The effectiveness of Community Policing Forums in addressing crime at local level

A research perspective

Presentation to the SAPS Colloquium

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Research Group Leader
SAPS Key relationship manager
Contents

• Introduction to the CSIR-SAPS relationship
• CPF – some analysis
• CPF – suggested interventions
• Overview : CSIR practical impact from science community
• Conclusion
No second “performance”

Sir Winston Churchill

George Bernard Shaw
Establishment of a strategic relationship

SAPS and CSIR : MOA

• The CEO of the CSIR and SAPS National Commissioner signing the MOA, on 18 February 2014

• The SAPS MOA relationship is managed from the office of Dr. Rachel Chikwamba, Group Executive: CSIR Strategic Alliances and Communications

• The MOA establishes the foundation for a more strategic relationship between SAPS and the CSIR
Scope of the CSIR-SAPS MOA

- Programme 1: Command and Control and Shared Situational Awareness (*Intelligence-based policing, “war-rooms”, Joint Operations Centres (JOC’s)*)
- Programme 2: Information and Communications Technologies (*Enterprise Architecture (EA)*)
- Programme 3: Integration and Interoperability Support
- Programme 4: Operational Quick Reaction tasks
- Programme 5: Science and Technology Capability Development
- Programme 6: Strategic and Operational Decision Support
Safety and Security Flagship Program key objectives

The CSIR CEO’s objectives – CSIR (own) funded initiative

- To **identify a national Safety & Security problem**
- .....of a suitable scope to serve as the basis for a CSIR Safety and Security Flagship project
- Utilise CSIR cross-functional capabilities in the execution of the Flagship
- The Flagship project scope shall be of such a nature as to solve a national Safety and Security problem
- Scope: Crime prevention on neighbourhood, improving CPF & SAPS situational awareness capabilities
Community Policing Forums (CPF’s)
An introduction to the existing legislative framework

A number of legal and policy documents tell us that the police and communities must work together to prevent crime. These documents are:

- The South African Police Service (SAPS) Act No. 68 of 1995
- The SAPS Interim Regulations for Community Police Forums and Boards
- The White Paper on Safety and Security
- The White Paper on the Transformation of the Public Service (Batho Pele)
- The National Crime Prevention Strategy (NCPS)
- The Justice Vision 2000 – Justice For All policy document
CPF’s general objectives: focus of our research

General principles of Community Policing

X Respect for and protection of human rights.
X Community policing informs, guides and sustains all policing activities.
X All members of the South African Police Service should participate in community policing and problem solving initiatives.
X Problem solving should be based on a consultative approach which constantly seeks to improve responsiveness to identified and prioritized community needs.
X Education, capacity-building and enskilling of SAPS personnel and members of the community to enable constructive participation in addressing the problem of crime.
X Resolving conflict between and within community groupings in a manner which enhances peace and stability.
X Awareness of, respect for, and tolerance of the languages, cultures and values of the diverse peoples of South Africa.
X Enhancement of the accountability of the Police to the communities they serve.
X Shared responsibility and decision making as well as sustained commitment

Source: GPF guideline document, Western Cape
Initial thoughts – a typical resource “picture” per sector in a CPF (Tshwane metro)

Consensus real-time neighbourhood “crime picture”?

Regional 1011 Centres

Public network

Private security companies

60 vehicles
POSTEDFIT-B capability elements
Analysis framework used for evaluation of three CPF capabilities

Capability elements are the constituent components of the capability and describe what the capability consists of. Commonly referred to as the POSTEDFIT capability elements.

