

ANTI CRIME TECHNOLOGY REPORT FOR MINISTRY OF NATIONAL SECURITY JAMAICA

*Strengthening of the Government's Capacity to Manage Crime and Security and
the Ministry's Capability to Successfully Manage the Implementation of Strategic
Projects.*



“As Is” Report

Prepared for:

Ministry of National Security (MNS)
Oxford Road
Kingston 5, Jamaica W.I.

Prepared by:

Lt Col (Retd) Stacey Edmundo Thompson
BSc Eng (Hons), MSc DIS
Abacus for Communities
7 Eureka Crescent,
Kingston 5, Jamaica W. I.

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- 6.1.3 Backlogs and outdated methods employed in Courts / Justice system
- 6.1.4 Fragmented information databases and lack of coordination across security sector agencies
- 6.1.5 Technology capacity deficit between law enforcement and criminals
- 6.1.6 Government information Systems outpaced by quantum increases in demand and nature and crime over time.
- 6.1.7 Inefficient Fleet and Personnel Management in the JCF
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- 6.1.19 Information availability and accessibility for (collection, storage, analysis, dissemination and use in decision making) alongside results and outcomes;
- 6.1.20 Cross-sectoral linkages and partnerships particularly between agencies, regional and international governments, private enterprise, civil society and the general public, including Private–Public Partnerships;
- 6.1.21 Capacity and institutional arrangements.

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ABBREVIATIONS AND ACRONYMS

CIO	Chief Information Officer
Customs	Jamaica Customs
DCS	Department of Correctional Services
FLA	Firearm Licensing Authority
Gov Net	Government Network
ICT	Information and Communication Technology
JaCIRT	Jamaica Crisis Incident Response Team
JCF	Jamaica Constabulary Force
JDF	Jamaica Defence Force
MNS	Ministry of National Security
MOCA	Major Organized Crime Agency
MSET	Ministry of Science, Energy and Technology
NWA	National Works Agency
ODPEM	Office of Disaster Preparedness and Emergency Management
PICA	Passport and Immigration Control Authority
PSRA	Private Security Regulatory Authority
PWH	Price Water House
REDTRAC	Regional Drug Training Centre
RGD	Registrar Generals Department
RPD	Revenue Protection Division
RPLSB	Research, Planning and Legal services Branch
TAG	Technical Action Group
TELCOs	Telephone Companies
TTF	Technology Task Force

DEFINITIONS

There are many different definitions of “crime” and “violent crime”, but the following definitions were universally accepted as it related to the conduct of this assignment

Crime

An act or omission which constitutes an offence and is punishable by law.

Violent Crime

A violent crime, or crime of violence is a crime in which an offender used or threatens force upon a victim. This entails both crimes in which the violent act is the objective such as murder, as well as crimes in which violence is a means to an end

While all crimes were considered, priorities for solutions were targeted more towards violent crimes as the main drivers under this assignment

SOME INTERESTING THOUGHTS EXPRESSED DURING THE COURSE OF INVESTIGATIONS:

Policing Best Practices

“Data driven response policing” will reduce crime in the short term, but is not by itself alone sustainable”

“Only crime prevention policing policies are sustainable, which cannot occur without close collaboration and cooperation between prosecutors and the courts”.

“Precision policing” is the latest form of data driven policing”

“Methodologies exist that provide guidance to police as to what, when, where, who, etc to share data with”

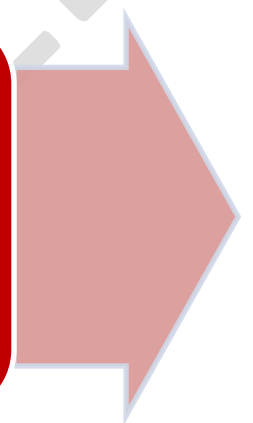
Interesting Jamaican Crime Information / Factoids

‘There are “not many” murderers in Jamaica but rather a high number of repeat murderers‘

‘There are “very few” murderers in prisons, the majority of inmates are there for wounding’s and robberies’.

‘Emergency Call Centre (119) receives about 20,000 – 30,000 calls per day (minimum 7.5m calls per year) 70% of which re prank calls’.

EXECUTIVE SUMMARY



This “As-Is” Report articulates the current status of MNS projects and urgent challenges faced by key MNS agencies.

Investigations attempted to establish baseline scenarios to be used as indicators for further MNS performance-based project development.

A qualitative analysis was conducted under Twenty One (21) major concerns (Table 1) identified by previous studies and daily press reports as the main concerns affecting performance of key MNS agencies.

During analysis of each of these challenges, Sixteen (16) recurring sets of practical issues (Table 2) emerged which were each analyzed, synthesized and presented as charts arranged to show emergent trends (Below).

Analysis focused more on issues affecting technology related projects and systems, while synthesis of findings was enabled by comparative, quantitative rating of emergent issues based on frequency of occurrence as represented in bar charts with brief summary notes below (Para 2.1 – 2.21)

Current (As Is) status of MNS projects is reported under the headings ■ Stage of project development, ■ Project Description, ■ Problem Being Addressed, ■ Current Situation, ■ Expected Benefits and ■ Feasibilities.

Annexes contain ■ Detailed Findings ■ References and ■ Persons consulted.

