li> <li>• Prompt processing of plans, enquiry and requests</li> <li>• Prompt processing of certificates, permits and licences application</li> <li>• Clear guidance on fire safety policies/regulations</li> <li>• Performance Based Code</li> <li>• Integrity of shelter that protects against bomb blasts</li> <li>• Provision of Public Warning System (PWS) Coverage</li> <li>• Consistent and fair enforcement regulations</li> </ul>
<b>Building Community Emergency Preparedness</b>	
<ul style="list-style-type: none"> <li>• Residents</li> <li>• Students</li> <li>• Workers</li> </ul>	<ul style="list-style-type: none"> <li>• Easy accessibility of information and knowledge</li> <li>• Convenient availability of skill learning opportunity</li> <li>• Relevant and contemporary knowledge and skills in basic fire-fighting, CPR, first aid, fire safety and emergency preparedness</li> <li>• Partnership and collaboration in emergency preparedness and response</li> </ul>

*Table 2.1.1 Customer Segments and Requirements*

#### **Comprehensive Listening Channels**

We continue to widen the range of listening channels available for our stakeholders and customers to provide feedback. Quality feedback provides a valuable source of information and input for us to conceptualise new ideas and develop innovative solutions that meet customer needs or even exceed their expectations. Our engaging and timely social media and mobile applications have been harnessed effectively to enhance the reach that our customers have with us. *Table 2.1.2* details the customer future needs which derived from our listening channels. These have been incorporated in our strategy implementation which leads to innovations and improvement projects.



CUSTOMERS *continued*

Key Service	Listening Channel		Customer Future Needs
	Common	Specific	
Fire-fighting, Rescue, HazMat Mitigation and Emergency Medical Services	Hotlines <ul style="list-style-type: none"> <li>Quality Service Manager(QSM) Hotline</li> <li>General Enquires Hotline</li> </ul> Mobile App <ul style="list-style-type: none"> <li>NSmen mServices</li> <li>Fire Extinguisher</li> <li>CPR, Automated External Defibrillator (AED) and Choking</li> <li>SCDF Annual Report, Emergency Handbook and Rescue 995</li> </ul> Written correspondence via mail, fax and email	24hr Emergency Hotline (995) Emergency Ambulance Service Feedback Form Fire Operations Feedback Form Ops focus groups with other government agencies (i.e. Joint Planning Staff (JPS)), industries, hotels, mega-malls and multi-agency taskforces Pre-hospital Emergency Care (PEC) taskforce with Ministry of Health (MOH) Focus groups and meetings with the Medical Advisory Committee (MAC)	Enhanced capabilities to manage evolving security threats Effective means of fire extinguishment with minimal water usage Tiered ambulance response system with priority dispatch for life-threatening medical emergencies, e.g. cardiac arrest cases
Civil Protection and Regulation of Fire Safety	Walk-in or face-to-face Mass media platforms (TV, print, broadcast) Social media tools (e.g. Facebook, blogs, Twitter) Feedback form Public consultation <ul style="list-style-type: none"> <li>Online consultation</li> </ul> Public perception survey <ul style="list-style-type: none"> <li>Measures civil defence, emergency preparedness and conducted once every three years</li> </ul>	24hr Fire Hazard Feedback Hotline Mobile App - Fire Safety Feedback Counter Service Feedback Form Focus Groups and regular meetings with various professional bodies such as Qualified Persons (QPs), Fire Safety Engineers (FSEs) On-going Fire Code Review meetings with Qualified Person (QP)s	Improved efficiency in responding to customer's needs Increased competency in responding to public queries Professionalism in dealing with the public when conducting checks at their premises Continuing education to facilitate compliance to fire safety requirements Streamlined processes to increase productivity
Building Community Emergency Preparedness		SCDF Emergency Information Hotline Community Involvement Programmes Feedback Form Meetings with stakeholders such as community, grassroots leaders and schools on CD Ready programmes	Information available through wide array and engaging platforms Public Education (PE) programmes to cater to foreign workforce Fun and interactive learning experience

Table 2.1.2 Listening Channels and Customer Future Needs

## 2.1b Describe how the organisation incorporates market and customer requirements into strategic plans

The Corporate Planning Process is the platform where our customer's current requirements and projected future needs are integrated into strategic plans. Customers' needs are constantly evolving and increasingly complex and we have in place a clearly defined innovation framework to generate, evaluate and realise ideas to take on these challenges. Vision 2025, which we unveiled in 2014, will provide us with the impetus to engage our customers more deeply because of the strategy of integrating community first response with that of the SCDF's to create a more holistic and responsive emergency service model. The direction that we are taking will certainly strengthen our means to answer the prevailing customers' needs for not just swifter responses to emergencies, but more critically, better outcomes for those in distress.

## CUSTOMERS continued

The Corporate QSM drives the review and evaluation of customer requirements and expectations. The outcomes are tabled at various forums and presented to SM for deliberation and approval.

### 2.1c Describe how the organisation designs personalised experiences that delight customers and exceed their expectations

We reach out to our customers through a variety of platforms to understand and meet their evolving needs. We incorporate customer feedback into our improvement plans and continuously enhance the service delivery process and the quality of our services.

## 2.2 Customer Experience

Aligned with our core values, our Service Intent demonstrates our commitment to meet our customer's needs and delivers a personalised experience as written below:

### Our Service Intent

“We are committed to leave a professional impression on every customer. Customer's needs are attended to by competent and caring staff, guided by our Quality Service Indicator targets.”

### 2.2a Describe how the organisation co-creates products, processes, services or experiences with customers to meet their needs

#### *Proactive Engagement and Co-creation with Customers*

We reach out to our customers via various platforms to facilitate consultative discussion and to engage them in co-creating innovative products, services or experiences.

### 2.2b Describe how the organisation ensures customer feedback is resolved and analysed to drive improvements

#### *Centralised Framework for Customer Relationship Management*

The Centralised Customer Relationship Management Framework (*see Fig 2.2.1*) is captured in SED's Management of Feedback Directive. Key features include the automated consolidation of feedback through multiple access points, routing, tracking, categorisation and sorting to facilitate data analysis for strategic service review. This ensures that all feedback are attended to according to the standard set out in our Quality Service Indicators (QSI). If a full reply cannot be given by the targeted deadline, an interim reply would be issued first followed by an updated response later.

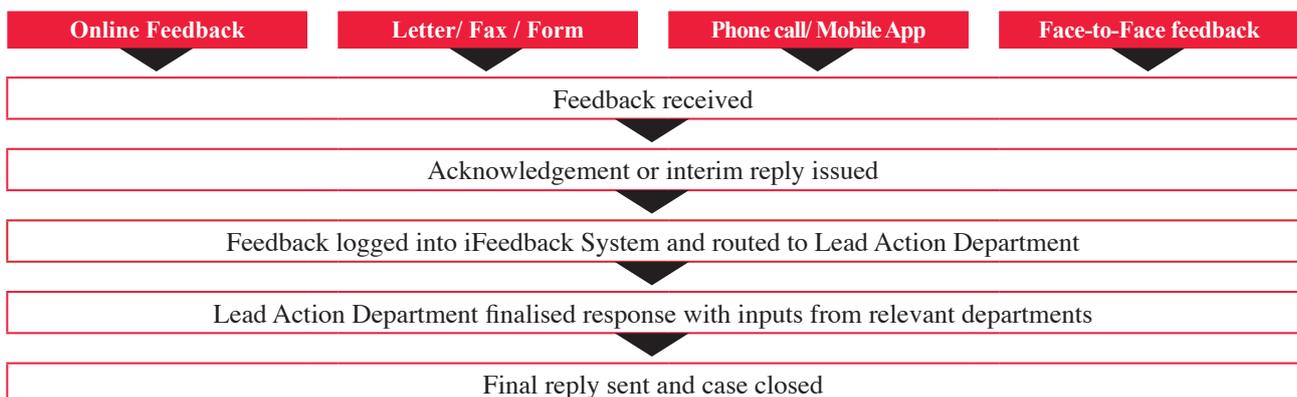


Figure 2.2.1 Customer Relationship Management Framework

**Whole-of-Government Approach in Feedback Resolution**

Our processes are aligned with the Public Service Division's (PSD) commitment to improve public service delivery through better coordination among public agencies at a Whole of Government (WoG) level. The 'No Wrong Door' (NWD) policy was first introduced by the PSD in 2004 to deal with misdirected feedback or cross-agency issues more effectively. The First Responder Protocol (FRP) was later introduced to augment the NWD by enabling agencies to provide quick initial responses to complex issues which require coordination among several agencies.

**Professional and Caring Feedback Management**

Director SED has the responsibility to ensure that complaints are resolved in a timely manner and that concerns voiced by our customers are comprehensively addressed.

**Multi-tiered Touch Points**

Table 2.2.2 details the multi-tiered touch points that we have in place for customers to seek information and assistance.

Touch Points	Customer Experience
<b>PRE-CONTACT</b>	
<ul style="list-style-type: none"> <li>• Media reports on SCDF operations</li> <li>• Mention of SCDF on social media platforms such as forums, blogs, Facebook, Twitter, Instagram, YouTube</li> <li>• Publications – Annual Report, R995, Public Education materials</li> <li>• Fire safety radio advertisements during festive seasons</li> <li>• SCDF Internet Webpage</li> <li>• SCDF Mobile Apps</li> </ul>	<ul style="list-style-type: none"> <li>• Insight into SCDF operations</li> <li>• Gain more knowledge of SCDF as an organisation</li> <li>• Accurate information on SCDF, as and when required</li> <li>• Easy to understand information on what to do during a crisis</li> </ul>
<b>CONTACT</b>	
<p><b>Usage of Emergency Services</b></p> <ul style="list-style-type: none"> <li>• First line of contact for customers using our emergency services, the '995' hotline is manned 24/7 by competent staff from SCDF Operations Centre</li> <li>• Depending on the nature of the call, Operators will despatch relevant emergency vehicles to the incident</li> </ul> <p><b>For information on SCDF</b></p> <ul style="list-style-type: none"> <li>• Hotlines to provide public with information are the Emergency Information &amp; General Enquiries hotlines</li> <li>• Customers may also write-in to us via email, fax or mail. Our contact addresses are widely available in various sources such as the Government Directory, SCDF Internet and public education materials</li> <li>• Social media platforms are also available for the internet savvy customer to contact the SCDF</li> </ul> <p><b>E-Services</b></p> <ul style="list-style-type: none"> <li>• 39 e-services that target all segments of the population is available round the clock on the SCDF website</li> </ul> <p><b>Visits to SCDF Facilities</b></p> <ul style="list-style-type: none"> <li>• Fire Station visits – every Saturday morning for general public and organised groups</li> <li>• Heritage Gallery – opens Tuesday to Sunday</li> <li>• Community Emergency Preparedness Programmes – classes held at the four Division HQs, participants can arrange to attend at a time convenient to their schedule or have it arranged to be conducted at the organisation's premises</li> </ul> <p><b>Customer Service Counter</b></p> <ul style="list-style-type: none"> <li>• Located at HQ SCDF, this counter provides services for customers relating to fire safety matters as well as to make payments for SCDF services</li> <li>• Dedicated meeting rooms are also available for detailed consultations with our fire safety consultants</li> </ul>	<ul style="list-style-type: none"> <li>• Efficient and caring service, provided by competent staff</li> <li>• Accurate and timely response to queries</li> <li>• Entertaining and engaging contact experience</li> </ul>
<b>POST CONTACT</b>	
<p><b>Feedback Channels</b></p> <ul style="list-style-type: none"> <li>• QSM Hotline – Customers who wish to provide feedback on our services can do so at our QSM hotline</li> <li>• Written feedback can be submitted at our website or via social media apps that are monitored</li> <li>• Various feedback forms are available for all customer groups</li> </ul>	<ul style="list-style-type: none"> <li>• Responsive</li> <li>• Attentive</li> <li>• Professional</li> <li>• No Wrong Door</li> </ul>

Table 2.2.2 Touch Point Management

## CUSTOMERS *continued*

### 2.2d Describe how the organisation ensures overall ease of customer contact and service standards are set at customer touch points

We constantly review and upgrade our QSIs to remain relevant and responsive to our customers' needs. These QSIs demonstrate our service commitment to provide professional and caring services for our customers.

We have also established a range of mechanisms, including Service Excellence Awards (SEAs), a structured training framework and internal communications channels to foster a culture of service excellence in the organisation.



# STRATEGY



### Structured and Robust Corporate Planning Process (CPP)

The overview of SCDF’s Corporate Planning Process (CPP) is illustrated in Figure 3 while Figure 3.1.1 outlines the key activities and participants involved in the five stages of the process.

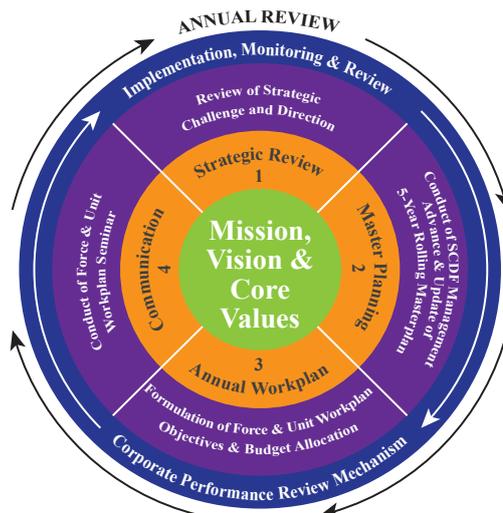


Figure 3 Our Corporate Planning Process

## 3.1 Strategy Development

### 3.1a Describes how the organisation determines organisational challenges and anticipates external changes and risks

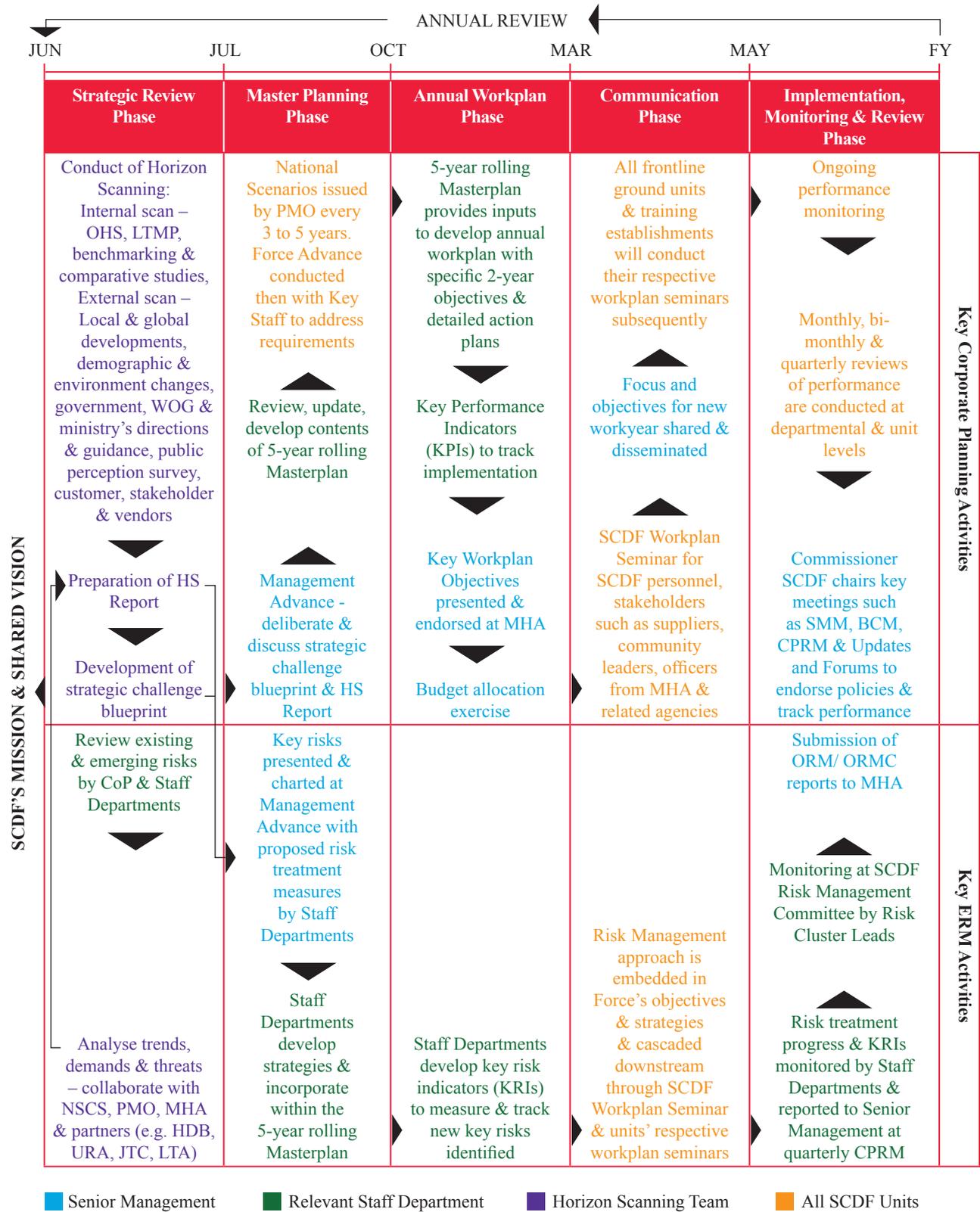
#### Horizon Scanning

In 2014, we established a transformative 2025 vision of building “A Nation of Lifesavers” to prioritise the Force’s efforts towards becoming a future-ready organisation. We also formed a Force Transformation Office to strategise, drive and coordinate the change efforts both within and beyond the SCDF in a comprehensive and holistic manner.