**Personnel:** Characteristics of the required human resources

**Organisation:** Characteristics of mission task forces

**Sustainment:** Characteristics of the logistics and financial support

**Training:** Training required to prepare human resources

**Equipment:** Type, quantity and characteristics of equipment

**Doctrine:** Required doctrine, aids, operating procedures etc.

**Facilities:** Characteristics of the military facilities required

**Information:** Required intelligence, information and data

**Technology:** Commercial and military technologies required

**Budget:** Required budget allocation for capability development.
## Conclusive observations: Successful CPF’s

First order conclusions after discussions with 3 CPF’s

### POSTEDFIT-B ANALYSIS (OWN VIEW)

<table>
<thead>
<tr>
<th>POSTEDFIT-B term</th>
<th>Description of element</th>
<th>Level 1 (Initial: Ad Hoc)</th>
<th>Level 2 (Repeatable)</th>
<th>Level 3 (Defined)</th>
<th>Level 4 (Managed)</th>
<th>Level 5 (Optimising)</th>
<th>Rationale</th>
<th>INTERVENTIONS?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel</td>
<td>Personnel relates to all people within a system; this element incorporates recruiting, individual training, all conditions of service and employment, skill level and entitlements.</td>
<td></td>
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<td></td>
<td></td>
<td>The minimum required personnel requirements are defined by legislation. Training &amp; skill levels are not always defined.</td>
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<tr>
<td>Organisation</td>
<td>Organisation relates to flexible functional groupings with an appropriate balance of competency structure and command and control to accomplish their tasks.</td>
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<td></td>
<td></td>
<td>Flexible functional groupings are managed and command &amp; control structures are managed (but with a too slow response cycle)</td>
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<tr>
<td>Supply &amp; Support</td>
<td>Supply and Support relate to the supplying of commodities and products as required for the execution of operations, which includes warehousing of items of supply at specific geographical locations, provisioning lead times, and serviceability and configuration status. Infrastructure and support services required to ensure the availability of equipment and ultimately capabilities, wherever deployed and employed.</td>
<td></td>
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<td></td>
<td>No formal supply &amp; support value chain currently exists for the integrated CPF and SAPS system.</td>
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<tr>
<td>Training</td>
<td>Training relates to a defined training system approach undertaken by organisations that is validated against the readiness requirements for operations. This element also includes frequency and depth of competency in skills with a particular emphasis on long-term (life-cycle) critical activities and associated support skills.</td>
<td></td>
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<td></td>
<td>Defined CPF training programs are often presented to members. The depth of competency in skills are not addressed with a long-term view.</td>
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<tr>
<td>Equipment</td>
<td>Operation critical equipment designed to enhance the system’s ability to execute its goals.</td>
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<td></td>
<td>No formal innovation or R&amp;D programs are available that currently focus on the enhancement of CPF abilities to execute its goals.</td>
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<tr>
<td>Doctrine</td>
<td>(Command and management with inherent control). This element encapsulates regulatory framework, strategies, policies and procedures, principles and other related prescripts justifying the existence of the system’s capabilities, the readiness levels thereof, as well as governing, decision making, administration and operations.</td>
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<td></td>
<td>CPF leadership often develops operational guidelines and procedures to the benefit of their CPF. The consistent management thereof often provide challenges.</td>
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<tr>
<td>Facilities (Infrastructure)</td>
<td>This element encapsulates buildings, structures, property and equipment. Training areas, civil engineering works, through life support infrastructure and utilities necessary to support capabilities, at both stationary and operationally deployed locations.</td>
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<td></td>
<td>Currently CPF’s do not receive funding for infrastructure on neighborhood level. Infra-structure and equipment are often self-funded - hence greatly lacking to achieve CPF goals.</td>
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<tr>
<td>Information</td>
<td>Inputs encapsulate intelligence, information, data and data processing systems, computer applications, manual information systems, data and information content, timeliness, presentation, format reliability and validity data correlation and fusion.</td>
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<td></td>
<td>No national CPF crime and intelligence data capturing process is in place on a national basis. Innovative CPF members often take the initiative to develop it themselves. No seamless, real-time integration with other key stakeholders such as SAPS are in place.</td>
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<tr>
<td>Technology</td>
<td>This element encapsulates commercial and/or military technologies required, including research and development, technology growth paths, cycles and trends, technology reliability, affordability, cost effectiveness, technical opportunities and risks.</td>
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<td></td>
<td>No formal innovation and development of technologies by CPF members. Integration of the public is often problematic.</td>
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<tr>
<td>Budget</td>
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<td></td>
<td>No formal budgets allocated to CPF’s for innovation and development.</td>
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our future through science
**Interventions : preliminary observations**

*Comments on the POSTEDFIT-B analysis – own view*

### INTERVENTIONS?

- **Organisation**: The collaboration model between local police stations & CPF’s could improve. A national intervention team should be made available that could advise local communities on how to incubate good collaboration models.

- **Supply & Support of CPF’s**: The supply of required commodities for CPF’s to enable operations needs attention – currently mostly funded and supplied by CPF members and local businesses.

- **Budget**: A budget to implement and operate functional CPF’s is vital. The current “self-funded” model is not sustainable in the financial climate. Urgent attention by government agencies to allocate CPF funding should be considered.

- **Facilities & Infra-structure**: It is argued that CPF’s will require a **physical presence in neighbourhood**: local joint SAPS-CPF office (operations centre) with supporting ICT capabilities.