The study concluded that the most urgent challenges to be overcome in key MNS agencies are:

- i. Monitoring, Enforcement and Compliance, particularly the limited **use of IT systems** and technology tools for **data-driven management decisions** being the area of greatest underperformance in the JCF and DCS and primarily accounting for the inefficiencies and low confidence in the functioning of these agencies;
- ii. Technology capacity deficit between law enforcement and criminals, exacerbated by absence or inaccessibility of real time information sharing, being too little, too slow, too late, inaccurate and incomplete, mainly attributable to outdated **manual and paper-based operations, fragmentation of databases** and other information sources throughout the system and **outdated ICT networks** and hand held devices for rapid communications. Criminals on the other hand have easy and affordable access to “off the shelf” equipment, networks and “apps” that can readily monitor law enforcement activities, information and movement without detection.
- iii. Outdated and under-performing Law Enforcement and Criminal Justice Systems, worsened by almost total separation of policies, communication and coordination between the Justice and Security ministries for **‘case management’**, resulting in reduced reliance on JCF investigative and courts management capacities and performance;
- iv. Strategic Project Management Capacity deficiencies within MNS, JCF and DCS, often where unqualified, uncoordinated and unprofessional project development continues unchecked throughout the project lifecycle resulting in policy, capacity and ownership gaps within

beneficiary and user communities, which normally end in system failure with crime management issues remaining unaddressed.

- v. Inadequacy of existing JCF and DCS ICT networks and hand held devices to deliver information service levels necessary for modern crime prevention, response and investigations, as outdated systems are limited to voice communications.

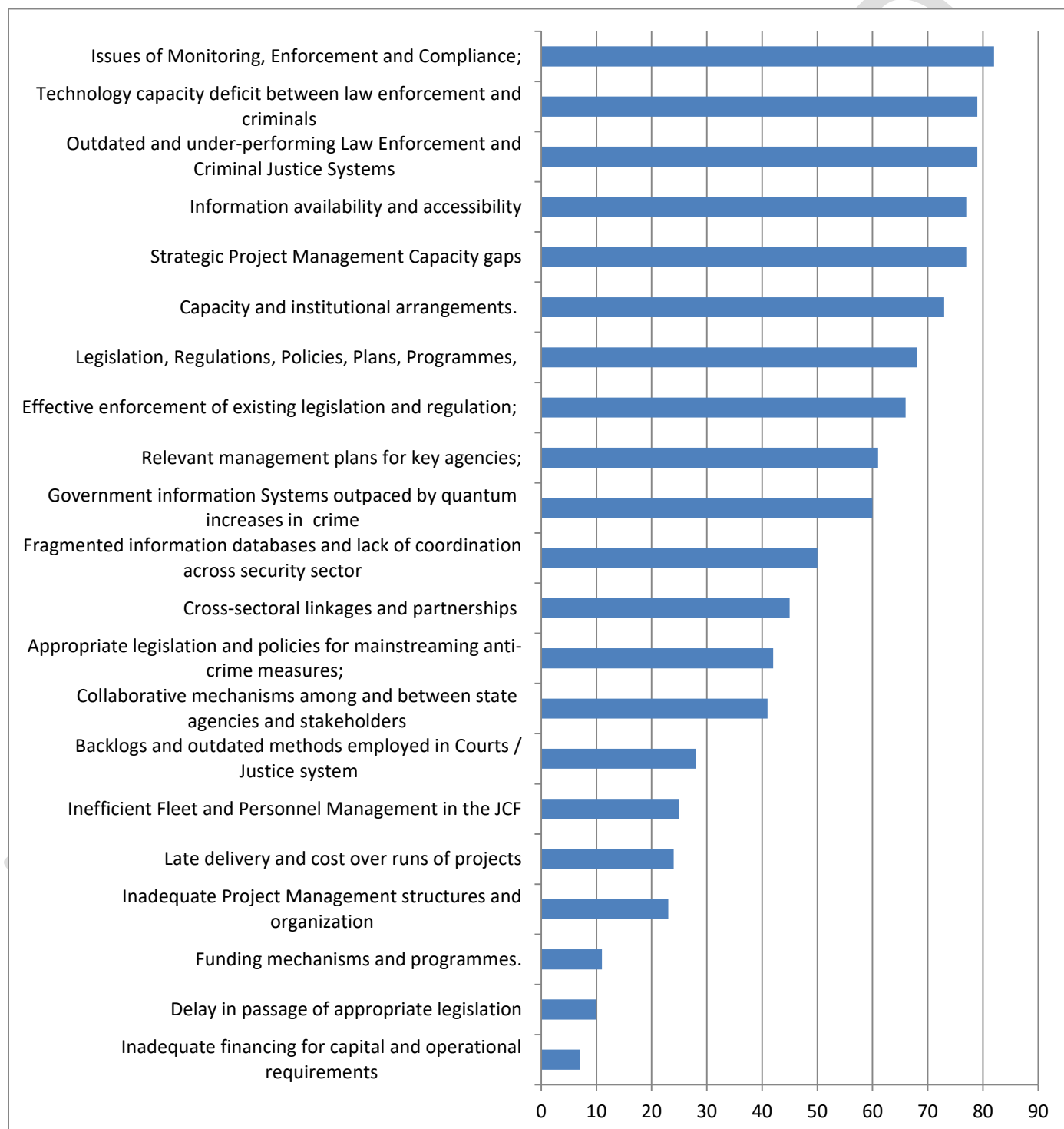
Lower rated practical issues surrounded ■Resources ■Courts Administration and Rulings ■Capacity ■Legislation ■Public Cooperation ■Staffing ■Funds and ■Cyber Security

The “Data Integration” project should provide great opportunity to further capacitate the JCF's IT governance structure and resource base by consolidating “National Security” databases at the ICTD and upgrading its management and staff, with provision for more timely and eventual inclusion of other government databases required for ‘comprehensive crime management’.