To keep the Force abreast of the latest emerging trends, a bi-weekly publication of relevant trends and developments is produced and shared across all departments. A yearly Horizon Scanning report is also developed to inform and shape Senior Management (SM)’s decision-making at the Management Advance. In anticipation of future threats and risks, the organisation develops solutions to meet the changing needs of its operating environment. The Emergency Medical Technician (EMT) scheme and Unmanned Firefighting Machine (UFM) are illustrations of how the organisation adapts to limited manpower resources, and growing industrial needs, respectively.



STRATEGY continued



■ Senior Management    
 ■ Relevant Staff Department    
 ■ Horizon Scanning Team    
 ■ All SCDF Units

Figure 3.1.1 Summary of key participants and activities of the SCDF Corporate Planning & ERM Processes

### 3.1b Describe how the organisation develops strategic goals, and long and short term strategies to address the vision and mission

#### *Comprehensive Strategic Challenges and Directions – Innovation as a Strategic Enabler*

To overcome existing and future challenges, we have developed four Strategic Directions and eight Force broad strategies as shown in *Figure 3.1.2* and *Table 3.1.3* to support SCDF's Mission Vision & Values (MVV) and its transformative 2025 vision.

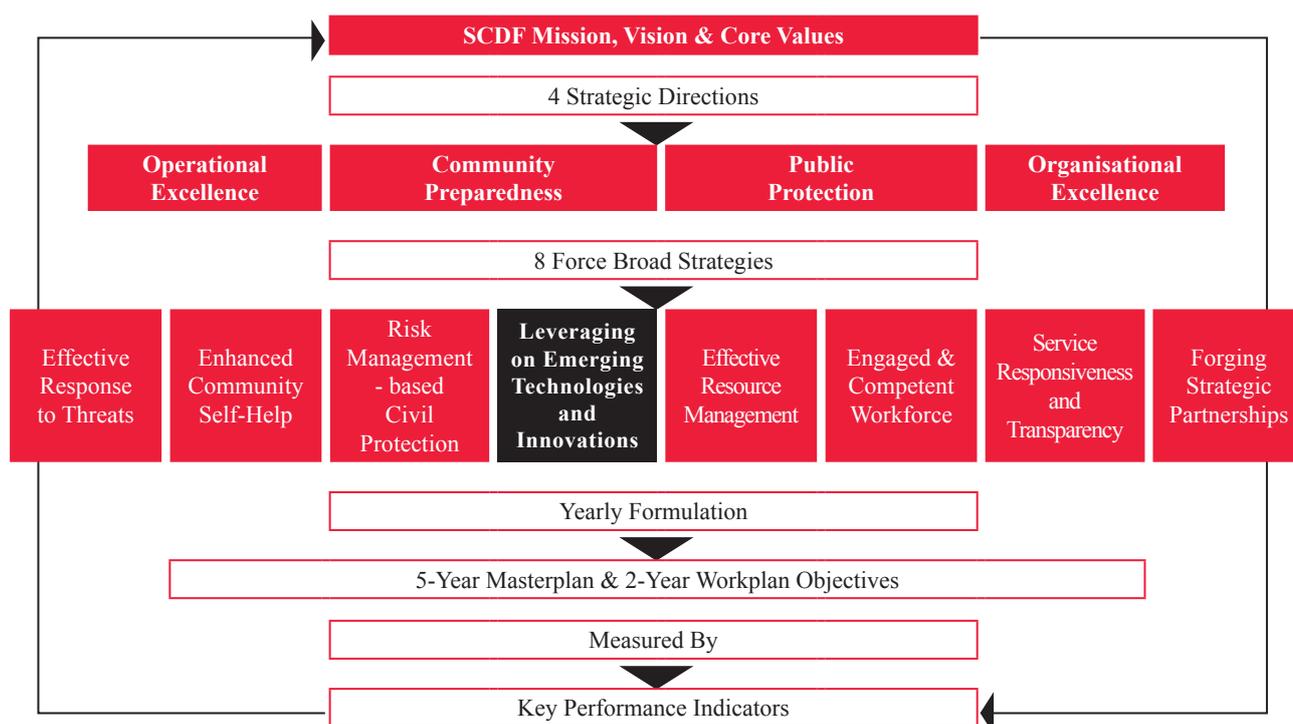


Figure 3.1.2 Our Strategic Development Framework

Force's Strategic Directions	Innovation as a strategic enabler
Technology Innovation – Operational Excellence through Innovative Products and Capabilities	SCDF's operational readiness and conduct of operations rank high in our priorities. Amidst the changes arising from terrorism threat, rapid urbanisation and globalisation, SCDF seeks to continually upgrade its capabilities, leverage new technologies, and pursue innovation so as to ensure a viable and effective Life Saving Force.
Service Innovation – Moving Towards Institutionalising Safety and Public Protection	In the focus area of fire safety and sheltering regulatory controls and requirements, SCDF seeks to create paradigm shifts in design requirements and modelling to meet the challenges of rapidly changing and new building designs and materials. With the maturing of our expertise, SCDF also seeks to be the premier organisation in sharing our best practices in the regional and international arena.
Business Model Innovation - Community Preparedness through Self-Help to Community First Responders	With globalisation and influx of foreigners expected, SCDF seeks to promulgate continuing interest in safety and security programmes so as to ensure that the population is mentally resilient and drilled in emergency procedures in the event of catastrophic events.
Process Innovation - Building Expertise, Improving Efficacy and Cost-Effectiveness for Organisational Excellence	SCDF seeks continuous transformation through the streamlining of our Order of Battle (ORBAT), eliminating red tape and onerous procedures, innovating for excellence and integrating knowledge management for organisational effectiveness. SCDF will continue to attract and inject new talent in the renewal and management of the workforce.

Table 3.1.3 Innovation as a strategic enabler

## STRATEGY *continued*

### 3.1c Describe how the organisation engages key stakeholders in the strategy development process

We see the importance of co-creating our strategy development and their implementation with our stakeholders, partners and customers. At the strategic level, the eight broad Force strategies emphasise the importance of engaging our key stakeholders (*see Table 3.1.4*).

Force's Strategies	Cascading Innovation to all levels	Stakeholders
Effective Response to Threats	New threats pose challenges to the way we operate and respond. Our consequence management capability is enhanced by leveraging on innovation and collaboration with related government agencies, and on relevant local and overseas expertise. Organisational resilience in the face of new threats is strengthened through robust contingency planning, as well as the development of a business continuity plan encompassing personnel, systems, processes, facilities and equipment.	<ul style="list-style-type: none"> <li>• Related government agencies</li> <li>• Local and overseas institutions/suppliers/partners/ associations</li> </ul>
Enhanced Community Self-help	The community-at-large is increasingly recognised as a key partner in the fight against emerging threats. The thrust of our publicity efforts, emergency skills training and conduct of community-based exercises is to enhance the ability of the community-at-large to maintain an attitude of readiness, alertness and preparedness.	<ul style="list-style-type: none"> <li>• An Emergency-Ready Community</li> </ul>
Risk Management-based Civil Protection	A pro-business strategy in the light of the increasingly competitive global economy drives the way we implement and enforce fire safety and shelter regulations. The industry has benefitted from the increased flexibility and cost savings in meeting regulatory requirements.	<ul style="list-style-type: none"> <li>• Building industry players</li> </ul>
Leveraging on Emerging Technologies and Innovations	A key pillar in our strategy lies in acquiring state-of-the-art facilities and systems, and cutting edge equipment to enhance the efficiency and effectiveness so our people, processes and programmes. We also seed and grow new innovations and adaptations to generate breakthroughs in our operations and services.	<ul style="list-style-type: none"> <li>• Local and overseas suppliers and partners</li> </ul>
Engaged and Competent Workforce	SCDF is experiencing an increasingly competitive labour market in the face of an ageing population. To be able to continue attracting and retaining the best people in SCDF, we must offer a career that meets their aspirations. Having an engaged and competent workforce would not only enhance the resilience of SCDF, but also position SCDF as a choice employer.	<ul style="list-style-type: none"> <li>• Staff</li> <li>• NSF and NSmen</li> </ul>
Effective Resource Management	In line with the sustained economy drive and productivity push, the Force continues its efforts and emphasis on streamlining and optimising work processes and workflow to create synergy with our operations.	<ul style="list-style-type: none"> <li>• Staff</li> <li>• NSFs and NSmen</li> <li>• Suppliers</li> </ul>
Service Responsiveness and Transparency	We abide by a customer-centric strategy that promises prompt delivery of emergency services, seamless conduct of administrative procedures and transparency in public policies. This is to ensure a holistic and integrated solution that is convenient, cost effective that meets public expectations.	<ul style="list-style-type: none"> <li>• SCDF's Customers</li> </ul>
Forging Strategic Partnerships	To become a world-leading emergency services provider, we strive to strengthen our partnerships with local, regional and international agencies, business entities, and academic institutions in order to enhance our talent development, process reengineering, and media management. Such networking is key to enable us to stay relevant and effective in today's fast-changing world.	<ul style="list-style-type: none"> <li>• Local and overseas partners including public agencies, business entities, and academic institutions</li> </ul>

Table 3.1.4 Force broad Strategies to engage key stakeholders

### 3.1d Describe how the organisation anticipates disruptive business trends and establishes strategies to address them

#### ***Integrated Enterprise Risk Management (ERM) & Business Continuity Management (BCM) Framework***

To enhance our ability to respond effectively to potential disruptions to our emergency services, we instituted a robust BCM framework based on international standards (*see Figure 3.1.5*).



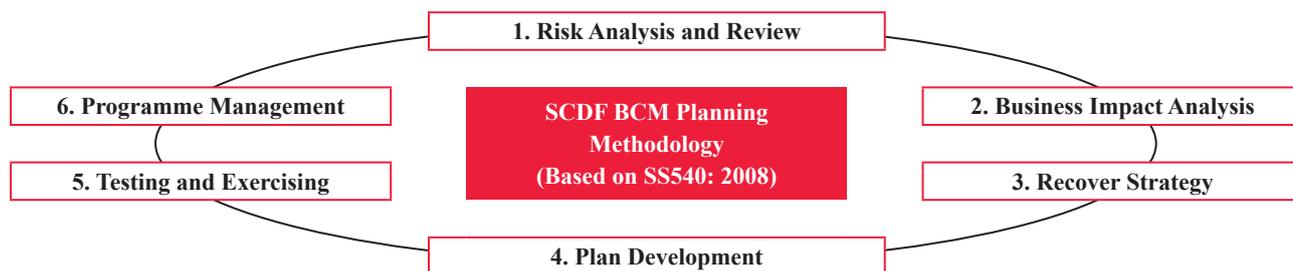


Figure 3.1.5 BCM Planning Methodology

The BCM planning methodology was integrated with the existing Enterprise Risk Management (ERM) framework as part of our Corporate Planning Cycle. Incorporating risk management into our corporate planning allows us to manage disruptive risks under the BCM framework. The integrated Corporate Planning Process is depicted below (see Figure 3.1.6) while the ERM activities that are conducted alongside the Corporate Planning Cycle are described above (see Figure 3.1.1).

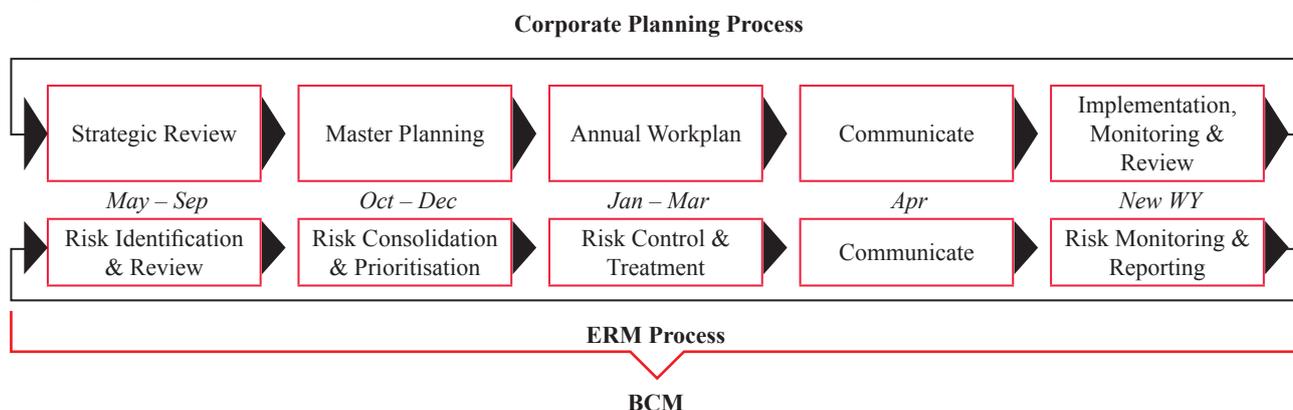


Figure 3.1.6 ERM and BCM Integrated Corporate Planning Cycle

## 3.2 Strategy Implementation

### 3.2a Describes how the organisation develops and implements long and short term action plans

#### Resource Management Framework

Under the SCDF Resource Management Framework as shown in Figure 3.2.1, the masterplans that have been formulated will be translated into individual sets of initiatives and projects to be executed at the departmental and unit levels.



Figure 3.2.1 SCDF Resource Management Framework

## STRATEGY *continued*

### Performance Review Mechanism

The key characteristics of the Performance Review Mechanism in the SCDF are its flexibility and readiness to meet unexpected events because of the dynamic environment we operate in. *Table 3.2.2* describes the key activities that are carried out.

Frequency	Key Activities
Fortnightly	Reports on innovation, customer and human resource
Monthly	Reports on status of innovation projects and units' readiness
Bi-Monthly	Track and monitor status of innovation projects
Quarterly	Budget Review
	Performance of individual departments and units are reported and reviewed
Annually or when required	Audits to validate operational and administrative readiness of the units

Table 3.2.2 Summary of key activities of our Corporate Performance Review Mechanism.

### 3.2b Describes how the organisation allocates resources in a timely manner to achieve strategic goals

#### Our Performance Scorecard System

In our Performance Scorecard System, Force strategies are translated into departmental objectives via the Strategic Articulation Maps (SAMs) that guide the allocation of resources. Annually, we conduct an extensive review of both the corporate and departmental KPIs and targets are sometimes deliberately stretched to push for higher levels of performance in key functional areas (see *Figure 3.2.3*). To be comprehensive, we take into account the entire service value chain during KPI formulation. Through this approach and many other avenues, we ensure high standards of customer satisfaction in key services such as fire, rescue and ambulance calls as well as counter services.