- **Information & Technology**: **Near-real time information gathering**, processing of crime related data would be vital for our complex crime problems. The inclusion of the public in information gathering would be vital. Science & engineering can suggest interventions in this regard to implement **real-time Command & Control capabilities**.
Crime prevention strategy - SAPS (2014)

Implement “smart” intelligence based policing principles

Source: SAPS presentation to the National Hearing on Safety and Security 2014
Understanding future CPF capability requirements
Embracing complexity in implementing future crime prevention strategies

Crime is a complicated problem?
(focus of current excellent research)

(AND)

Crime is a complex problem?
(focus of future research)
Embracing complexity – Cynefin framework

Let's think differently about future crime prevention intervention strategies and capabilities

- Cynefin means “habitat” in Welsh
- “Crime prevention is mostly a complex and/or chaotic endeavour”
- Let's look at the crime “habitat”

(Source: Competitive edge, Prof. Dave Snowdon)
Cynefin – understanding the crime habitat

New thinking – crime is a complex problem, implement future capabilities that could solve them

CRIME PROBLEMS

(OODA Loop : Observe, Orientate, Decide Act)

Complex

• Cause and effect relations repeatable
• Standard operating procedures
• Apply best practice
• Sense – categorise-respond

Complicated

• Cause and effect separated over time and space
• Analytical / reductionist
• Scientific method, Systems thinking
• Sense - Analyse-respond

Chaotic

• No cause and effect perceivable
• Stability focused intervention
• Probe-sense respond

Simple

• Cause and effect relations repeatable
• Standard operating procedures
• Apply best practice
• Sense – categorise-respond

Unordered

Ordered

Unordered

Ordered
OODA Loop tempo – determines success

Col John Boyd USA fighter pilot

- Probe-sense respond cycle
- Sense-Analyse-respond cycle

Loop time 1? Loop time 2?

Winner!
OODA leads to improved situational awareness (sense-making)

Framing and acting in the unknown – Deborah Ancona, MIT Sloan School

• Karl Weck – The “father” of “Sense-Making”: how to structure the unknown as to be able to act in it.

• It is a key future leadership capability for the complex and dynamic world we live in today.

• Deborah Ancona – Enabling leaders to explore the wider system, create a “map” of that system and act in that system to learn from it.

Source: The Handbook of teaching leadership, Sensemaking, Framing and acting in the unknown, Deborah Ancona,
Improved sense-making (situational awareness) causes organisational self-synchronization

- ....the ability of an organisation to dynamically synchronize its actions; achieve operational agility; and increase the speed of management (command) within a complex, robust, secure networked grid.

The objective

CPF’s & SAPS are here

Enable Information sharing

Enable Shared Awareness

Ad Hoc (Traditional manual information sources)

Required integrated CPF & SAPS organisational behaviour

Traditional reactive behaviour

Collaborative behaviour

Self-Synchronization

(Source: Maturity model from : "Power to the edge")
Self-synchronizing organisations: CPS’s & SAPS
Focus of the current CSIR Safety and Security Flagship Program

Improve the Sense-Making (SA) capability

Improve the neighbourhood SAPS & CPF OODA Capability:

- OBSERVATION Capability
- ORIENTATION Capability
- DECISION MAKING Capability
- ACTION Capability
Sense-making (situational awareness) leads to collaboration – the quest for a near-realtime response

**Sense-making model of knowledge management in an organisation**

*Source: Dubravka Cecez-Kecmanovic, A SENSEMAKING MODEL OF KNOWLEDGE MANAGEMENT IN ORGANISATIONS, School of Information Systems, Technology and Management, Faculty of Commerce and Economics UNSW, Sydney NSW 2052, Australia*
Collaboration by means of “knowledge centricity”

Consensus Collaboration Data (Self-Synchronised Virtual Organisation)
Important security related technology trends of the future

Source: Zolan Wirth: Pictures of the future, security scenarios
Future security trends – knowledge centricity

The application of knowledge centricity in cities is increasingly protecting society from serious crime and major incidents by providing a greater understanding of issues within this complex environment.