Recommendations for solutions to these challenges and “Future State” visioning will be the subject of the next Report.

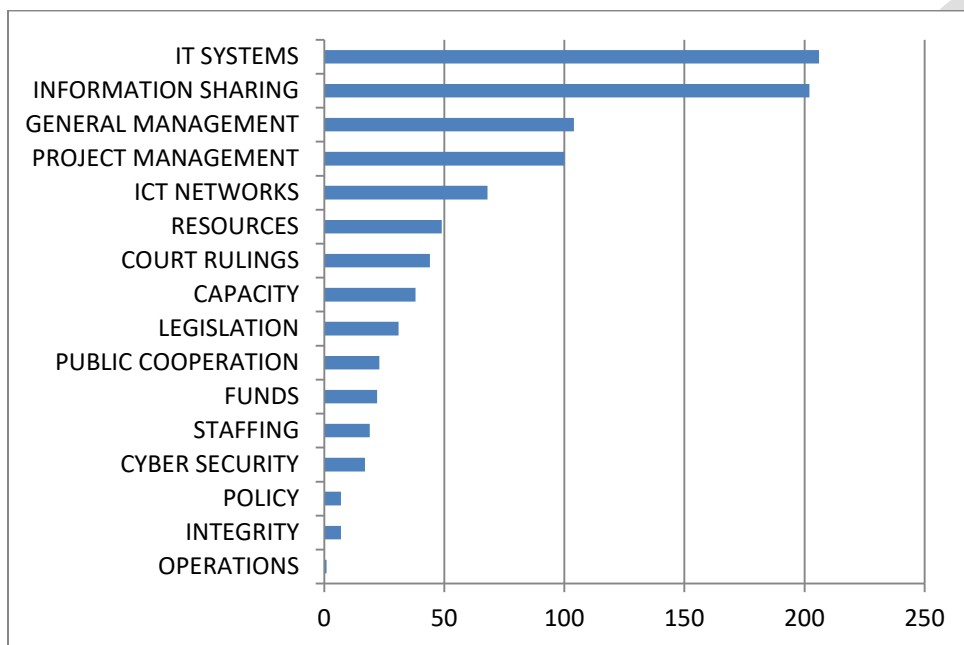
SUMMARY OF CHALLENGES

• MAJOR CONCERNS



SUMMARY OF PRACTICAL ISSUES

• RECURRING ISSUES



IT SYSTEMS

- INFORMATION IN MANUAL FORMAT
- INFORMATION REQUESTS SLOW, INCOMPLETE AND INACCURATE
- UNSUSTAINABLE AND UNSECURED INFORMATION MANAGEMENT SYSTEMS

INFORMATION SHARING

- MANY DISCONNECTED DATABASES - OUTDATED COMMUNICATIONS NETWORK
- NO CONNECTION WITH POLICE STATIONS - 50% OF STATIONS HAVE NO DATA COMMUNICATIONS
- 'SILO' CULTURE

PROJECT MANAGEMENT

- LACK OF INCLUSION AND OWNERSHIP IN USER AGENCIES
- MONITORING AND EVALUATION
- PROJECT MANAGEMENT STRUCTURE, CAPACITY AND PRACTICES

MANAGEMENT

- PERSONALITY DRIVEN INSTEAD OF DATA DRIVEN
- SUPERVISION AND ACCOUNTABILITY
- PERSONNEL, FLEET, EQUIPMENT, FACILITIES MANAGEMENT

BACKGROUND AND CONTEXTUAL SETTING

• 1

Following on from Inception report, a more in depth investigation and analysis of current and currently proposed projects was conducted on challenges faced within key MNS agencies.

Investigations took a holistic view of relevant issues and feasibilities, including cultural, social, political and economic feasibilities as they would affect systems development and crime fighting performance.

General observations were made under the following twenty one (21) headings:

Table 1 - 21 Main Concerns

1. Delay in passage of appropriate legislation
2. Outdated and under-performing Law Enforcement and Criminal Justice Systems
3. Backlogs and outdated methods employed in Courts / Justice system
4. Fragmented information databases and lack of coordination across security sector agencies
5. Technology capacity deficit between law enforcement and criminals
6. Government information Systems outpaced by quantum increases in demand and nature and crime over time.
7. Inefficient Fleet and Personnel Management in the JCF
8. Strategic Project Management Capacity gaps
9. Inadequate financing for capital and operational requirements
10. Inadequate Project Management structures and organization
11. Late delivery and cost over runs of projects
12. Appropriate legislation and policies for mainstreaming anti-crime measures;
13. Effective enforcement of existing legislation and regulation;
14. Relevant management plans for key agencies;
15. Collaborative mechanisms among and between state agencies and stakeholders for joint management and implementation of anti-crime measures;
16. Funding mechanisms and programmes.
17. Legislation, Regulations, Policies, Plans, Programmes, availability of appropriate licences and authorizations;
18. Issues of Monitoring, Enforcement and Compliance;
19. Information availability and accessibility for (collection, storage, analysis, dissemination and use in decision making) alongside results and outcomes;
20. Cross-sectoral linkages and partnerships particularly between agencies, regional and international governments, private enterprise, civil society and the general public, including Private–Public Partnerships;
21. Capacity and institutional arrangements.

Table 2 - 16 Practical Issues

1. IT Systems
2. Information Sharing
3. General Management
4. Project Management
5. ICT Networks
6. Resources
7. Court Rulings
8. Capacity
9. Legislation
10. Public Cooperation
11. Funds
12. Staffing
13. Cyber Security
14. Integrity
15. Policy
16. Operations

Targeted Projects

Projects assessed were limited to Technology related Projects being developed and managed by the MNS Modernization Unit, as outlined in the TOR.