Learning & Innovation	Internal Process	Stakeholder/ Customer
<p><b>S6: Engaged and Competent Workforce</b></p> <p>061: Build a culture of continuous innovation and creativity</p> <p>062: Encourage continuous learning and acquisition of knowledge</p> <p>063: Promote staff empowerment</p> <p>064: Build and Sustain physical fitness of staff</p> <p>065: Ensure a high level of Competency within the specialists in the Force</p>	<p><b>S1: Effective Response to Threats</b></p> <p>011: Ensure operational readiness, availability and deployability of Civil Defence (CD) resources</p> <p>012: Enhance the consequent management capability of SCDF as Incident Manager of Civil Emergencies</p> <p>013: Build a capable Resource Capability to Chemical, Biological, Nuclear, Radiological and Explosives (CBNRE) Threats</p> <p>014: Enhance Organisational Resilience in the face of new threats through contingency planning</p>	<p><b>S7: Service Responsiveness and Transparency</b></p> <p>071: Deliver customer-driven quality services</p> <p>072: Reduce incidences of disaster and emergencies</p> <p>073: Minimise consequences of disasters and emergencies to people and property</p> <p>074: Successful Engagement of the community</p>
<p><b>S4: Leveraging on Emerging Technologies and Innovations</b></p> <p>041: Acquire State-of-the-Art facilities, systems and cutting edge equipment to augment the Force's operational capabilities</p> <p>042: Survey the technological and professional environment both locally and internationally to keep abreast of the latest developments</p>	<p><b>S2: Enhanced Community Self-Help</b></p> <p>021: Increase effectiveness and expand outreach of Public Education programs</p> <p>022: Increase community awareness, preparedness and involvement</p> <p><b>S3: Risk Management-Based Civil Protection</b></p> <p>031: Pursue a risk-management-based approach to formulate, implement and enforce regulations on fire safety, CD shelter and control of hazardous materials</p>	
<p><b>Resource Management</b></p> <p><b>S5: Effective Resource Management</b></p> <p>051: Manage budget and resources to achieve optimal results</p>	<p><b>S8: Forging Strategic Partnerships</b></p> <p>081: Broaden the reach and depth of partnerships with local, regional and international agencies, business entities and academic institutions</p> <p>082: Collaborate with Related Agencies (RA) to reduce threats, prevent disasters and mitigate consequences of disasters</p>	

Figure 3.2.3 Our Corporate Level Strategic Articulation Map

### 3.2c Describes how the organisation engages key stakeholders in the strategy implementation process

#### Annual Review

We review the CPP annually to ensure its robustness and effectiveness. Before starting a new Corporate Planning Cycle, we gather feedback from our stakeholders e.g. customers, government agencies, industry partners, the general public. These inputs help us in evaluating and improving the key processes of the CPP. The respective stakeholders are also engaged extensively in strategy implementation. (See Table 3.2.4)

Inputs for Review	Stakeholders	Follow up Action Plans	Outcomes / Improvements
<b>“Save-a-Life” initiative (2015)</b>			
<ul style="list-style-type: none"> <li>In the case of a cardiac arrest, rapid and effective CPR and AED intervention from bystanders increases the chances of survival by as much as 30%</li> <li>Ageing population</li> <li>A significant proportion of cardiac arrest cases take place at home</li> </ul>	<ul style="list-style-type: none"> <li>Community Volunteers</li> <li>Members of public</li> <li>MOH, HDB, Town Councils and People’s Association and Grassroots Organisations</li> </ul>	<ul style="list-style-type: none"> <li>Train, equip, and organise a network of community responders that will be able to respond quickly and effectively to cardiac arrest cases in the community</li> </ul>	<ul style="list-style-type: none"> <li>“Save-a-Life” initiative was conceived</li> <li>Target to implement in all constituencies by 2018 by growing the pool of community responders, training them in CPR and operation of AEDs, and making AEDs more accessible at HDB blocks</li> <li>Piloted in mid-2015 in 6 constituencies</li> </ul>
<b>Neighbourhood Active Responder Programme (NEAR) (2015)</b>			
<ul style="list-style-type: none"> <li>Safety and security of the community is our collective responsibility</li> </ul>	<ul style="list-style-type: none"> <li>Community Volunteers</li> <li>Singapore Police Force (SPF)</li> </ul>	<ul style="list-style-type: none"> <li>Greater ownership for community for its security and emergency response</li> <li>Fundamental shift in the roles that volunteers play in the community – from passive to active first responders.</li> </ul>	<ul style="list-style-type: none"> <li>Neighbourhood Active Responder Programme (NEAR) with SPF was conceived for implementation</li> <li>Complements the “Save a Life” initiative</li> <li>Piloted in 2 constituencies from Mar 2015</li> <li>NEAR volunteers trained and equipped to respond to residential fire incidents and medical cases e.g. cardiac arrest cases</li> </ul>
<b>R-AEDi Project (2015)</b>			
<ul style="list-style-type: none"> <li>Low Out-of-Hospital Cardiac Arrest (OHCA) survival rate</li> <li>Rapid first response, good quality CPR and early defibrillation of an AED are proven factors to improve OHCA survival rates</li> </ul>	<ul style="list-style-type: none"> <li>Singapore Heart Foundation (SHF)</li> <li>Members of public</li> </ul>	<ul style="list-style-type: none"> <li>To improve availability of the 3 factors so as to improve OHCA survival rates</li> </ul>	<ul style="list-style-type: none"> <li>Registry of AED Integration (R-AEDi) project was conceived</li> <li>The project aims to improve out-of-hospital cardiac arrest survivability by developing an online AED registry in Singapore.</li> <li>Tapping on the registry, the R-AEDi app will be created to notify the registered CPR-AED responders on ‘real time’ cardiac arrest cases and the nearest available AED</li> </ul>
<b>Company Emergency Response Teams (CERT) in PIBs and National CERT Standard (2013-2015)</b>			
<ul style="list-style-type: none"> <li>Varying Company Emergency Response Team (CERT) standards across in terms of training and equipping for Petroleum &amp; Flammable Material (P &amp; FM) Industries that process P &amp; FM license to store &gt;5000 kg of P&amp;FM</li> <li>No mandatory requirement to have CERT in Public and Industrial Buildings (PIB)</li> </ul>	<ul style="list-style-type: none"> <li>Building owners and CERTs</li> </ul>	<ul style="list-style-type: none"> <li>Mandate through legislation</li> <li>To enhance the level of preparedness of the CERTs in managing emergencies effectively prior to SCDF’s arrival</li> </ul>	<ul style="list-style-type: none"> <li>The Fire Safety Act (FSA) (Amendments) Bill was passed in Parliament in 2013</li> <li>National CERT standard established</li> <li>Mandatory to have CERTs in all 2500 PIB established in accordance with the established National CERT Standard by 1 Apr 2014</li> </ul>

Table 3.2.4 Examples of stakeholder engagement for strategy implementation

## PEOPLE



### 4. PEOPLE

#### 4.1 Human Resource Planning

4.1a Describes how the organisation anticipates human resource (HR) needs and develops HR plans and policies which are aligned to strategic goals and organisational values

##### *HR plans to foster innovation*

SCDF has in place a dedicated structure (see below) involving the Manpower Dept (MPD), Training Dept (TRG) and National Service Personnel Dept (NSPD) to foster innovation in SCDF (see Figure 4.1.1 below).



Figure 4.1.1 Dedicated structure for HR planning and review

Our HR strategies are aligned to two of our Force strategies, namely “Developing an Engaged and Competent Workforce” and “Effective Resource Management”.

##### *Robust Recruitment and Selection of Talent*

During recruitment, we use behavioural-based tests to shortlist candidates who can deal with dynamic situations. These candidates are given further insights into the job requirements and work environment during the Realistic Job Preview (RJP). The Career Counsellors, line managers and immediate supervisors are involved at various stages to help select the best candidates.

**Structured talent management and leadership succession**

The *Foundation Development Programme* (FDP) develops our young officers through mentorship and project assignments in their first 4 years. Under the iLEAD (Initial Leadership Development) programme, our ERS are sent for courses to prepare them for innovation and research projects. Talent is identified through the *Talent Management Framework* (see *Figure 4.1.2* below).

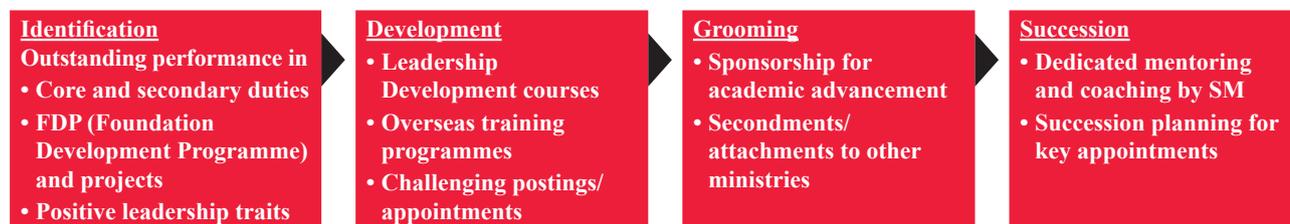


Figure 4.1.2 Talent Management Framework

## 4.2 Employee Learning and Development

### 4.2a Describe how the organisation provides learning and development opportunities to employees to drive organisational productivity and personal growth

***Self-directed training made possible by state-of-art technology***

We provide holistic and realistic training in Civil Defence Academy (CDA). With virtual Reality and high fidelity training simulators, the Rota Commander Course (RCC) has cropped its 32-week duration to only 28 weeks, despite having more content in the course. By moving from the “show me how” classroom approach to a self-directed learning method, we have reduced the duration of lessons and promotes initiative and motivation among our trainees.

***Personal growth through career development and progression***

In line with our objective of Life-Long Learning, we provide our staff with numerous learning and development opportunities throughout their career. Since 2014, all newly appointed Management Executives and Senior Officers undergo the Management, Administrative, Staff work & Executive (MASTEX) course. The course uses realistic work-based scenarios and injects to hone skills in staff work and event organisation.

## 4.3 Employee Engagement and Well-being

### 4.3a Describe how the organisation develops a conducive environment that embraces employee health and well-being

### 4.3b Describe how the organisation encourages collaboration and generation of innovative solutions among employees and across functions

A conducive and friendly work environment is critical in driving innovation. Happy and engaged employees will expend their creative energies in ways that contribute to the organisation. Our comprehensive Staff Well-being Process (see *Figure 4.3.1*) ensures the well-being and physical health of all staff.

PEOPLE continued

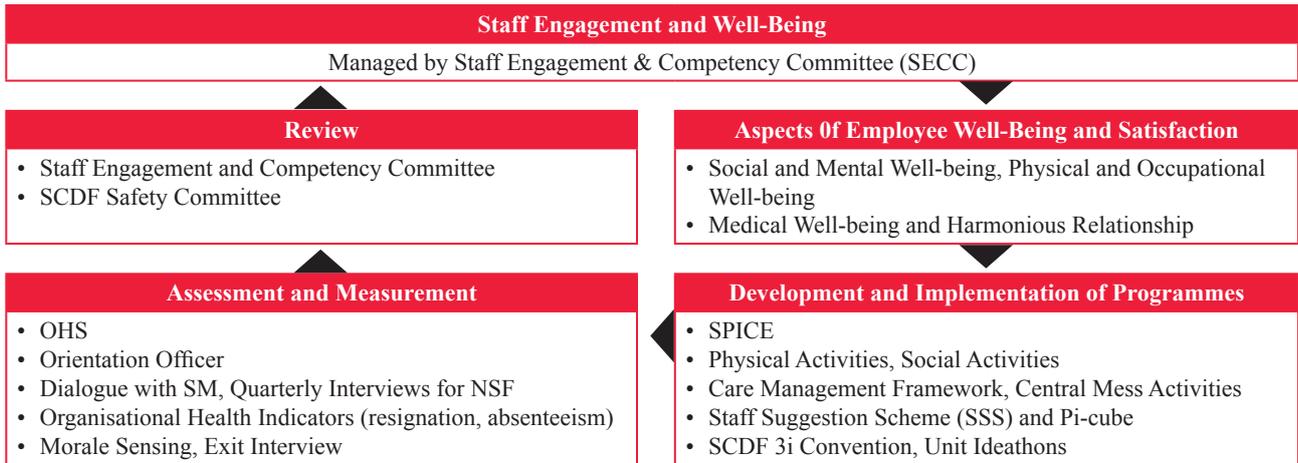


Figure 4.3.1 Staff Engagement and Well-being Process

**Holistic Well-Being Framework to encourage innovation**

The setup of our Emergency Behavioural Sciences and Care (EBSC) unit in 2013 is a breakthrough in safeguarding the psychological wellness of our staff. A network of trained psychologists, CARE officers and Paracounsellors go the extra mile to provide psychological support to our staff. In a conducive and friendly working environment, staff would be more inclined to share their creative ideas, without fear of it being rejected. Harmonious working relationships also facilitate collaboration on innovative solutions (see Table 4.3.2 below).

Holistic Staff Well-Being and Satisfaction			
Social and Psychological Well-Being	Medical Well-Being	Physical and Occupational Well-Being	Harmonious Working Relationships
Organised activities • SPICE Programme • Flexi-Work-Life Programme • Annual Family Days • Monthly themed central mess functions	Organised activities • Medical screening and inoculations • Health talks Benefits • Medical benefits for staff and dependents • Group Insurance schemes	Organised activities • Training audits • Individual Physical Proficiency Test (IPPT) • Inter-unit competitions • Active Days Benefits • Training safety regulations • Personal Protective Equipment	Organised activities • Mentorship scheme • Quarterly Staff Forums and Dialogues • Dialogue with Commissioner • Joint participation by Senior Management and staff in bonding activities • Unit Ideathons and road shows • SCDF Idea, Improvement & Innovation (3I) Convention

Table 4.3.2 Staff Well-being Mechanisms

With a supportive environment, competently trained personnel and appropriate infrastructure (see Table 4.3.3), our mission to bring about a vibrant culture of innovation in SCDF is made possible. Our innovation strategy and achievements are clearly communicated to staff of all levels, through our internal communications framework.

	Environment	Communications	Competency	Infrastructure
Objective	• Develop innovation capacity and capability • Nurture innovation teams and subject experts • Promote value of innovation • Reward and recognise outstanding projects	• Cascade innovation strategy • Develop learning alliances • Harvest workable ideas	• Innovation focused training • Promote experiential learning • Monitor performance of innovation teams	• Pioneering innovation programmes • Dedicated space for innovation • Senior Management sponsoring of projects



	Environment	Communications	Competency	Infrastructure
<b>Mechanism</b>	<ul style="list-style-type: none"> <li>• Mass participation in innovation (including NSFs)</li> <li>• Innovation Communities of Practice (CoP)</li> <li>• MHA Innovation Fund (MIF)</li> <li>• Co-Innovation (CI) Partnership</li> <li>• i-Champions</li> <li>• Mega Ideathon and road shows</li> <li>• Structure to drive innovation at various levels, Innovation, Creativity and Enterprise (ICE), Unit 3I Sub-committee</li> <li>• Innovation awards for NSF Projects – Best NSF 3I Team Award</li> </ul>	<ul style="list-style-type: none"> <li>• SCDF Publication (R995)</li> <li>• Annual 3I Conventions</li> <li>• MHA Excel Fest</li> <li>• PS21 Excel Conventions</li> <li>• Innovation Aide Memoir</li> <li>• CDTV</li> <li>• E-Book</li> <li>• Service Heroes Innovation Excellence (SHINE) event</li> <li>• Overcoming challenges through innovation</li> <li>• Embrace change to enhance effectiveness</li> </ul>	<ul style="list-style-type: none"> <li>• 3 day WITs course – for new officers (right skills and mindset)</li> <li>• Innovation course for supervisors at Civil Service College (Managing Creativity at Work)</li> <li>• Monthly project report update</li> <li>• Training &amp; courses</li> <li>• Workshops and visits</li> <li>• Innovation Tools</li> <li>• LEAN Management Approach</li> </ul>	<ul style="list-style-type: none"> <li>• Innovation, Enterprise and Creativity (ICE) Committee – chaired by DC to steer innovation by identifying challenges, targets and feasibility of projects</li> <li>• SCDF Innovation Office (I-Office) – overseen by Director SPD – manages innovation focus and challenges, sustain innovation drive</li> <li>• Innoventure Club – for the Unit I-Champions</li> <li>• Innoventure Fund</li> <li>• Ideas Management System (Pi-Cube problem, idea, improvement, innovation) – solicit, collate, evaluate, share, discuss ideas</li> <li>• SCDF Innoventure Land - provide creative space and resources</li> </ul>

Table 4.3.3 The ideal environment, infrastructure and competency for innovation

**Innovation at work**

We believe that everyone can contribute to our innovation journey. The Pi-cube portal encourages suggestions to improve workflows. Viable ideas are then refined into realistic innovative projects. Our I-champions help to stimulate creativity within their own units. Their efforts (see Figure 4.3.4 below) have helped innovation grow in recent years.