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<tr>
<td>Situational awareness</td>
<td>We can now connect video, robotic vision, location-based services, IT architecture and mobile communications into an intelligent situational awareness system.</td>
</tr>
<tr>
<td>Forensic analysis</td>
<td>Historical and live data is combined to evaluate incidents. Advances in computing power enables key trends to be identified and solved in real-time. We can now automatically scan all recorded information to identify the real-time movements of a person of interest.</td>
</tr>
<tr>
<td>Knowledge centricity</td>
<td>Information is ‘pushed’ to the user depending on what is required at the time. The vast collection of data and analysis allows the user to make the most informed decisions. Through the development of GUI’s, we can now access the information in a far more intuitive manner.</td>
</tr>
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Source: Siemens
The future capable CPF & SAPS neighborhood capabilities - conclusion

- Well resourced POSTEDFIT-B, the foundation of a successful partnership
- Embracing complexity w.r.t. crime prevention strategies
- Apply principles of “knowledge centricity” to integrate resources
- Move from reactive- to pro-active policing
COLLABORATION

INTEGRATION

AWARENESS

REAL TIME ANALYTICS

SMART SYSTEMS FOR INTEGRATIVE COLLABORATIVE DISTRIBUTED SITUATION AWARENESS
Development of intelligence-base policing capabilities
CSIR internally funded project

An Intelligence-led OPS-room deployment to support the Brooklyn SAPS & CPF in crime prevention operation exercise
Setting up of police station-CPF operations room – Brooklyn SAPS

- Set-up of CPF-SAPS operations centre within 60 mins
- Training time to SAPS & CPF members – 30 mins
- SAPS Police Station commander provided C3 to a 70-SAPS members force, 20 CPF’s members, 2 private security companies
- Near-real time statistics were used to manage the operation – very successful operation
Predictive crime prevention modelling capabilities

Explore Bayesian modelling techniques to predict crime “hot spots”
Near-real time neighborhood crime statistics “picture” is possible – we can embrace complexity with fast OODA loops.
Thank you

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Worksession: Support to special operations
SAPS Special Operations Response unit, two day work-session on planning and JOC needs, Dec 2015
Worksession: Operational response needs

Work session on future Operational Response (ORS) needs

- Unpacking the future SAPS anti-crime operational response needs
- Feb 2016
Barriers to impact – facilitate capability interventions and stakeholder’s POSTEDFIT operational skill requirements

- Lower rhino poaching rates
- Lower community crime rates

[POSTEDFIT = Personnel, Organisation, Sustainment, Training, Equipment, Doctrine, Facilities, Information, Technologies]
Built environment

- GIS analysis and presentation of crime statistics
- Situational analysis of crime situations

Legend
- Major Town
- Secondary Town
- Settlement
- Rest Camp (Park HQ)
- Rest Camp
- Kruger National Park Boundary
- International Border
- Major Road
- Main Road
- Secondary Road
- Gravel Road
- Private Road & Tracks
- Railway
- River
- Waterbody
- Provincial & Local Reserves
- Other Nature Reserves

Kills/20 sqkm (Geometric Distr.):
- 0.01 - 0.02
- 0.03 - 0.06
- 0.06 - 0.11
- 0.12 - 0.19
- 0.2 - 0.33
- 0.34 - 0.56
- 0.57 - 0.94
- 0.95 - 1.58

Map prepared by: Spatial Planning & Systems
21-03-2014
UTM 36S: WGS84
The SAPS operational response in communities

A scenario – problem 1, response at police station level

Brooklyn
Informal

Mamelodi
Informal

Sunnyside

Crime reporting and response

No official stats feedback (near – real-time)

Pretoria East

Crime Stats reported
Problem definition – current operational response
A scenario – problem 2 response at regional level

NATJOC

Midrand
Regional 1011 Centres
Brooklyn
Public
Security
Emergency

PE
Regional 1011 Centres
Mamelodi
Public
Security
Emergency

Cape Town
Regional 1011 Centres
Sunnyside
Public
Security
Emergency
### Future security trends – knowledge centricity

**Knowledge centricity - to solve more complex problems**

<table>
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<tr>
<th>2010</th>
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</thead>
<tbody>
<tr>
<td>Situational awareness</td>
<td>Although a large amount of information is readily available, we rely heavily on manual interpretation and analysis to make it useful. Therefore, significant training is required to develop the skills needed to provide a level of projection.</td>
</tr>
<tr>
<td>Forensic analysis</td>
<td>Forensic investigations usually involve the analysis of information, physical and electronic, after the incident. It follows the normal process of acquisition, analysis and reporting on static information, rather than live data.</td>
</tr>
<tr>
<td>Knowledge centricity</td>
<td>To make decisions, we need to consume a lot of information, which is usually provided in the form of text and alarm notifications. We base our decisions largely on a series of unconnected pieces of information.</td>
</tr>
</tbody>
</table>
Proposed intervention

Return situational awareness capabilities to neighbourhoods

Regional Integrated near-real-time crime situational awareness

Provide SA to obvious problems
Complicated crime problems
Complex crime problems
Chaotic crime problems