More recently proposed technology projects requiring MNS management were also identified and included in Table 3 below.

Projects under consideration include:

Table 3 - Projects Under Consideration

1. The construction of a new house block at the Tamarind Farm Adult Correctional Facility
2. Establishment of a National Monitoring Centre
3. Expansion of the island's Closed Circuit TV System
4. Implementation of Electronic Monitoring of Offenders
5. Use of Liquefied Natural Gas for police vehicles
6. The modification of the Traffic Ticketing Management System (TTMS) to accommodate changes under the new Road Traffic Act
7. Construction of a National Morgue
8. Upgrade of DCS' Telecoms Services
9. Electronic Access for Police Stations
10. Electronic Fleet and Personnel Management
11. Integration of databases of the JDF, JCF, FLA, PSRA, PICA, DCS
12. Microwave Upgrade
13. Case Management
14. JCF ICT Network Upgrade
15. Vehicle Lease

Figure 1 - Preliminary Agencies and Departments to be addressed

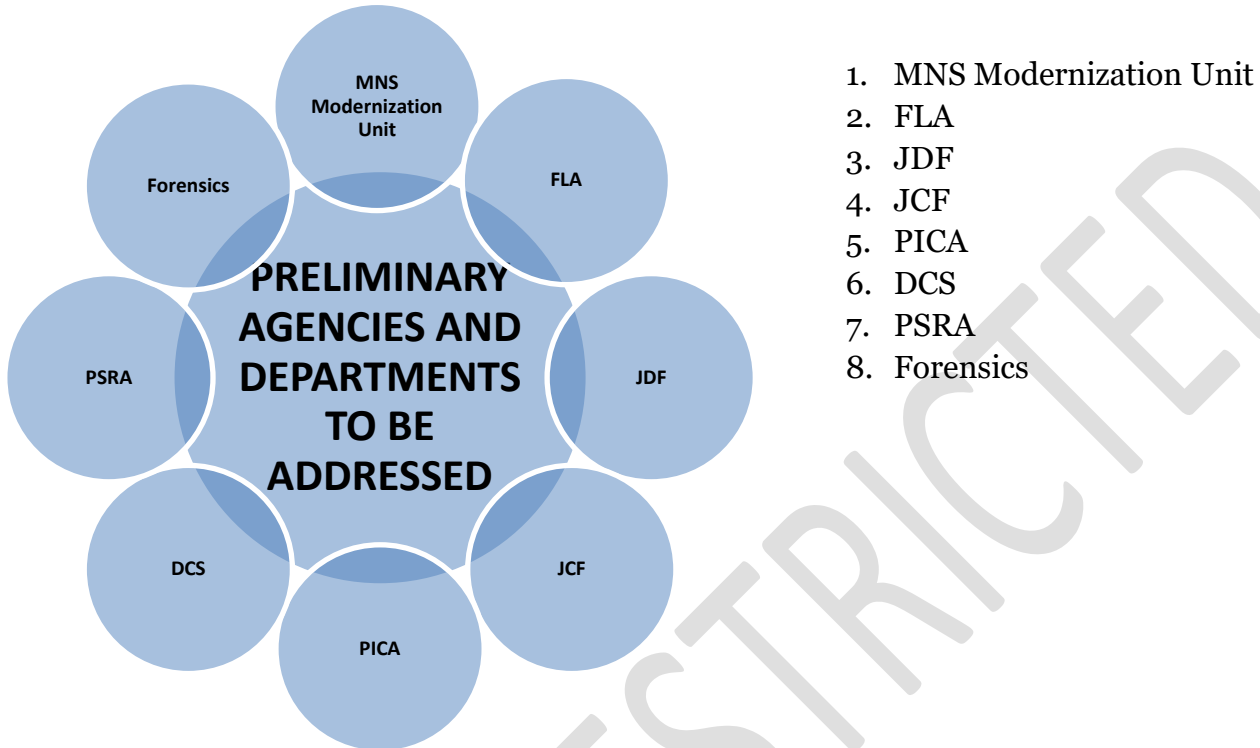
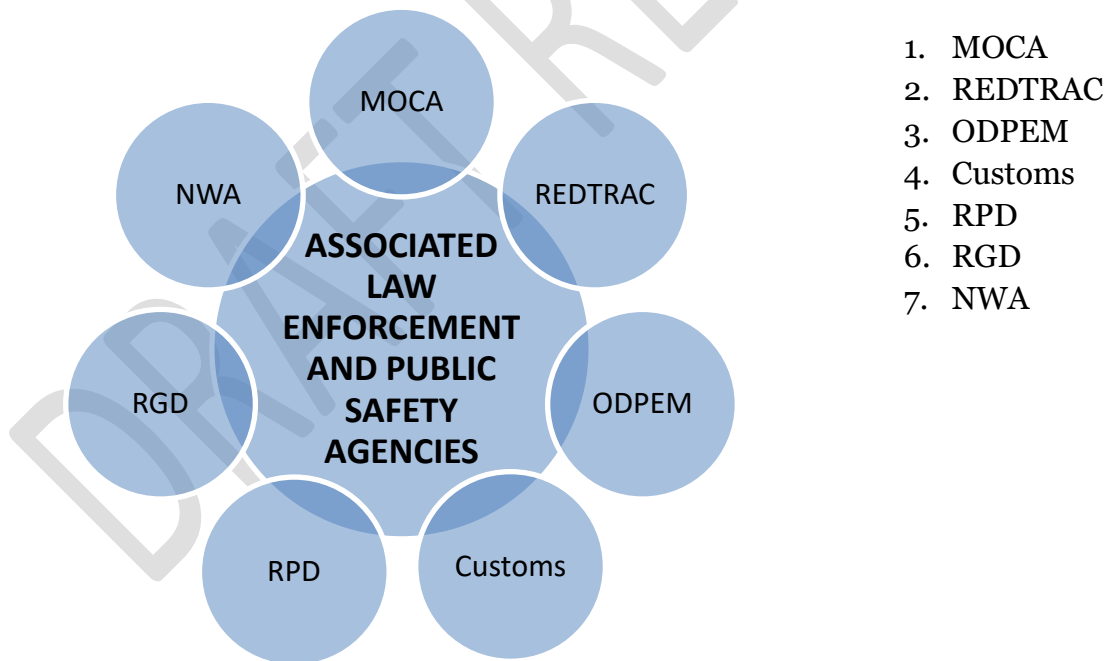