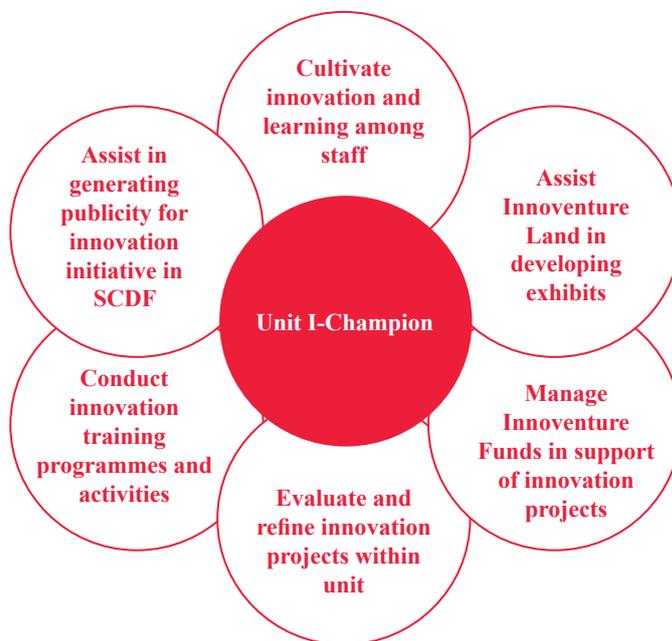


Figure 4.3.4 Roles of I-champions

The Innovation, Creativity and Enterprise (ICE) Committee was set up to provide a systematic approach to innovation in SCDF. The ICE Committee ropes in various staff departments and units to provide their creative input for highly challenging projects. The SCDF Innoventure Land was purpose-built to provide an inspiring and conducive environment for project groups to discuss and experiment. With an interactive and stimulating environment, our innovative breakthroughs will not come by chance, but rather by careful planning.



## PEOPLE continued

### 4.4 Employee Performance and Recognition

Describe how the organisation:

- a) Reinforces desired behaviours and organisational values
- b) Recognises and rewards innovation by individuals and teams

Our core values of PRIDE and CARE are the main motivations behind our drive for performance, productivity and innovation. We have a system of rewards and recognition to align our staff to these values. Some awards encourage staff to take pride in their work and hone their skills in a bid for excellence. Other awards aim to cultivate compassion, care and concern among staff. Effective communication plays a key role in conveying to our staff the forms of desired behaviours. Instances of exceptional performance and good service would be communicated to staff through numerous channels, such as our e-Bouquets, Rescue 995 magazine and the monthly Wall of Fame. The widespread sharing of these achievements serves to inspire our staff to strive for excellence in their work.

#### ***Recognising and rewarding innovative efforts***

We have put together a comprehensive system to formally recognise and reward our staff for their innovation achievements. (see Table 4.4.1 below).

Performance Aspect	Rewards and recognition	Recent enhancements to recognition framework
Innovation	<ul style="list-style-type: none"> <li>• Awards and rewards enhanced to encourage contribution of ideas</li> <li>• Outstanding 3I Project Award</li> </ul>	<ul style="list-style-type: none"> <li>• Introduced a Most Innovative Award to encourage units towards better results</li> <li>• Awards and incentives are continually revised to ensure that innovation is rewarding</li> </ul>

Table 4.4.1 *Recognising and rewarding innovation in SCDF*

3I (Ideas, Improvements and Innovation) project groups are highly active among all units in SCDF. These groups devote significant time and energy into innovative projects which enhance frontline operations. Exceptional projects with significant impact will receive the Outstanding 3I Project Award. Units that have gone the extra mile in promoting innovation will be presented with the Most Innovative Unit Award. Through SCDF publications (R995 magazine) and the SCDF Intranet, these achievements are shared with the entire SCDF.



# PROCESSES



## 5. PROCESSES

### 5.1 Innovation Capabilities

#### 5.1a Describes how the organisation gathers, evaluates and implements innovative ideas for products, services and related processes to create new value

Innovation is an integral part of SCDF’s organisational DNA and the organisation leverages on innovation to take on the challenge of resource constraints and deal with the complexities of an ever evolving operating environment. SCDF has a comprehensive innovation process with many platforms supporting a deeply ingrained culture of innovation. As SCDF journeys towards its transformation vision, technology is harnessed to develop and infuse new capabilities across the full spectrum of SCDF’s operations and work processes.

SCDF’s Innovation Culture is underpinned by Tenet 2 of the vision that “Everyone has the potential to innovate”. It includes staff of all levels in contributing ideas and participation in improvement projects. SCDF’s overarching Innoventure Scheme encompasses the enablers and processes for creating the desired innovative environment (see Figure 5.1.1). The 4 enablers of innovation are Environment, Communication, Competency and Infrastructure with various mechanisms supporting the realisation of these enablers. (see Table 5.1.2).

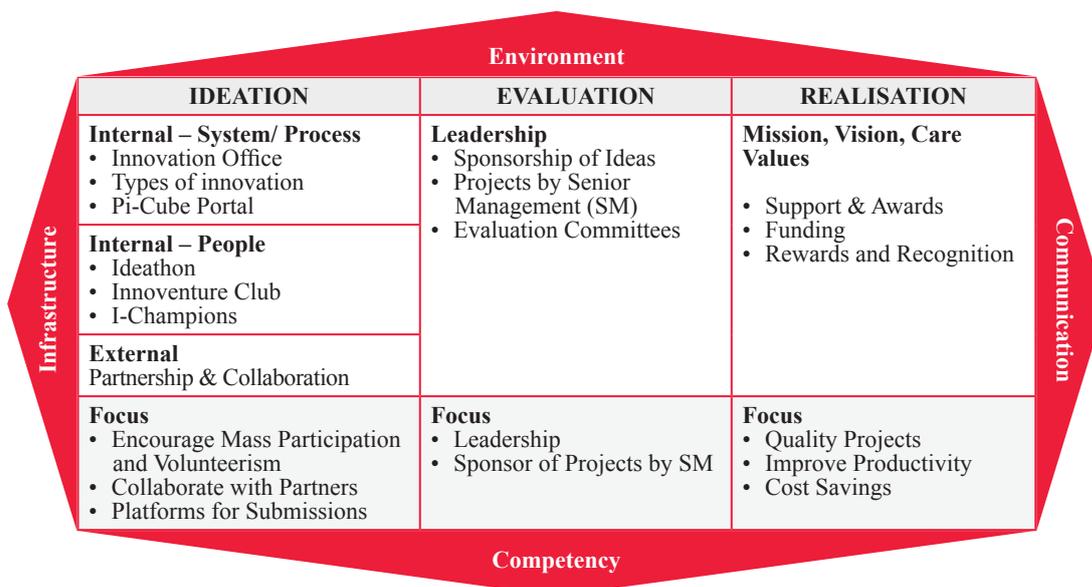


Figure 5.1.1 – SCDF Innoventure Scheme



## PROCESSES continued

	Innovation Enablers in SCDF			
	Environment	Communication	Competency	Infrastructure
Objective	<ul style="list-style-type: none"> <li>Develop innovation capacity and capability</li> <li>Nurture innovation teams and subject experts</li> <li>Promote value of Innovation</li> <li>Reward and recognise projects that make a breakthrough</li> </ul>	<ul style="list-style-type: none"> <li>Cascade innovation strategy</li> <li>Develop learning alliances</li> <li>Harvest workable ideas</li> </ul>	<ul style="list-style-type: none"> <li>Innovation focused training</li> <li>Promote experiential learning</li> <li>Monitor performance of innovation teams</li> </ul>	<ul style="list-style-type: none"> <li>Pioneering innovation programmes</li> <li>Dedicated space for innovation</li> <li>Senior Management's sponsorship of projects</li> </ul>
Mechanism	<ul style="list-style-type: none"> <li>Mass participation in Innovation activities (including NSFs)</li> <li>Innovation Communities of Practice (CoP)</li> <li>MHA Innovation Fund (MIF)</li> <li>Co-Innovation (CI) Partnership</li> <li>I-Champions</li> <li>Mega Ideathon and road shows</li> <li>Structure to drive innovation at various levels, ICE, Unit 3I Sub-committee</li> <li>Innovation awards for NSF Projects – Best NSF 3I Team Award</li> </ul>	<ul style="list-style-type: none"> <li>SCDF Publication (R995)</li> <li>Annual Idea, Improvement &amp; Innovation (3I) Conventions</li> <li>MHA Excel Fest</li> <li>PS21 Excel Conventions</li> <li>Innovation Aide Memoir</li> <li>CDTV</li> <li>E-Book</li> <li>Service Heroes Innovation Excellence (SHINE) event</li> <li>Overcoming challenges through innovation</li> <li>Embrace change to enhance effectiveness</li> </ul>	<ul style="list-style-type: none"> <li>Innovation induction programme – for new officers (right skills and mindset)</li> <li>Monthly project report update</li> <li>Training &amp; courses</li> <li>Workshops and visits</li> <li>Innovation tools</li> <li>LEAN Management Approach</li> </ul>	<ul style="list-style-type: none"> <li>Innovation, Creativity and Enterprise (ICE) Committee</li> <li>SCDF Innovation Office (I-Office)</li> <li>Innoventure Club – for the Unit I-Champions</li> <li>Innoventure Fund</li> <li>Ideas Management System (Pi-Cube problem, idea, improvement, innovation)</li> <li>SCDF InnoventureLand – provide creative space and resources</li> </ul>

Table 5.1.2 – Innovation Enablers

**5.1b** Describes how the organisation involves key stakeholders (e.g. customers, employees) in generating and implementing innovative ideas and solutions

### Three-stage Innovation Process

We rely on a three-stage Innovation Process (Ideation, Evaluation and Realisation) to engage our key stakeholders and an Innoventure Fund provides low-risk seed funding to develop prototypes and trials for fresh ideas for processes, products and policies. Staff who have ideas they wish to develop and prototype are able to tap onto this fund and approval for disbursing the funds are delegated down the line to prevent delays. The risks associated with undertaking new innovation projects are also assessed and managed during the innovation process. This includes established rules for procurement and a clear structure for approving projects of different values. These help to manage risks involved in experimentation, avoid duplicated efforts and deal with any potential public communication sensitivities that could arise.

**5.1c** Describes how the organisation encourages experimentation while managing financial, reputational or other risks.

SCDF has established rules of procurement which have been tightened over the recent years to manage risks involved in experimentation. These rules are communicated upfront in order to be able to mitigate any foreseeable barriers to experimentation at an early stage.

**5.1d** Describes how the organisation seeks breakthrough improvement in key processes

SCDF Innoventure Scheme is reviewed and driven by the I-Office. SCDF is on a constant lookout for ways to improve how we operate. An example of a project using the three-stage innovation process is the Light Fire Attack Vehicle (LFAV) or Red Rhino. This was conceptualised and designed in-house by SCDF to meet the challenges posed by a highly urbanised Singapore with narrow streets and buildings in close proximity to one another. The LFAV has proven to be highly effective in tackling fires involving vehicles or residential units and in managing simple rescue incidents.

As part of SCDF's continual drive towards operational efficiency, the LFAV has evolved both in design and capability to further enhance its operational prowess and response time, and it is now in its 5<sup>th</sup> generation. Significantly, the 4<sup>th</sup> and 5<sup>th</sup> generations reflect the spirit of innovation within an innovation whereby the LFAV is the world's first urban fire-fighting vehicle to have a fully integrated Compress Air Foam technology that is able to extinguish fires 4 times faster than water and uses 70% less water.

### **LEAN Management Approach**

SCDF uses LEAN Management Tools to achieve breakthroughs in increasing efficiency and improve response time. It involves the identification and removal of activities that do not contribute value (considered as wastes) to a process thereby resulting in greater efficiencies. Critical aspects of SCDF's operational responses and customer service have been optimised and improved with the implementations of LEAN projects.

## 5.2 Process Management

### 5.2a Describes how the organisation manages key and support production and service delivery processes to meet customer and operational requirements

The process requirements and performance measures are summarised in *Table 5.2.1a* and *Table 5.2.1b*.

Performance Requirement	Performance Measure
<b>Fire-fighting, Rescue, HazMat Mitigation and Emergency Medical Services</b>	
Response to incidents and ensure operational readiness	<ul style="list-style-type: none"> <li>• Emergency Response Readiness Condition (REDCON)</li> <li>• % of NSmen reporting to Mob Centre within timeframe</li> <li>• % of civil resource that meet operation requirements</li> <li>• Fire/Rescue response time</li> <li>• Ambulance response time</li> <li>• No. of fire</li> <li>• No. of structural fire</li> </ul>
<b>Civil Protection and Regulation of Fire Safety</b>	
Ensure a fire-safe environment	<ul style="list-style-type: none"> <li>• No. of compliance to FHANs issued</li> <li>• % of buildings with trained FSM</li> <li>• No. of enforcement checks conducted</li> </ul>
Provide shelters during emergency	<ul style="list-style-type: none"> <li>• % of Public Warning System (PWS) sirens tested and found operational</li> <li>• % of population covered by Public Warning System (PWS)</li> <li>• % of public shelter inspected that are operationally ready</li> <li>• Shelter waiver processing time</li> </ul>
<b>Building Community Emergency Preparedness</b>	
Work with community to deal with emergency	<ul style="list-style-type: none"> <li>• No. of Safety and Security Programmes carried out</li> <li>• % of population aware of the need and importance of civil defence and emergency procedures</li> <li>• % of targeted population who participate in Emergency Preparedness Day Programme</li> </ul>

*Table 5.2.1a – Process Requirements and Performance Measures (Key Processes)*

Process/Performance Requirement	Performance Measure
<b>Manpower –</b> Provide effective HR services	<ul style="list-style-type: none"> <li>• Turnaround time for applications for staff benefits</li> <li>• Turnaround time for study loans/grants applications</li> <li>• No of allocated training places utilised</li> <li>• No. of family life programme activities</li> </ul>
<b>Training –</b> Provide safe, realistic and effective training	<ul style="list-style-type: none"> <li>• % of pass in certification tests</li> <li>• IPPT Results</li> <li>• Competency Index of front line staff</li> <li>• Training Performance Index</li> <li>• Number of preventable training accidents</li> </ul>

**PROCESSES** continued

Process/Performance Requirement	Performance Measure
<b>Logistics –</b> Provide effective service support	<ul style="list-style-type: none"> <li>• Target turnaround time for repair</li> <li>• Target turnaround time for servicing</li> <li>• Responding time of Civil Resources Mobilisation</li> </ul>
<b>Technology –</b> Provide effective ICT services	<ul style="list-style-type: none"> <li>• Availability of key IT systems</li> <li>• Response to ICT requests</li> </ul>
<b>Finance –</b> Provide effective financial services	<ul style="list-style-type: none"> <li>• Other Operating Expenditure (OOE) &amp; Expenditure on Manpower (EOM) utilisation</li> <li>• Development fund utilisation innovation index</li> <li>• On-time payment to suppliers</li> <li>• % of internet payment received</li> <li>• Budget variance</li> <li>• Late payments</li> <li>• % of transactions performed electronically</li> </ul>
<b>Service Quality –</b> Ensure SCDF provide quality service to our customers	<ul style="list-style-type: none"> <li>• 12 Quality Service Indicators</li> <li>• Public satisfaction with EMS</li> <li>• Quality certifications of key systems and processes</li> <li>• Internal audit checks</li> </ul>

Table 5.2.1b – Process Requirements and Performance Measures (Support Processes)

**5.2b** Describes how the organisation drives process improvement to improve productivity and ensure timely delivery

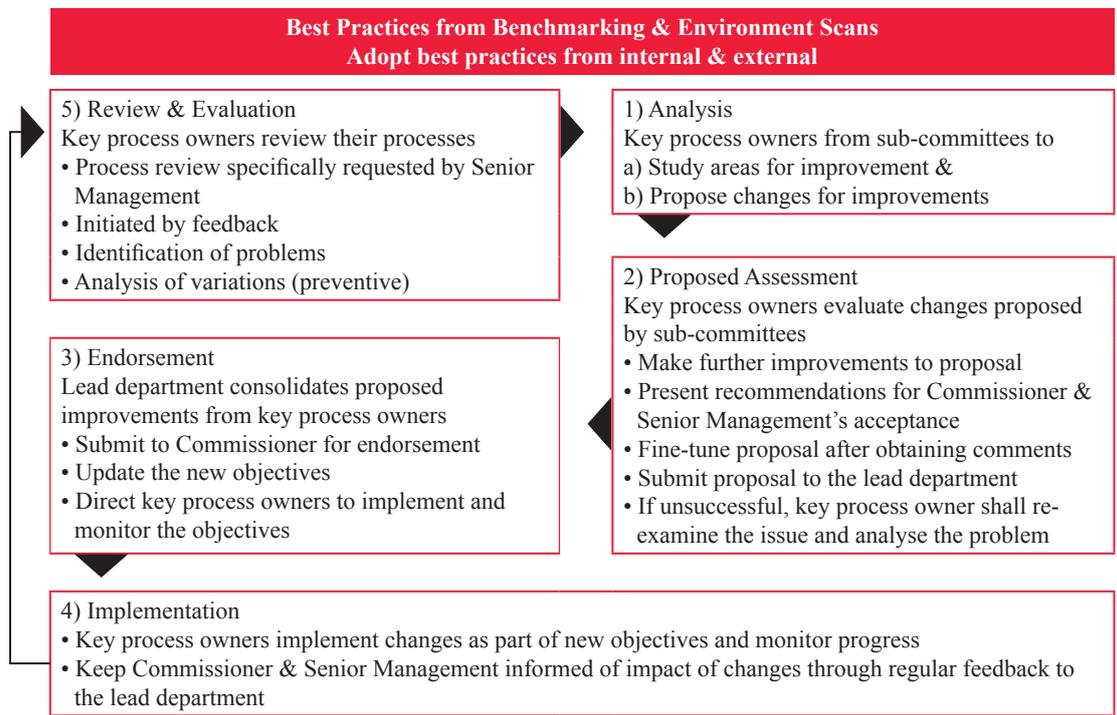


Figure 5.2.2 – Review and Improvement of Key Processes

All the processes mentioned are monitored closely, reviewed and analysed to ensure that they continue to meet the process requirements. Both key and supporting processes are managed top-down and bottom-up. A structured approach is used to review key and support processes to drive improvement in productivity and ensure timely delivery. Figure 5.2.2 shows the approach which covers the five-step process of analysis, proposed assessment, endorsement, implementation and review/evaluation which helps us to achieve better process performance and improve our products and services.



## PROCESSES continued

Productivity is a necessary pill as planning data has projected a reduction in manpower availability in the longer-term. A fundamental direction that SCDF has followed to achieve greater productivity is to leverage state-of-the-art equipment and technologies, research and development, process improvement tools, comparative studies and also by developing our people.

### 5.2c Describes how the organisation harnesses and protects the knowledge and intellectual property generated from innovation projects

As SCDF develops innovative projects and systems, it is necessary to protect and manage its intellectual assets. SCDF uses the Intellectual Property (IP) clauses in MHA's conditions of contract to protect the IP arising from its innovations. It covers the protection of organisation's innovative ideas, IP, and concepts and products that are jointly developed with vendors and suppliers. This ensures that the ideas generated by the organisation are protected and protects the organisation from accusations of plagiarism and legal disputes. In addition, risks associated with the innovations such as financial and potential liability are discussed at the ICE Committee to ensure robustness in the innovation process.

## 5.3 Supplier and Partnership Management

### 5.3a Describes how the organisation identifies and manages key suppliers and partners to achieve organisational goals

We manage our partners/suppliers based on the framework given in *Fig 5.3.1*. The basic guiding principle for forging alliances with our local and overseas partners is to leverage mutual strengths and expertise to achieve our operational objectives and common goals.

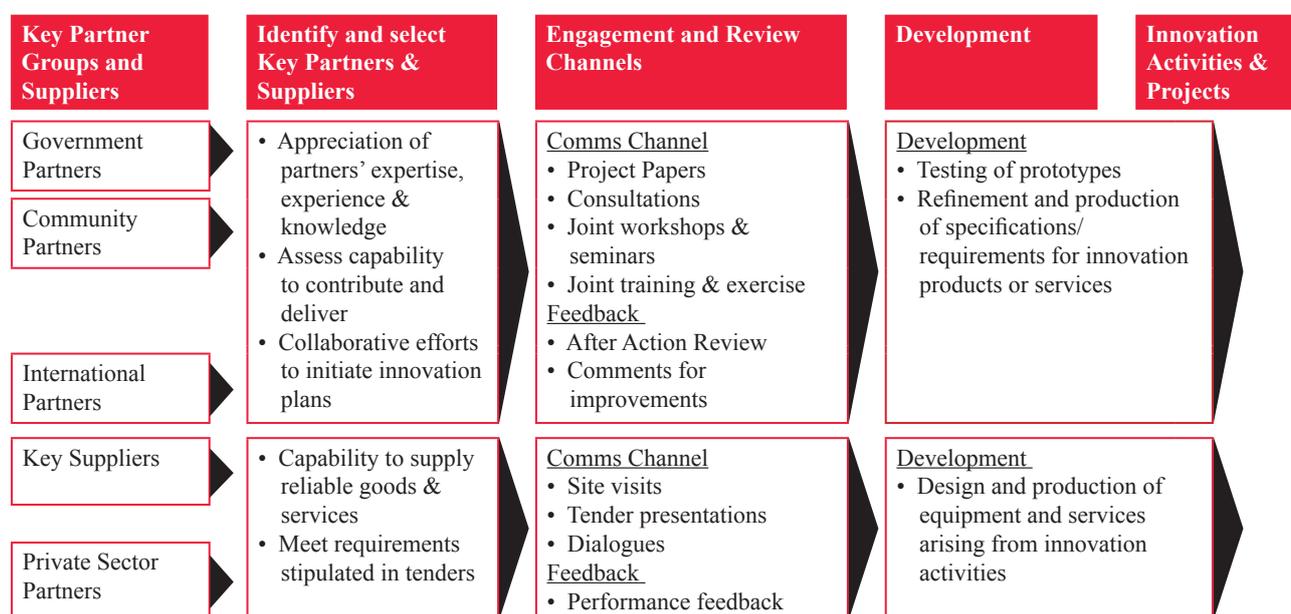


Figure 5.3.1 – Supplier & Partnership Management Framework

#### Strategic Partnership & Supplier Management Framework

The Supplier and Partnership Management Framework guides the identification, selection, engagement, review and development of our partners and suppliers. Suppliers and partners are selected based on their strategic fit to our mission and vision and performance requirements are specified for each segment of suppliers and partners. Through our engagement with our strategic partners, we anticipate that our core functions and expertise would be enhanced. For the partnership to be fruitful as well as to stand the test of different crises, we also expect it to be a long-term engagement that involves various ongoing exchanges to cultivate the relationship.

## PROCESSES *continued*

### 5.3b Describes how the organisation engages key suppliers and partners to co-create products and services

SCDF manages our partners and suppliers through a range of activities and works with them to co-create products and services that meets our performance requirements. These include regular dialogues and seminars with the building industry, consultation sessions with the public, working with strategic partners through various committees, and entering into memoranda of understanding to facilitate learning and sharing of specific areas of expertise. Such communication and feedback channels provide a platform for building mutual understanding and helping us to meet the needs of the suppliers and partners, as well as ensure that timely and actionable feedback is provided.





## 6. KNOWLEDGE

### 6.1 Knowledge Management

6.1a Describes how the organisation collects and manages information for strategy development, decision making and organisational learning

#### *Integrated Information Management System*

There is a lot of information that goes into running the SCDF from the strategic to the operational levels, and how the information is used can be broadly categorised into the functional areas of strategic planning, day-to-day management and performance improvement.

Collectively, these information are harnessed and processed within a structure known as the Information Management System (IMS) as shown in *Fig 6.1.1*.

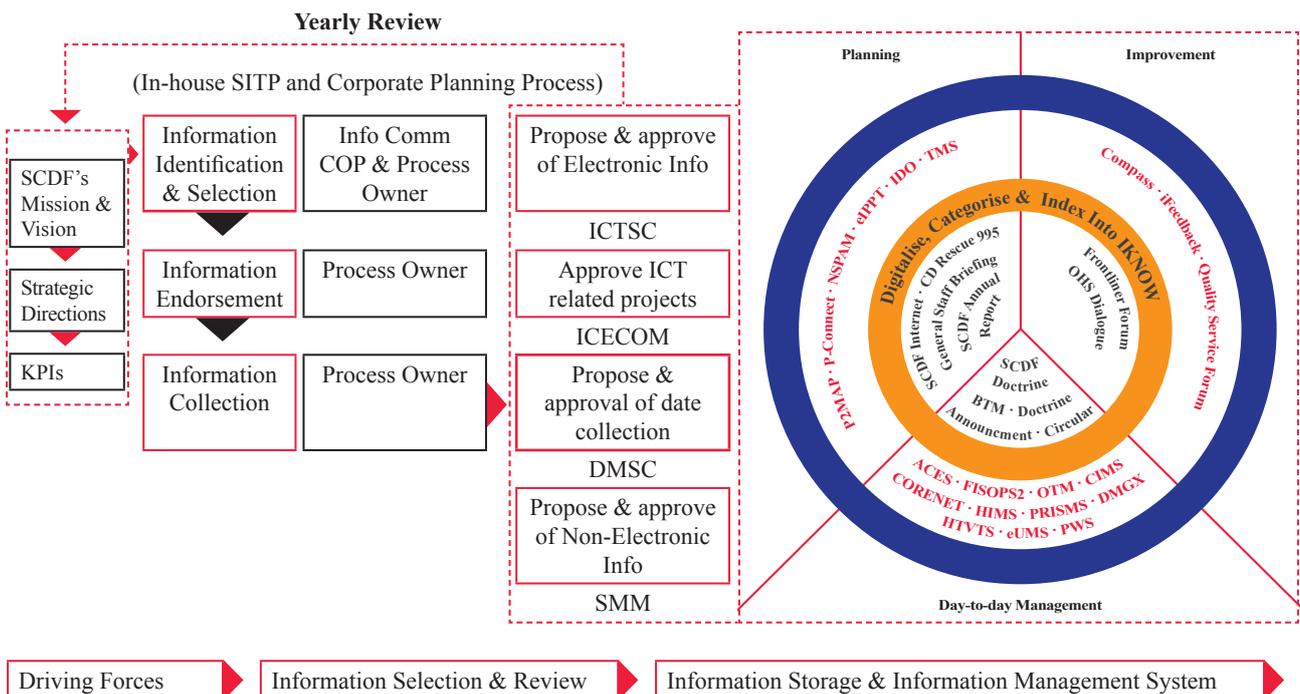


Figure 6.1.1 SCDF Information Management System (IMS)

## KNOWLEDGE *continued*

Our IMS is driven by both the Technology and the Strategic Planning Departments with the former concerned with the IT platforms and related policies while the latter oversees the management of the content and management of critical records (see Table 6.1.2).

	Policy	Electronic Means (IT System)	Non-Electronic Means (Filing System)
Reliability	Business Continuity Measures	<ul style="list-style-type: none"> <li>Built-in redundancy to cater to disaster</li> <li>Recovery &amp; rollback mechanisms</li> <li>No single point of failure for critical system</li> <li>On-site technical support team</li> <li>Preventive and corrective maintenance put in place</li> <li>Conduct of disaster recovery exercise</li> </ul>	<ul style="list-style-type: none"> <li>Proper storage</li> <li>Retrievable referencing system</li> </ul>
	Security Measure	<ul style="list-style-type: none"> <li>Strict access control</li> </ul>	<ul style="list-style-type: none"> <li>Government Instruction Manual (IMs) and Guidelines</li> </ul>
	References	<ul style="list-style-type: none"> <li>Government IMs and Guidelines</li> </ul>	<ul style="list-style-type: none"> <li>Government IMs and Guidelines</li> </ul>
Accessibility	Internal	<ul style="list-style-type: none"> <li>User Access Rights</li> <li>Remote access</li> </ul>	<ul style="list-style-type: none"> <li>SCDF Guidelines</li> </ul>
	External	<ul style="list-style-type: none"> <li>SCDF e-Services</li> <li>SCDF Website</li> <li>SCDF Social Media</li> <li>GeBIZ</li> </ul>	

Table 6.1.2 Reliability & Accessibility of Information

### Prompt Dissemination of Information

We have in place systemic structures and information systems to facilitate prompt and efficient dissemination of information (see Table 6.1.3).

For our Ministry	For our People	For our Supplier/Partners	For our Customers
<b>Meetings</b> <ul style="list-style-type: none"> <li>Ministerial</li> <li>Group Tech</li> <li>Dept Exco</li> <li>Executive Group</li> </ul> <b>Forum</b> <ul style="list-style-type: none"> <li>Organisational Excellence Forum</li> </ul> <b>Quarterly Reports</b> <ul style="list-style-type: none"> <li>Organisational Review</li> <li>Staff Well-being</li> <li>Service Improvement Unit Report</li> </ul>	<ul style="list-style-type: none"> <li>SCDF intranet and applications</li> <li>Email System for all staffs</li> <li>Daily newflashes –“Force in the News”, e-Routine Orders (RO). For NSFs, ROs are displayed on bulletin boards</li> <li>Bi-monthly Rescue 995 magazines</li> <li>Bi-monthly news bulletin</li> <li>SCDF Annual Report</li> <li>Learning Day</li> <li>General Staff Briefing</li> <li>Comr Dialogue sessions with the ground</li> </ul>	<ul style="list-style-type: none"> <li>Periodic circular to professional bodies by FSSD</li> </ul> <b>Regular dialogue sessions/briefings/seminar</b> <ul style="list-style-type: none"> <li>FSSD seminars</li> <li>Quarterly supplier dialogue sessions by Logs Dept e.g. Gebiz briefing to vendors</li> <li>Invitations to annual Workplan Seminars for Community Emergency and Engagement Committee (C2E)s &amp; NSmen</li> <li>Safety and security programmes</li> <li>Focus Group Discussions with grassroots leaders</li> <li>Tea sessions and ad-hoc media briefings</li> <li>Bi-monthly Home Team newsletters to NSmen</li> <li>NSmen Forums</li> </ul>	<ul style="list-style-type: none"> <li>SCDF Internet</li> <li>Media Releases</li> <li>Fire-Safety Exhibition Seminar</li> <li>Emergency Handbook</li> <li>Public Education Programme</li> <li>Community Emergency Preparedness Programme</li> <li>Emergency Preparedness Day</li> <li>Heritage Gallery</li> <li>Emergency Preparedness Centre</li> </ul>

Table 6.1.3 Modes of Information Dissemination

### Improvements in Information and Knowledge Management

We actively build and reinforce a culture of knowledge sharing within the SCDF with the aim of encouraging the creation, sharing and application of knowledge to drive the organisation towards its goals. To this end, several initiatives have been rolled out.

The Knowledge Management Steering Committee (KMSC), convened in 2012, is the engine of KM initiatives and activities across the SCDF. It is responsible for the overall KM Framework and has representation across all staff departments and ground units. Our KM initiatives and activities are based on 3 main pillars of Systems, Culture and Processes.

### Effective and Wide-ranging Platforms for Sharing and Learning

The established platforms to promote sharing and learning cut across all the main service domains of the SCDF and collectively provide ample opportunities for stakeholders to share, learn and co-create value to improve our operations.

## 6.2 Analytics for Performance Management

### 6.2a Describes how the organisation leverages on information and knowledge to create value

#### *Leveraging Business Intelligence and Business Analysis*

We analyse key information to derive business intelligence and facilitate informed decision-making. A range of business analysis tools have been employed to crunch data and generate forecasts to this end. The Operational Analysis (OA) Model we developed is an example. The SCDF analysed more than half a million emergency incident data over half a decade and this gave us powerful insights to the root causes of the demand for our services. But more than just looking at the past, the study also took into account future projections of Singapore's demography and urban developments. Armed with these information, we have developed strategic plans to ramp up capacity and optimise resource to better meet the demands downstream, thereby 'future-proofing' our emergency services provision.