Figure 2 - Other Law Enforcement and Public Safety Agencies interfacing with the MNS Agencies



Projects are currently managed by the MNS Modernization Projects Unit under the organization structure below:

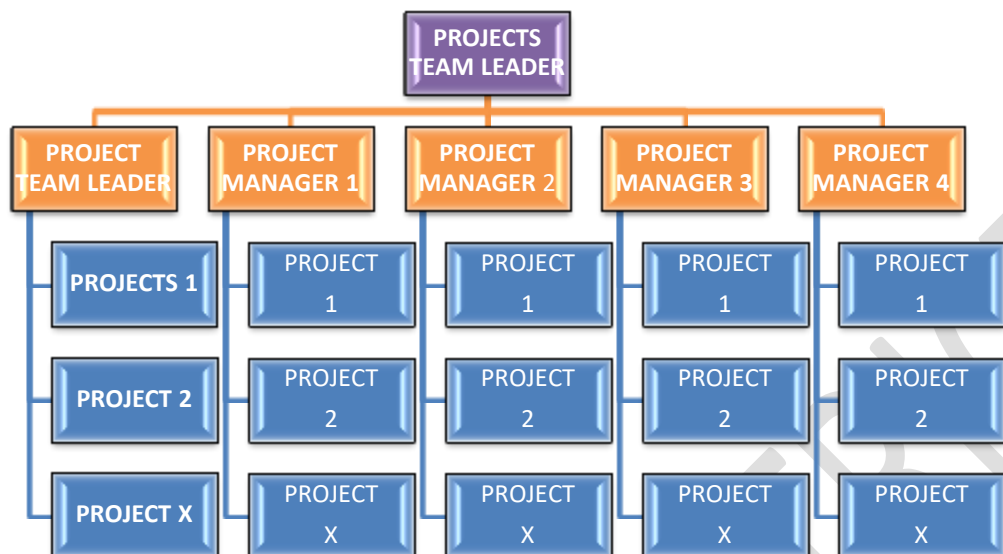


Table 4 - Current MNS project Management Structure

developed, so little if any monitoring or evaluation is conducted after deployment until systems deteriorate and fail for divers reasons. This arrangement could over expose project managers without strict operational procedures and supervisory checks and balances and over burden them with unrealistic expectations in both time and technical expertise if multiple projects are to be comprehensively managed. which could set them up for failure and integrity concerns.

Investigations were conducted under the framework in figure 4, through which projects have more recently been managed through the TTF and Technical Action Groups (TAGS) as indicated in Figure 4. TAGs provide additional expertise and inputs, as projects are planned and monitored in teams of relevant stakeholders for more comprehensive project development and system ownership, with adequate project plans for M&E.

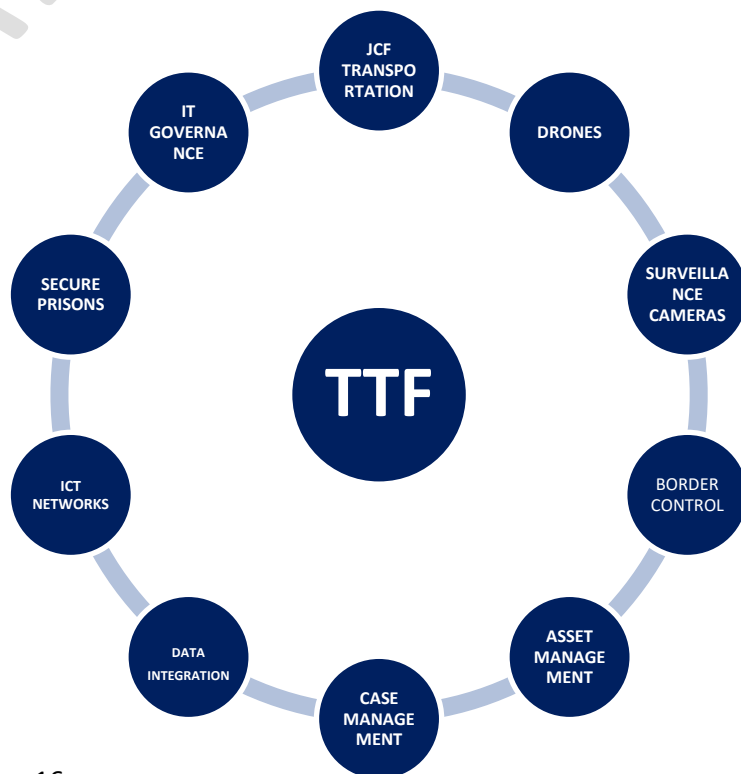


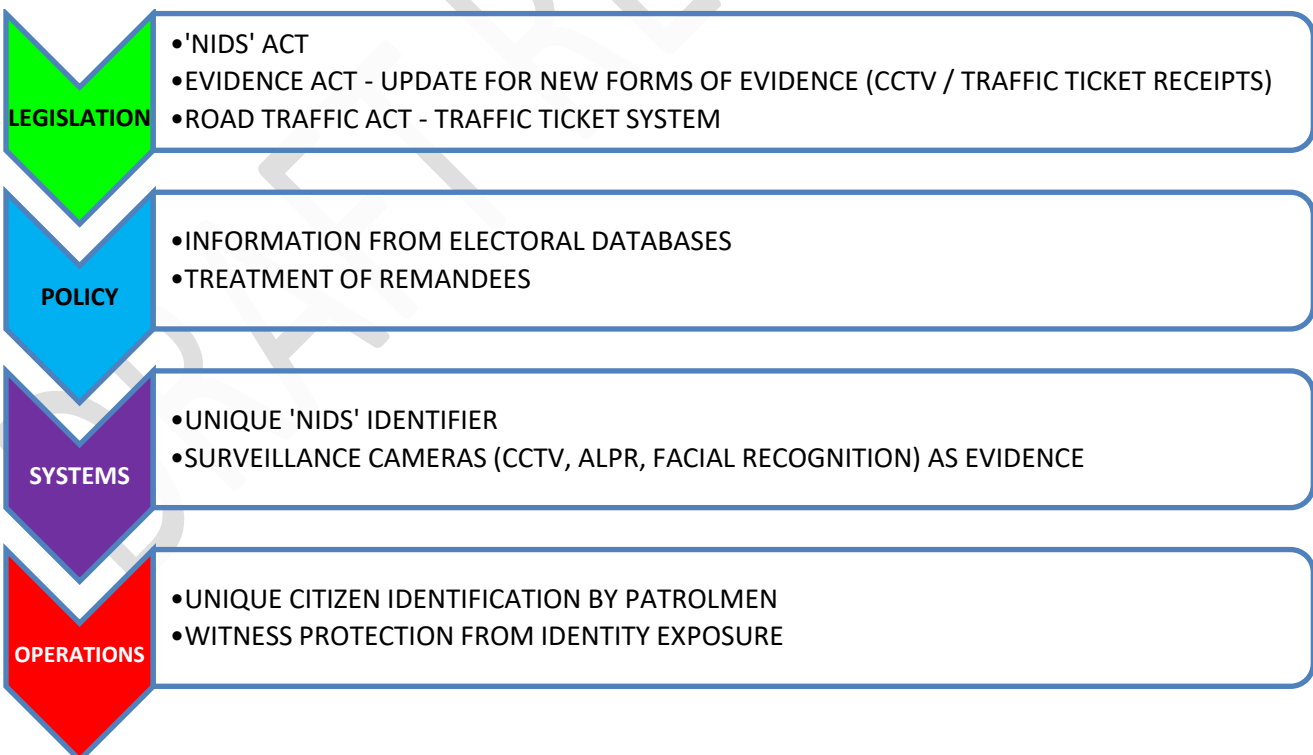
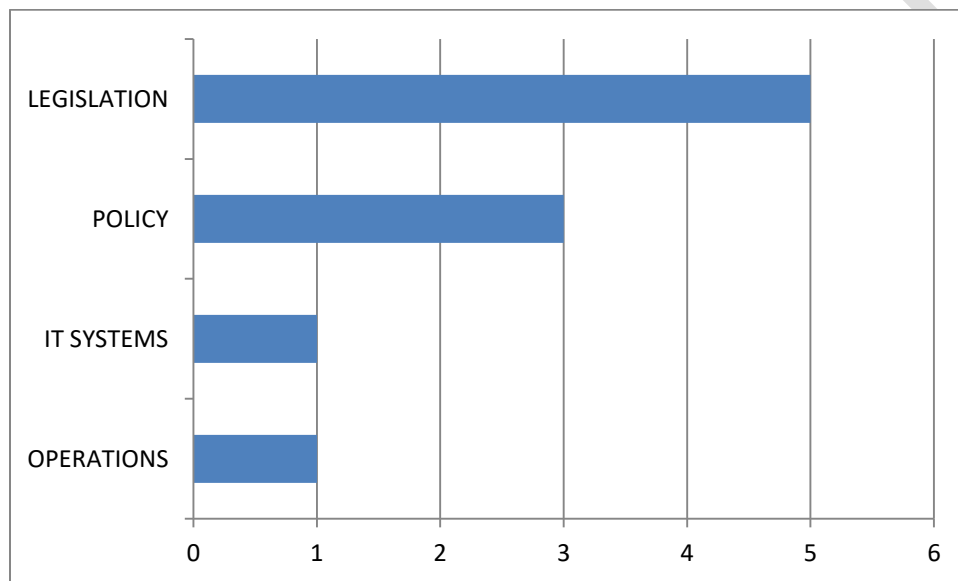
Figure 3 - Technology Task Force Structure