### 6.2b Describes how the organisation uses knowledge to facilitate innovation

Table 6.2.1 lists some initiatives where information have been rigorously analysed to support organisation planning and review, and have in turn led to the birth of innovation projects that has improved SCDF's operations.

S/N	Key Services	Analysis	Innovation projects
1	Fire-fighting, Rescue, HazMat Mitigation and Emergency Medical Services	<b><u>Response Route by Emergency Appliances</u></b> Analysis on the operational response time revealed that the original method of recommending the shortest route for the responding appliances to take is sometimes adversely affected by congested conditions on the roads.	<b><u>ACES - Fastest Route Recommendation feature:</u></b> When designing the new generation Command & Control system (ACES), it was conceptualised that live traffic conditions would be taken into account when recommending the route to take for the responding appliances. Live traffic data from Land Transport Authority (LTA) is fed into ACES real time and with the help of algorithms, it is able to recommend the fastest route for SCDF appliances to take.
		<b><u>Situational Picture of Incident Sites</u></b> Incidents' After-Action-Reviews (AAR) often surfaced the challenges of the communications between ground responders and SCDF Operations Centre i.e. Responders have to juggle between mitigating the incident and providing update to Ops Centre. Often, it leads to delays in the Ops Centre obtaining ground situational pictures, and thus potentially delaying the dispatch of back up resources.	<b><u>ACES – Mobile Video Camera:</u></b> SCDF emergency appliances are all installed with Mobile Video Cameras that stream live video footages of incident sites back to SCDF Ops Centre. This allows the Ops Centre Operators to have good situational picture of the incident sites and relieves some of the pressure on ground responders having to provide constant updates.
		<b><u>Ever changing Operational Terrain</u></b> SCDF has always been working closely with related agencies like URA, BCA and LTA and are constantly kept abreast on future developments on its ever changing Operational Terrain. With the information at hand, SCDF Concept of Operations are constantly reviewed and refined.	<b><u>Light Fire Attack Vehicle (LFAV):</u></b> Wholly conceptualised, designed and made in Singapore, the LFAV is able to be deployed closer to the incident area than the traditional Fire Engines. Highly maneuverable, the LFAV is able to traverse the curbs and pavements of the increasingly built up landscapes of Singapore, thus reducing the need for the responders to carry heavy fire-fighting and rescue equipment over long distances. This has in turn, resulted in faster mitigation times.
		<b><u>HazMat Decontamination Setup</u></b> In the event of a hazardous material leak, a large number of casualties are expected and there will be a need for the affected personnel to go through decontamination. Speed is of the essence as survivability drops exponentially with time.	<b><u>Personnel Decontamination Vehicle:</u></b> The PDV is one of the largest operational appliances that the SCDF has. It is designed to cater for mass casualty incidents involving Chemical, Biological and Radiological (CBR) substances, and is fully equipped to decontaminate, by shower, a large amount of casualties at one go when deployed.

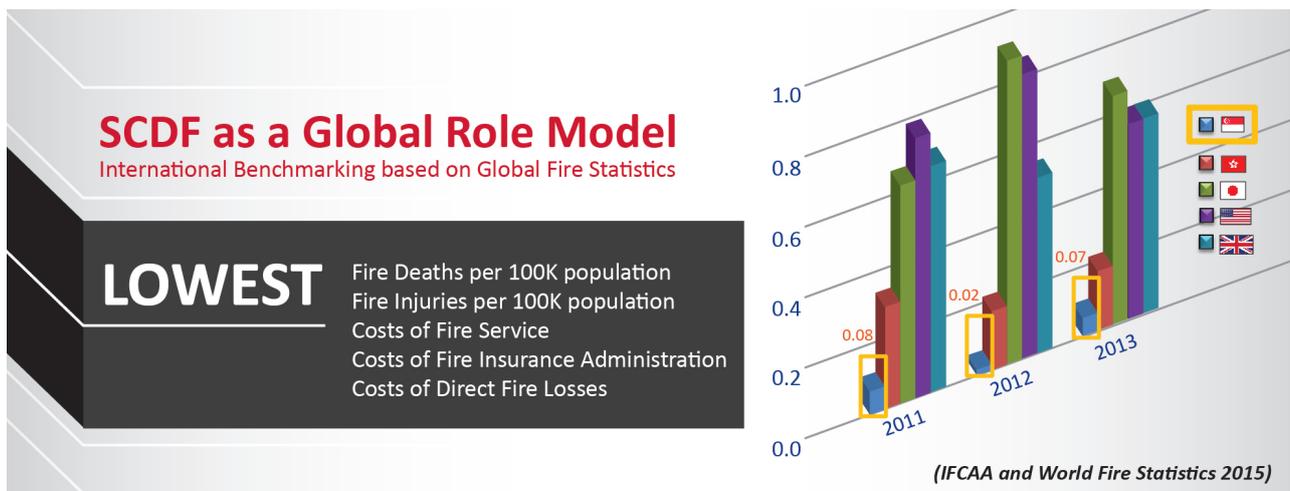
## KNOWLEDGE continued

S/N	Key Services	Analysis	Innovation projects
		<p><b><u>Emergency Ambulance Services Response</u></b> The objective of the study is to discover the insights and root causes of the demand for SCDF emergency ambulance services. It was found that there was room for improvement in the method of assigning the same level of response to all medical cases, regardless of severity.</p> <p><b><u>Cardiac Arrest response</u></b> An analysis on Out of Hospital Cardiac Arrest (OHCA) cases was conducted and it is found that early bystander CPR and use of public AED are the two most effective means of improving survival rates.</p>	<p><b><u>EMS Tiered Response:</u></b> A new Emergency Medical Services response system is introduced, in a bid to improve patient outcome through timely medical intervention to highly time sensitive medical emergencies such as cardiac arrest, heart attack and stroke. It is done so by determining the most appropriate level of care and response for each of the EMS calls to 995 Ops Centre.</p> <p><b><u>AED mobile app (incorporating the ‘myResponder’ app):</u></b> This national mobile application for smartphone users is connected to 2 main databases (the national AED registry, and CPR trained community responders database). It is capable of alerting and dispatching CPR trained community responders to nearby cardiac arrest cases and helping them locate the nearest AEDs as well.</p>
2	Civil Protection and Regulation of Fire Safety	<p><b><u>Approving, Tracking &amp; Enforcing Fire Safety Regulations</u></b> The Qualified Persons (QP) have to submit building plans and other fire safety applications to SCDF for processing and approval. In the past, building plans/applications were submitted in hardcopies at HQ SCDF during office hours. After processing, the building plans have to be microfilmed by SCDF and stored in the central depository. A study on the feedback (both internally and externally) showed that the manual processes were onerous, and retrievals of information were tedious.</p> <p><b><u>Analysis of Fire Exhibits</u></b> A study was made on the turn-around time taken for the entire process of fire exhibits analysis by Health Sciences Authority (HSA). It was found that the output of HSA is dependent on its workload and varies during different times of the year. Priority is usually given to the analysis of Police exhibits and the average turn-around time for fire exhibits is generally 1 month for normal cases and up to 3 months for complex cases. Such long turn-around times cripple job efficiency and pose problems for subsequent investigations into incendiary fires.</p>	<p><b><u>FISOPS:</u></b> Fire Safety On-line Processing System (FISOPS) was launched in Aug 2002. All documents, including building plans, were loaded into the system and are retrievable on-line. Besides eliminating the need for microfilming and physical storage, it has addressed the problems of the time wasted in file movement as well as the possibility of lost files. It has also enhanced the process of plans approval.</p> <p><b><u>Fire Investigation &amp; Research Lab:</u></b> SCDF set up its in-house laboratory to improve work processes. The laboratory is a dedicated setup specialising in fire forensics - carrying out the analysis of fire debris for accelerants, as well as other forensic examinations in support of fire origin and cause investigations. With our dedicated laboratory setup, the turn-around time for fire debris analysis has improved drastically to a matter of 3-5 days.</p>
3	Building Community Emergency Preparedness	<p><b><u>Public Education</u></b> An analysis on public feedback gathered at SCDF’s Public Education events help us shape our public engagement and outreach efforts.</p>	<p><b><u>Emergency Preparedness Centre (EPC):</u></b> Using state of the art Training and Simulation technologies like Virtual Reality and Augmented Reality, the EPC provides an experiential environment with interactive features for Public to learn emergency preparedness skills like fire safety knowledge and life-saving skills.</p> <p><b><u>Mobile Tremorlator:</u></b> The Mobile Tremorlator was jointly conceptualised and developed by the SCDF, Singapore Polytechnic and ST Kinetics. It is aimed at educating the public on proper measures to take during and after tremors. Mounted on a retro-fitted heavy vehicle, the ‘tremor simulator on wheels’ goes right into the heartlands to reach out to members of the community. Through the simulation, the public is able to witness and experience the effects of tremors, as well as learn the proper measures to take.</p>

Table 6.2.1 List of initiatives and Innovation Outcomes



# RESULTS



## 7. RESULTS

### 7.1 Customer Results

#### 7.1a Customer Satisfaction and Experience

### *Fire-Safe and Emergency Ready Singapore*

Our stringent fire safety standards and regulations allow us to create a fire-safe environment for Singaporeans to live and work in. Singapore is consistently ranked as one of the most fire-safe countries globally as seen in Figs 7.1.1 to 7.1.3.

#### Fire Fatalities

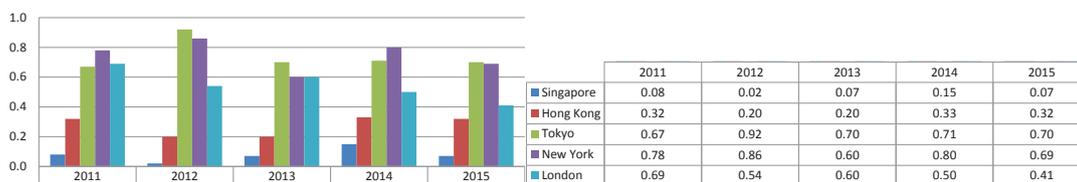


Figure 7.1.1 Fire Deaths per 100,000 Population (IFCAA Fire Statistics)

We have consistently been ranked as the most fire-safe country in the world with the lowest fire deaths per 100,000 population since 2009 according to the International Fire Chiefs' Association of Asia (IFCAA) fire statistics.

#### Fire Injuries



Figure 7.1.2 Number of Fire Injuries per 100,000 Population (IFCAA Fire Statistics)

The IFCAA Fire Statistics is testimony of Singapore as a leading fire-safe country as we have consistently found to have the lowest fire injuries per 100,000 population over other class-leading jurisdictions in the last five years.



**RESULTS** continued

*Fires per 100,000 Population*

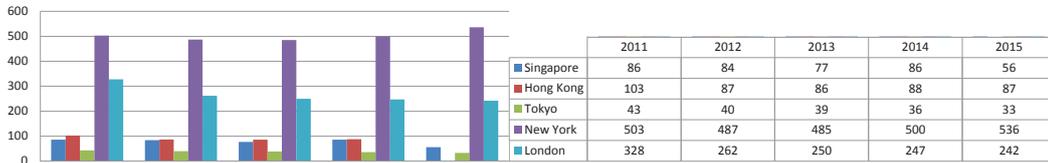


Figure 7.1.3 Fires per 100,000 Population (IFCAA Fire Statistics)

Despite the rapid population growth and economic development over the years, Singapore continues to see a relatively low number of fire calls. Globally, Singapore is regularly ranked as having one of the lowest numbers of fires per 100,000 population (second only to Tokyo).

**Customer Satisfaction**

Feedback received from our customers helps us to review and improve our service delivery. We have consistently received good feedback for our emergency services ranging from fire-fighting, rescue, HazMat mitigation to emergency medical services (or ambulance calls). This also includes other professional services delivered through our customer service front counters e.g. fire safety related matters.

From our Public Perception Survey (PPS), there is generally a growing level of satisfaction among the community about the services we provide.

**7.1b Product and Service Performance**

*Public Impression of SCDF*

Public Perception Surveys over the years (see Figs 7.1.4 to 7.1.6) show that public impression of us and our emergency services remains exceptionally high, way beyond the ninetieth percentile.

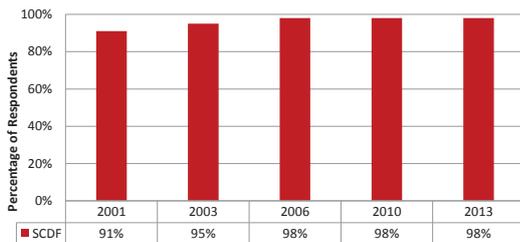


Figure 7.1.4 Public Awareness of SCDF

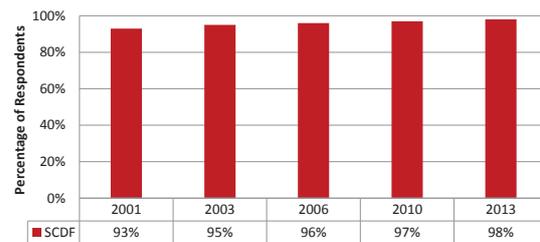


Figure 7.1.5 Public Confidence in SCDF's ability to cope with emergencies

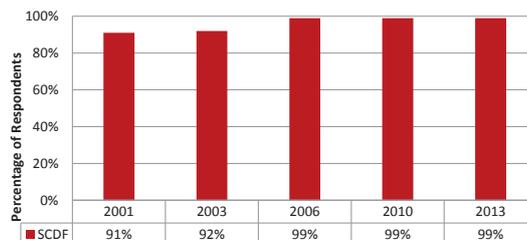


Figure 7.1.6 SCDF is important because it provides safety and security for the people



**Building Community Emergency Preparedness**

Figs 7.1.7 to 7.1.8 reflect a growing interest from the community to participate in our community programmes as shown in our Public Perception Surveys. The surveys show more and more people participating and showing interest in our training programmes and activities. This is a good foundation to leverage as the SCDF strives towards Vision 2025 of being a “Nation of Life-Savers”.

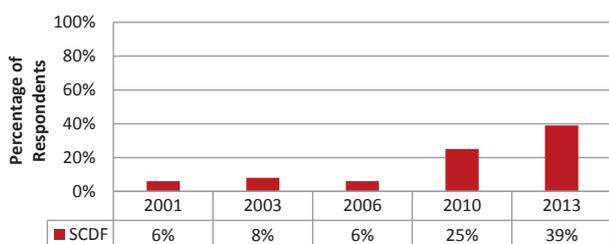


Figure 7.1.7 Participation in Emergency Preparedness Day

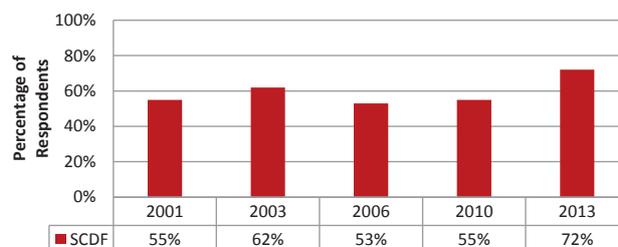


Figure 7.1.8 Interest/Willingness to participate in CD programmes in future

**7.2 Financial and Market Results**

**7.2a Financial Performance, including financial results and economic value**

**Fire-Fighting Cost Efficiency and Effectiveness**

Singapore is consistently rated one of the most economic fire-fighting organisations in the world. Figs 7.2.1 to 7.2.3 shows results published by the World Fire Statistics (Source: World Fire Statistics Bulletin No. 29, Apr 2014). At its 24-26 Sep 2012 session, the UN Economic Commission for Europe Committee on Housing and Land Management received the World Fire Statistics Centre (WFSC) report on “Study of Fire Statistics” which covered the 2007-2009 period. In 2013 the WFSC was again invited to submit a similar updated report for the years 2008-2010 and the result is seen below.

Costs of Fire Service

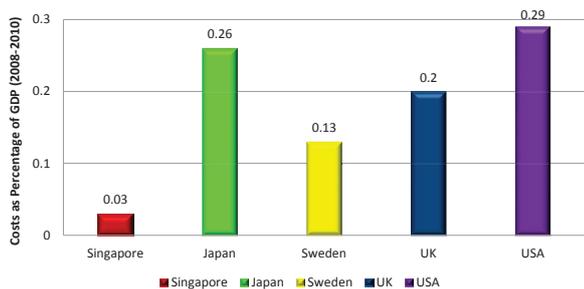


Figure 7.2.1 Costs of Fire Service

Costs of Fire Insurance Administration

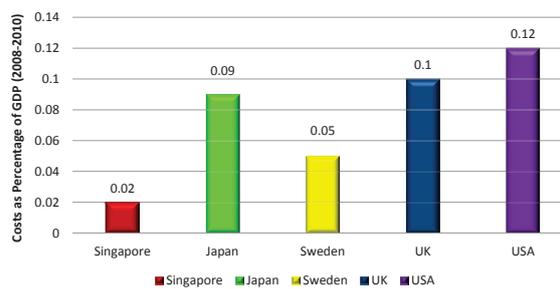


Figure 7.2.2 Costs of Fire Insurance Administration

Singapore’s low costs reflect an efficient coverage of fire services in the country. We continue to be rated the lowest in terms of costs among other leading fire services globally.

Through stringent fire safety regulations and standards, we are able to keep fire damages to a minimal and hence suppress the cost of fire insurance administration in Singapore.



## RESULTS continued

### Costs of Direct Fire Losses

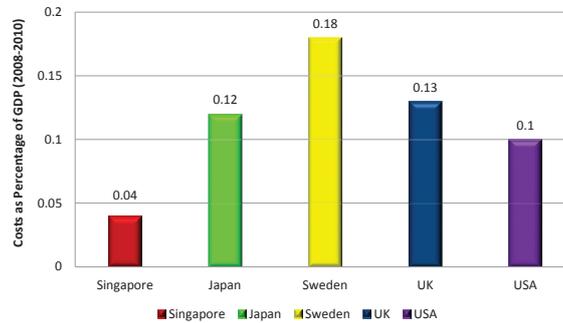


Figure 7.2.3 Costs of Direct Fire Losses

Singapore continues to be rated the lowest in terms of 'cost of direct fire losses. This reflects a highly effective fire safety standard and high level of fire protection in the country.

## 7.2b Marketplace Performance, including growth and market share, position and acceptance

### *We Train, We Share*

#### Growing Training Footprint

The demand from overseas participants for our courses conducted in Civil Defence Academy (CDA) has increased steadily over the years as shown in Fig 7.2.4. The number of countries trained in CDA now spans across six continents i.e. North America, South America, Europe, Africa, Australia and Asia.

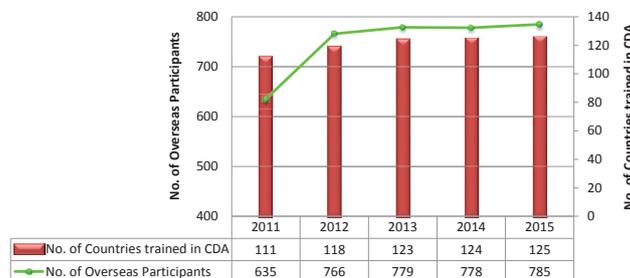


Figure 7.2.4 International Course Participants

#### Opening up of International Courses

To meet demand, we have gradually opened up more international courses to expand our training footprint as shown in Fig 7.2.5. These include courses for commanders of various levels (e.g. Section Commanders to Fire Station Commanders), specialists (e.g. Fire Safety, HazMat, Urban Search and Rescue (USAR), marine fire-fighting), support staff (e.g. Logistics, Medical) and participants involved in regional humanitarian work (e.g. United Nations Disaster Assessment and Coordination (UNDAC) courses, ASEAN Emergency Response and Assessment Team (ERAT) courses and International Search and Rescue Advisory Group (INSARAG) External Reclassification Exchange (IERE) workshops).

	2011	2012	2013	2014	2015
No. of International Courses	22	25	28	29	29

Figure 7.2.5 Number of International Courses

**Singapore-Global Firefighters and Paramedics Challenge (SGFPC) – Global Participation**

2000	2012	2013	2014	2015
4	11	15	18	16
<ul style="list-style-type: none"> <li>• Brunei</li> <li>• Indonesia</li> <li>• Malaysia</li> <li>• Singapore</li> </ul>	<ul style="list-style-type: none"> <li>• Australia</li> <li>• Bangladesh</li> <li>• Brunei</li> <li>• Hong Kong</li> <li>• Indonesia</li> <li>• Macau</li> <li>• Malaysia</li> <li>• Myanmar</li> <li>• Philippines</li> <li>• Singapore</li> <li>• Thailand</li> </ul>	<ul style="list-style-type: none"> <li>• Australia</li> <li>• Bangladesh</li> <li>• Brunei</li> <li>• Hong Kong</li> <li>• Indonesia</li> <li>• Macau</li> <li>• Malaysia</li> <li>• Myanmar</li> <li>• Nepal</li> <li>• Philippines</li> <li>• Singapore</li> <li>• Thailand</li> <li>• UAE</li> <li>• UK</li> <li>• Vietnam</li> </ul>	<ul style="list-style-type: none"> <li>• Australia</li> <li>• Bangladesh</li> <li>• Brunei</li> <li>• China</li> <li>• Hong Kong</li> <li>• Indonesia</li> <li>• Macau</li> <li>• Malaysia</li> <li>• Myanmar</li> <li>• Philippines</li> <li>• Qatar</li> <li>• Saudi Arabia</li> <li>• Singapore</li> <li>• Taiwan</li> <li>• Thailand</li> <li>• UAE</li> <li>• UK</li> <li>• Vietnam</li> </ul>	<ul style="list-style-type: none"> <li>• Australia</li> <li>• Bangladesh</li> <li>• Brunei</li> <li>• China</li> <li>• Hong Kong</li> <li>• Indonesia</li> <li>• Macau</li> <li>• Malaysia (3 teams)</li> <li>• Philippines</li> <li>• Singapore</li> <li>• Taiwan</li> <li>• Thailand</li> <li>• UK</li> <li>• Vietnam</li> </ul>



Figure 7.2.6 Strong Interest from International Teams/Countries in SGFPC

Beyond international courses, there is also strong interest in our events and we are proud that the Singapore-Global Firefighters and Paramedics Challenge (SGFPC) is now recognised by UN INSARAG as a platform to promote collaboration among emergency responders across the world. This is a remarkable achievement not just for SCDF but also for Singapore.

## 7.3 People Results

### 7.3a Employee Engagement and Well-being

**Our People, Our Strength**

Organisational Health Survey (OHS)

Our people are our strength and we value every individual. We strive to engage them to create a conducive and happy work environment. The favourable results from the 2014 Organisation Health Survey (OHS) provide clear indication that we are on the right path in building a positive culture of employee engagement. Figs 7.3.1 to 7.3.2 show our results.

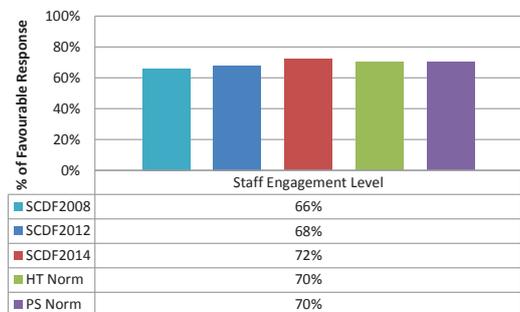


Figure 7.3.1 Staff Engagement Level based on OHS Results

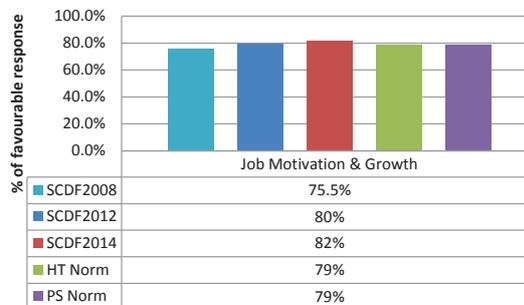


Figure 7.3.2 Staff Response to OHS under “Job Motivation & Growth”

We showed significant improvement in our overall staff engagement level compared to our results in 2008 and 2012. The 2014 result was in fact above the Home Team and Public Service norms for that year.



**RESULTS** continued

**7.3b Employee Learning and Development**

Cross-Training for Operational Efficiency

The rapidly evolving operating environment requires our frontliners to continuously upgrade their skills to stay sharp and relevant. Besides DART and HazMat Specialists, our Fire and Rescue Specialists (FRS) are also being cross-trained with skills in other specialist domains. One area is marine fire-fighting and the operation of marine crafts while another area is the training of the FRS to undertake medical response as Emergency Medical Technicians (EMTs). Fig 7.3.3 provides a summary of the number of different domain specialists we have built up over the years. SCDF will continue to invest in our staff to maintain our edge in emergency operations.

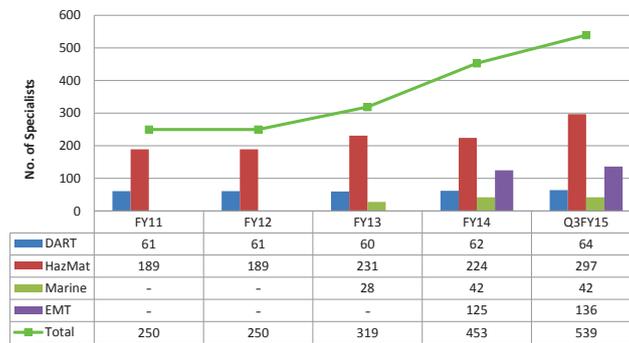


Fig 7.3.3 Summary of Cross-Trained Specialists

**7.3c Employee Performance and Recognition**

**Our People, Our Strength**

Organisation Health Survey (OHS)

The mission of the SCDF is a noble yet demanding one. Because of the sacrifices that our people have to make, we strive to keep them satisfied and ensure that their welfare is taken care of. From the recent OHS results, 76% of our staff indicated that they were proud of the SCDF and believe strongly in the good image and ethics of the Life Saving Force as shown in Fig 7.3.4. Even though the workload is heavy, the 2014 OHS result for this category (see Fig 7.3.5) reflected a higher percentage of favourable responses as compared to that in 2012. Notably, the outcome is also higher than the 2014 Home Team norm and stands on par with the Public Service norm.

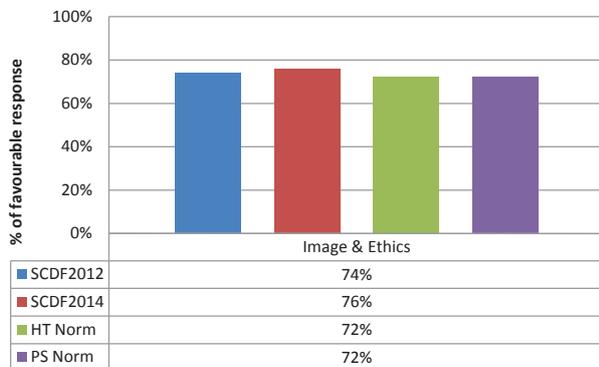


Figure 7.3.4 Staff response to OHS under “Image & Ethics”

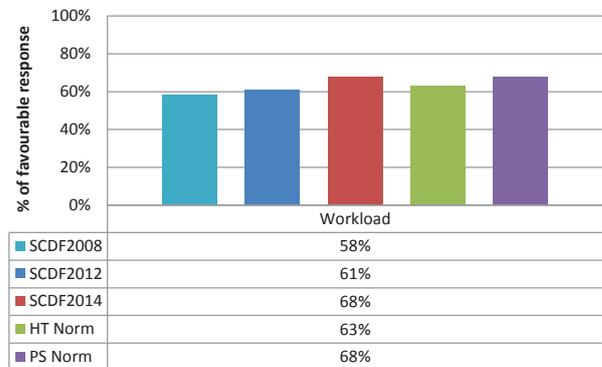


Figure 7.3.5 Staff response to OHS under “Workload”



## 7.4 Operational Results

### 7.4a Process Performance

#### *Operational Readiness*

Our mission is to protect and save lives and property for a safe and secure Singapore. Maintaining a high level of operational readiness is important to achieve our mission as it can make a difference between life and death. Through stringent and well-defined processes as well as motivated and competent staff, we have consistently achieved our mission with high levels of responsiveness and effectiveness. *Figs 7.4.1 to 7.4.4* show our results in the area of operations.

#### *Fire-fighting, Rescue, HazMat Mitigation and Emergency Medical Services*

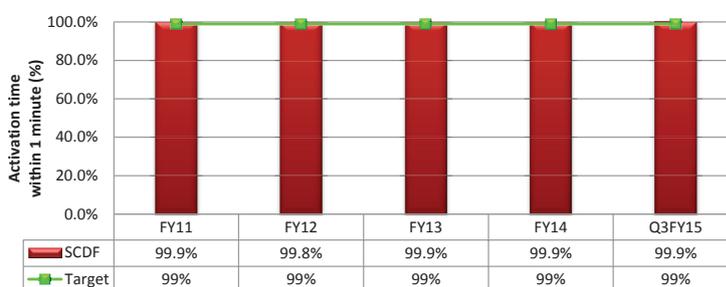


Figure 7.4.1 Activation Time within 1 minute

All first responders (Fire and EMS crews) are expected to leave the fire station and fire post within a minute upon activation. Frontliners continue to demonstrate their high level of readiness and responsiveness by exceeding our high target of 99%.

#### *Civil Protection and Regulation of Fire Safety*

Fire-safety enforcement checks are important in maintaining the high state of fire safety in Singapore. While the number of non-scheduled checks is based on ad-hoc fire-safety feedback from our partners and community and these tend to vary, the number of scheduled checks by the SCDF has been steadily increasing over the years. Nevertheless, we are committed to exceed our targets because we recognise that especially in fire safety, prevention is always better than cure.

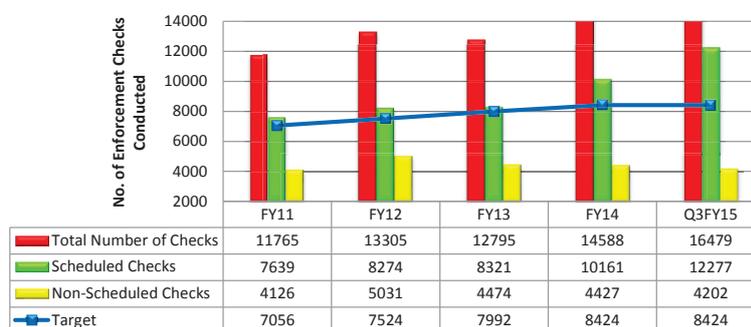


Figure 7.4.2 Number of Enforcement Checks

The Public Warning System (PWS) is a key communications technology to reach out to the masses to warn of impending air raids during a National Emergency. We track the operational readiness of each siren through monthly sounding tests and a robust maintenance regime. The outcome of each month's test is always shared with SM and this highlights the importance we place on the PWS.

We track the operational readiness of all public shelters and these facilities have been constantly achieving high levels of operational readiness. The high percentage of shelters inspected to be operationally ready is a testament of the rigour of the public shelter programme in Singapore as well as the effectiveness of our regulatory regime.

**RESULTS** continued

*Building Community Emergency Preparedness*

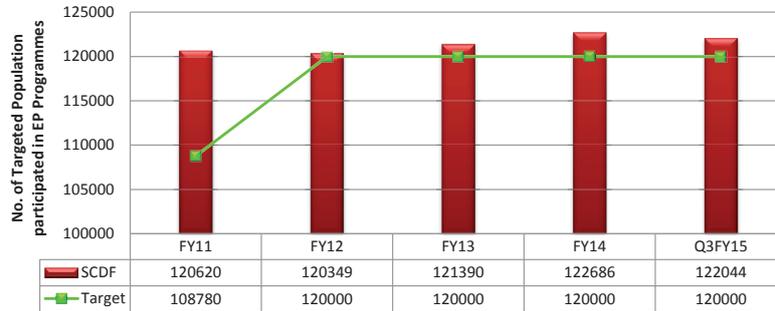


Figure 7.4.3 Number of Targeted Population participated in EP Programmes

Our Emergency Preparedness (EP) programmes include the Community Emergency Preparedness Programme (CEPP), Safety and Security Programmes, Shelter Exercises, community-based Public Education exhibitions, special projects and national campaigns. We have consistently exceeded our annual target of training at least 120,000 participants from the community (up from 108,780 participants from FY12) and we will have to build on this to achieve “A Nation of Life Savers” by 2025.