GENERAL FINDINGS

• 2

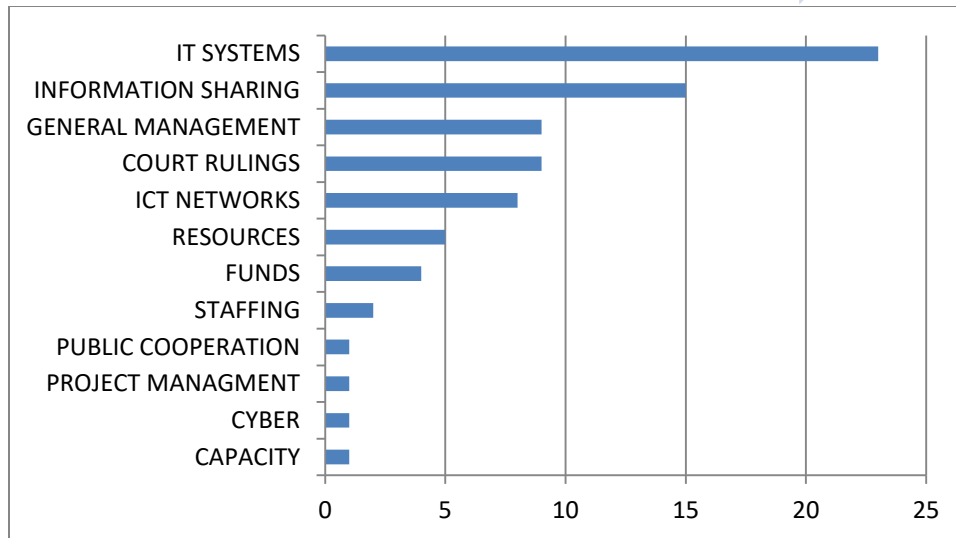
DELAY IN PASSAGE OF APPROPRIATE LEGISLATION

•1



OUTDATED AND UNDER-PERFORMING LAW ENFORCEMENT AND CRIMINAL JUSTICE SYSTEMS

•2



IT SYSTEMS

- MANUAL PAPER BASED SYSTEMS - CASE MANAGEMENT
- UNCONNECTED DATABASES
- MOJ "JEMS "SYSTEM FAILURE

INFORMATION SHARING

- SLOW AND UNCERTAIN FOR PREVENTION AND INVESTIGATIONS
- UNCONNECTED DATABASES

ICT NETWORKS

- VOICE ONLY CAPABILITY
- LOW BANDWIDTH FOR CCTV

MANAGEMENT

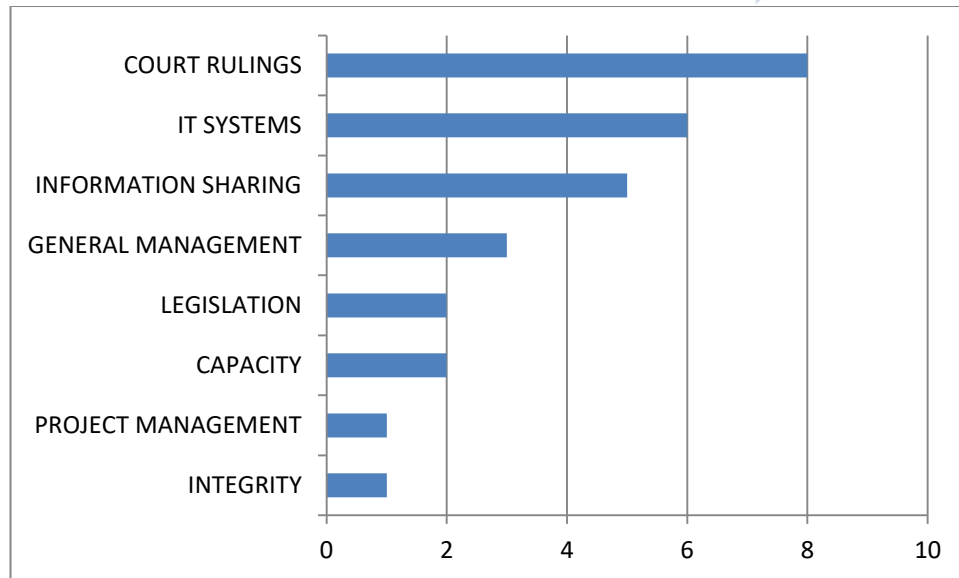
- GENERAL PERSONNEL AND SYSTEMS MANAGEMENT IN JCF
- WEAK IT GOVERNANCE STRUCTURE

COURT RULINGS

- TOO SOFT ON CYBER CRIMES
- TECHNOLOGY EVIDENCE NOT ADMITTED AND NON DETERMINANT

BACKLOGS AND OUTDATED METHODS EMPLOYED IN COURTS / JUSTICE SYSTEM

•3



IT SYSTEMS

- REPLACE MANUAL PAPER BASED SYSTEMS - CASE MANAGEMENT NOT CONNECTED TO JCF
- UNCONNECTED DATABASES BETWEEN MNS (JCF) AND MOJ