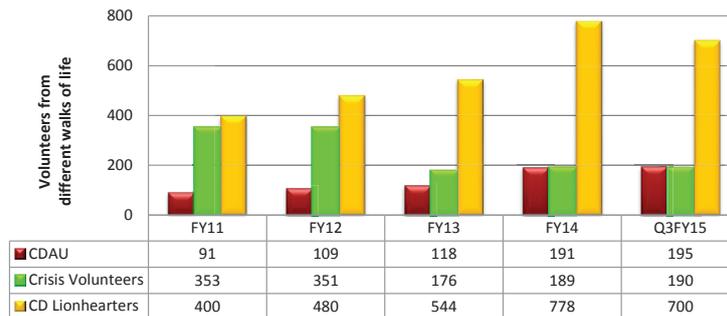


Figure 7.4.4 Volunteers from different walks of life

Volunteers are important to us in our life saving mission. As we embark towards achieving our 2025 Vision, we have created many avenues for different segments of the community to join us, whether as part of our CD Auxiliary Unit (CDAU), as Crisis Volunteers<sup>1</sup> or even as CD Lionhearters. The pool has been growing steadily and we will continue to recruit more volunteers to increase the numbers of trained Community First Responders on the ground.

**Productivity**

*Fire Personnel per 100K Population*

It is worth noting that the SCDF maintains one of the lowest numbers of fire personnel per 100,000 population as compared to major cities around the world (see Fig 7.4.5), thus making what we have been able to achieve in Singapore so far quite remarkable.

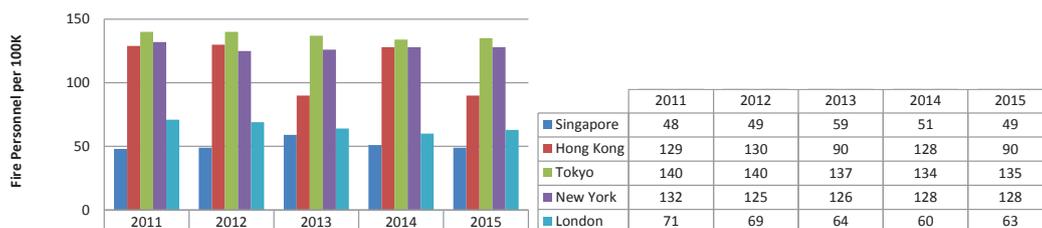


Figure 7.4.5 Number of Fire Personnel per 100K Population (IFCAA Fire Statistics)

<sup>1</sup> The drop in numbers for this segment of volunteer in FY13 was due to a review to maintain only a core pool of Crisis Volunteers with relevant specialist skill sets (rescue engineering, psychology and others such as IT expertise) that the SCDF may tap on during crises.

## 7.4b Suppliers and Partners Performance

### Supplier Performance

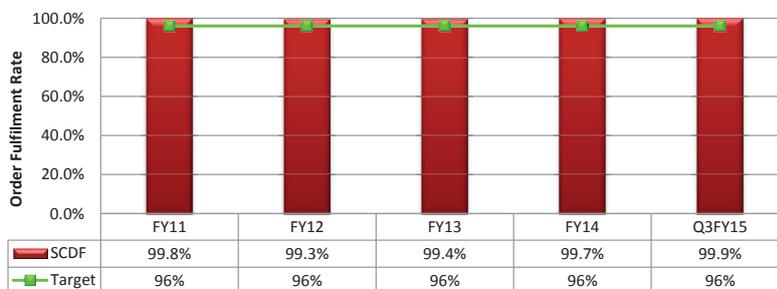


Figure 7.4.6 Order Fulfillment Rate

Our suppliers have consistently been able to meet and even exceed the KPI and this has been vital in enabling the SCDF to maintain its operational readiness.

## 7.4c Governance system and contribution to the community, society and the environment

### Volunteerism in SCDF

Our staff contributes to the community, society and environment through volunteerism such as helping out in homes for the aged, giving their time and effort to attend to the less fortunate and to take care of the environment as shown in Fig 7.4.7

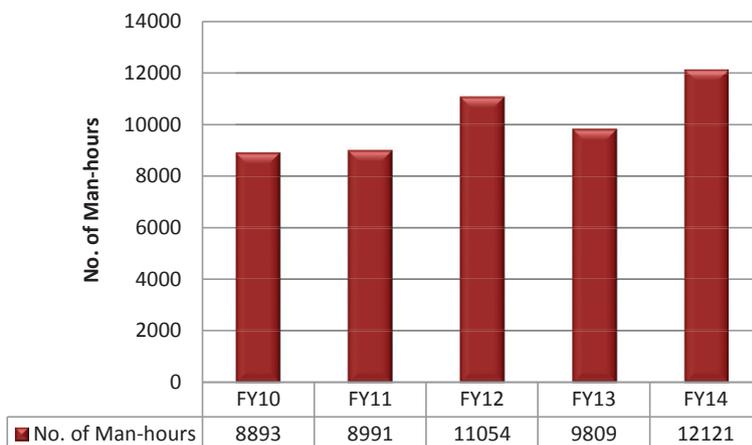
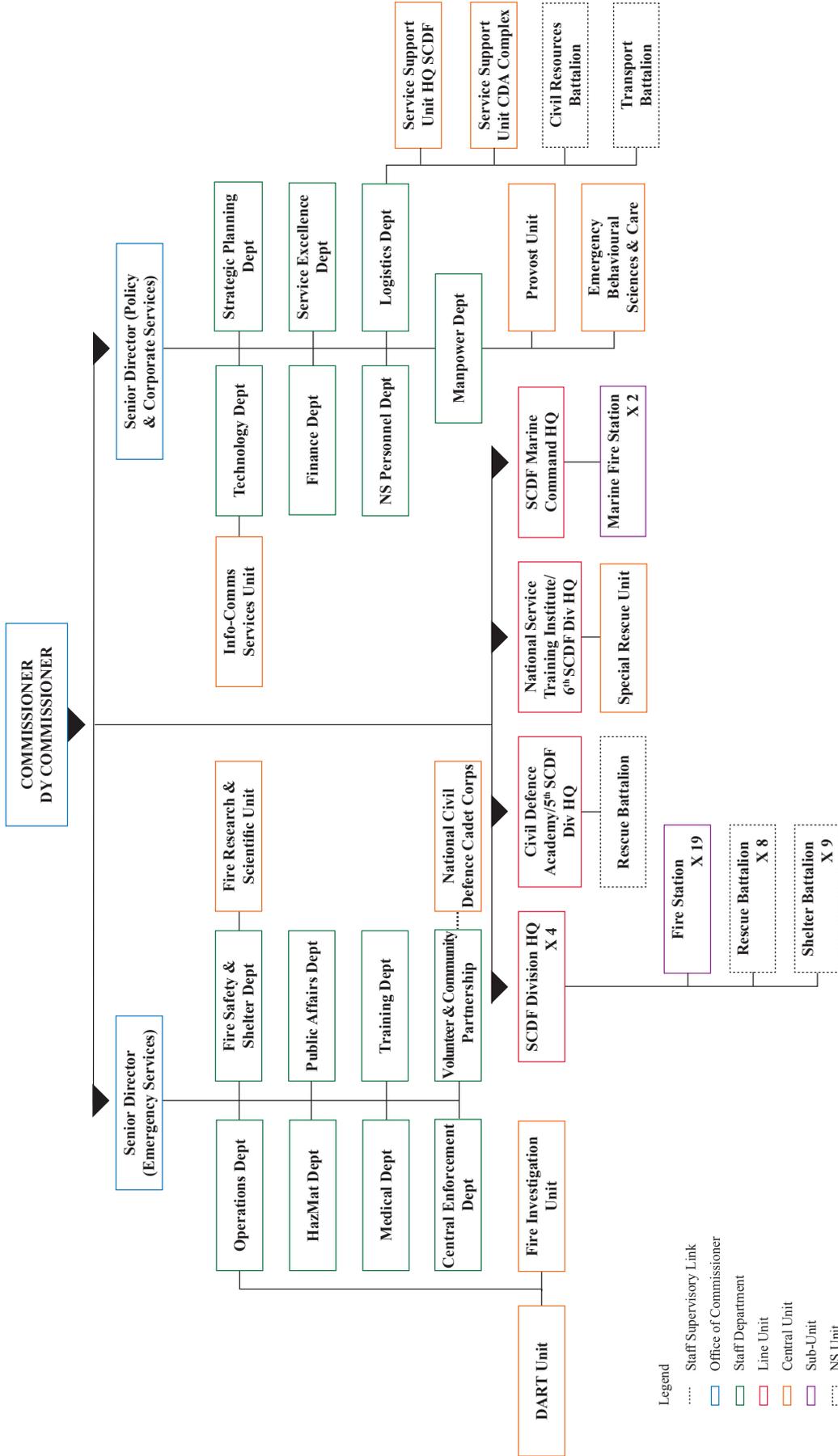


Figure 7.4.27 Man-hours committed for Community Service



ANNEX A

ORGANISATION STRUCTURE OF SINGAPORE CIVIL DEFENCE FORCE



## LIST OF ABBREVIATIONS

AAR	After Action Review	EBSC	Emergency Behavioural Sciences and Care	iKnow	Intellectual Knowledge
ACDM	ASEAN Committee on Disaster Management	EMS	Emergency Medical Services	iLeaD	Initial Leadership Development
ACES	Advanced C3 Emergency System	EMT	Emergency Medical Technician	IMs	Instruction Manuals
A-CERT	Accredited Training Organisations for Company Emergency Response Team	EOM	Expenditure on Manpower	IMS	Information Management System
AED	Automated External Defibrillator	EP	Emergency Preparedness	INSARAG	International Search and Rescue Advisory Group
APHP	Asia-Pacific Humanitarian Partnership	EPC	Emergency Preparedness Centre	I-Office	Innovation Office
ASEAN	Association of South East Asian Nations	ERAT	Emergency Response and Assessment Team	IP	Intellectual Property
BCA	Building and Construction Authority	ERM	Enterprise Risk Management	IPPT	Individual Physical Proficiency Test
BCM	Budget Committee Meeting	ERS	Emergency Response Specialist	IT	Information Technology
BTM	Basic Task Manual	EVD	Economy and Value Drive	JPS	Joint Planning Staff
C2E	Community Emergency and Engagement Committee	eUMS	Electronic Unit Management System	JTC	Jurong Town Council
C3	Command, Control and Communication System	EXCO	Executive Committee	KM	Knowledge Management
CAF	Compressed Air Foam	FDP	Foundation Development Programme	KMSC	Knowledge Management Steering Committee
CBNRE	Chemical, Biological, Nuclear, Radiological and Explosives	FHAN	Fire Hazard Abatement Notice	KPI	Key Performance Indicator
CBR	Chemical, Biological and Radiological	FISOPS2	Fire Safety On-line Operating System 2	KRI	Key Risk Indicators
CD	Civil Defence	FRP	First Responder Protocol	LFVAV	Light Fire Attack Vehicle
CDA	Civil Defence Academy	FRS	Fire and Rescue Specialists	LTA	Land Transport Authority
CDAU	Civil Defence Auxiliary Unit	FSA	Fire Safety Act	LTMP	Long Term Manpower Plan
CED	Central Enforcement Department	FSE	Fire Safety Engineer	MAC	Medical Advisory Committee
CEPP	Community Emergency Preparedness Programme	FSM	Fire Safety Manager	MASTEX	Management, Administrative, Staff work & Executive
CERT	Company Emergency Response Team	FSSD	Fire Safety and Shelter Department	MHA	Ministry of Home Affairs
CI	Co-Innovation	FY	Financial Year	MIF	MHA Innovation Fund
CIO	Chief Innovation Officer	GeBIZ	Singapore Government's one stop e-procurement portal	MOF	Ministry of Finance
CIMS	Crisis Information Management System	GIRO	General Interbank Recurring Order	MOH	Ministry of Health
Comms	Communications	HAZMAT	Hazardous Materials	MPD	Manpower Department
Comr	Commissioner	HDB	Housing Development Board	MVV	Mission, Vision and Values
CoP	Communities of Practice	HIMS	HazMat Incident Management System	NEAR	Neighbourhood Active Responder Programme
CORENET	Construction and Real Estate Network	HQ	Headquarters	NS	National Service
CPP	Corporate Planning Process	HR	Human Resource	NSCS	National Security Coordination Secretariat
CPR	Cardiopulmonary Resuscitation	HS	Household Shelters	NSF	Full-Time National Serviceman
CPRM	Corporate Performance Review Meeting	HSA	Health Sciences Authority	NSPAM	National Service Personnel Admin and Management System
CSC	Customer Service Centre	HSCT	HazMat Specialist Certification Test	NSPD	National Service Personnel Department
CSR	Corporate Social Responsibility	HT	Home Team	NSTI	National Service Training Institute
CSSP	Community Safety and Security Programmes	HTDs	Home Team Departments	NWD	No Wrong Door
DART	Disaster Assistance and Rescue Team	HTVTS	HazMat Transport Vehicle Tracking System	OA	Operational Analysis
DC	Deputy Commissioner	ICE	Innovation Creativity and Enterprise	OHCA	Out-of-Hospital Cardiac Arrest
DIV	Division	ICECOM	ICE Committee	OHS	Organisational Health Survey
DMGX	Dynamic Management Information Report Generator External	ICT	Info-Comms Technology	OOE	Other Operating Expenditure
DMSC	Data Management Steering Committee	ICTSC	Infocomm Technology Steering Committee	ORBAT	Order of Battle
		iDO	Intelligent Duty Officer Booking System	ORM	Operation Risk Management
		IEA	Innovation Excellence Award	ORMC	Operation Risk Management Committee
		IERE	INSARAG External Reclassification Exchange	OTM	Ops Terrain Mapping
		IFCAA	International Fire Chiefs' Association of Asia	P2MAP	Portfolio and Project Management And Planning system
		iFeedback	Computerised Feedback Management System	P-Connect	Personnel Connect
				P & FM	Petroleum & Flammable Materials
				PDV	Personnel Decontamination Vehicle

## ANNEX B continued

## LIST OF ABBREVIATIONS

PE	Public Education	UNDAC	United Nations Disaster Assessment and Coordination
PEC	Pre-hospital Emergency Care	UNOCHA	United Nation Office for the Coordination of Humanitarian Affairs
PER	Pro Enterprise Results	URA	Urban Redevelopment Authority
PIBs	Public & Industrial Buildings	USAR	Urban Search and Rescue
Pi-Cube	Problem, Ideas, Improvement and Innovation	WFSC	World Fire Statistics Centre
PMO	Prime Minister's Office	WIT	Work Improvement Team
PPS	Public Perception Survey	WOG	Whole of Government
PRISMS	Public Relations in the Service of Mankind	3I	Idea, Improvement & Innovation
PS	Public Service		
PS21	Public Service for 21st Century		
PSB	Product testing, inspection and certification service provider (TUV SUD PSB)		
PSD	Public Service Division		
PUB	Public Utilities Board		
PWS	Public Warning System		
QP	Qualified Person		
QS	Quality Service		
QSI	Quality Service Indicator		
QSM	Quality Service Manager		
R995	Rescue 995 (In-house Magazine)		
RA	Related Agencies		
RCC	Rota Commander Course		
REDCON	Readiness Condition		
RJP	Realistic Job Preview		
RO	e-Routine Orders		
SAM	Strategic Articulation Map		
SARS	Severe Acute Respiratory Syndrome		
SCDF	Singapore Civil Defence Force		
SE	Service Excellence		
SEAs	Service Excellence Awards		
SECC	Staff Engagement and Competency Committee		
SED	Service Excellence Department		
SGFPC	Singapore Global Firefighters and Paramedics Challenge		
SHF	Singapore Heart Foundation		
SHINE	Service Heroes Innovation Excellence		
SM	Senior Management		
SMM	Senior Management Meeting		
SPD	Strategic Planning Department		
SPF	Singapore Police Force		
SPICE	Staff Participating in Co-employment Programme		
SPS	Singapore Prison Services		
SQA	Singapore Quality Award		
SQASC	Singapore Quality Award with Service Commendation		
SSS	Staff Suggestion Scheme		
TMS	Training Management System		
TRG	Training Department		
UFM	Unmanned Fire Fighting Machine		
UN	United Nations		





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