INFORMATION SHARING

- INFORMATION SHARING BETWEEN JCF/DPP/COURTS SLOW AND UNCERTAIN
- DIFFICULT TO ACCESS INFORMATION
- INFORMATION SILOS

COURT MANAGEMENT

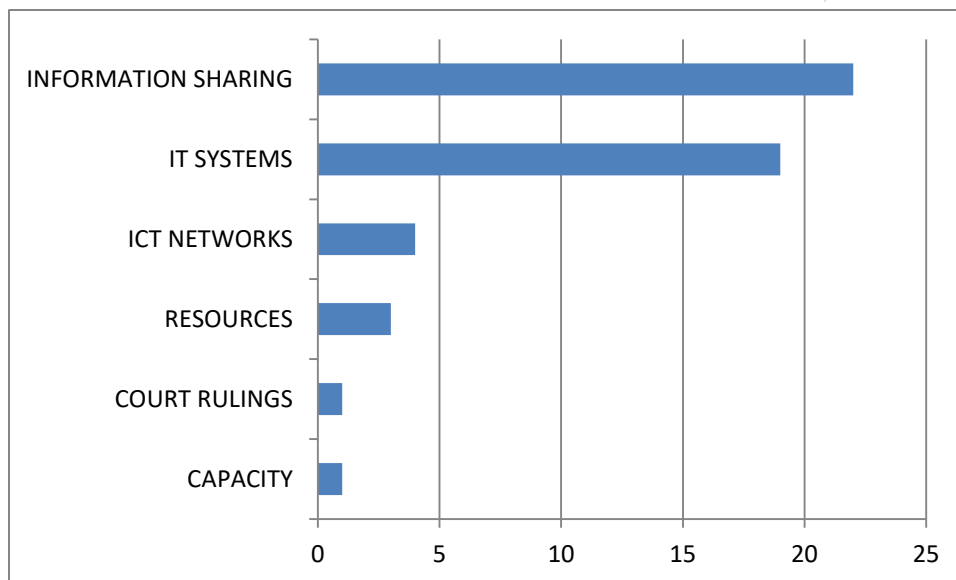
- TRIAL DELAYS AND BACKLOGS
- VARYING STANDARDS OF ADJUDICATION
- CASE MANAGEMENT DISCONNECT FROM JCF AND DPP

COURT RULINGS

- VARYING STANDARDS OF ADJUDICATION
- 'SOFT' TREATMENT OF CYBER CRIMES
- TECHNOLOGY EVIDENCE NOT ADMITTED AND NON-DETERMINANT

FRAGMENTED INFORMATION DATABASES AND LACK OF COORDINATION ACROSS SECURITY SECTOR AGENCIES

•4



INFORMATION SHARING

- INFORMATION SILOS MAKE SHARING SLOW AND UNCERTAIN FOR INVESTIGATIONS
- DIFFICULT TO ACCESS INFORMATION NEEDED FOR PREVENTION AND INVESTIGATIONS
- JCF AND OTHER MNS DATABASES NOT CONNECTED TO CENTRAL SERVER

IT SYSTEMS

- REPLACE MANUAL PAPER BASED SYSTEMS - CASE MANAGEMENT
- JCF AND OTHER MNS DATABASES REMAIN IN SILOS AND NOT CONNECTED TO CENTRAL SERVER

ICT NETWORKS

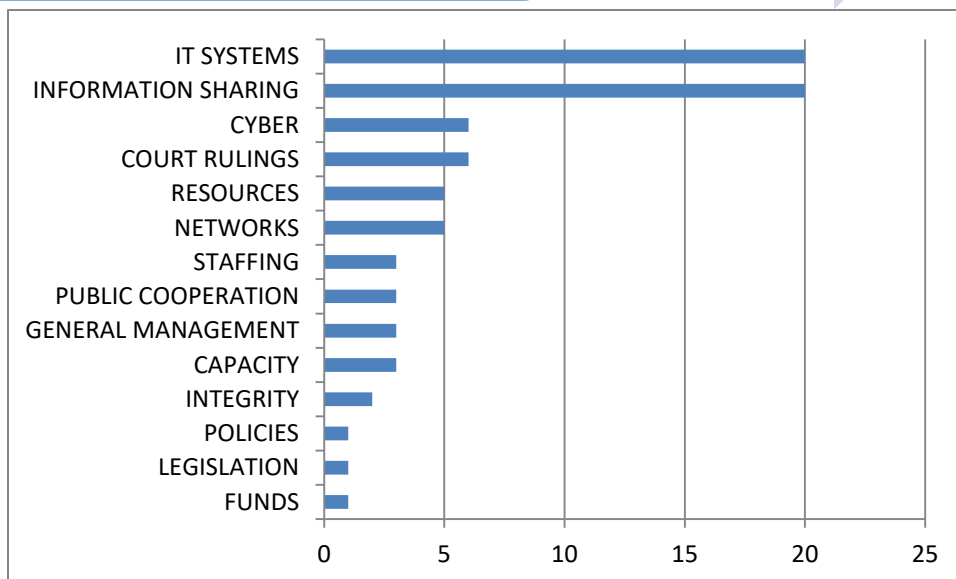
- EXISTING MOTOROLA P25 SYSTEM LIMITED TO VOICE COMMUNICATIONS
- JCF NOT ABLE TO ACCESS AND SHARE IMAGES AND VIDEO TO FOOT PATROLS
- 50% OF STATIONS HAVE NO DATA CONNECTION

RESOURCES

- COMPUTERS AND DATA COMMS EQUIPMENT TO DIGITIZE DATA AND TO CONNECT AND MANAGE POLICE STATIONS ISLANDWIDE
- NO HARDENED, SECURE, CENTRAL HOSTING SITE FOR MNS DATABASES

TECHNOLOGY CAPACITY DEFICIT BETWEEN LAW ENFORCEMENT AND CRIMINALS

•5



IT SYSTEMS

- REPLACE MANUAL PAPER BASED SYSTEMS - CASE MANAGEMENT
- JCF AND OTHER MNS DATABASES REMAIN IN SILOS AND NOT CONNECTED TO CENTRAL SERVER

INFORMATION SHARING

- INFORMATION SILOS MAKE SHARING FOR INVESTIGATIONS SLOW AND UNCERTAIN
- DIFFICULT TO ACCESS INFORMATION NEEDED FOR PREVENTION AND INVESTIGATIONS

CYBER SECURITY

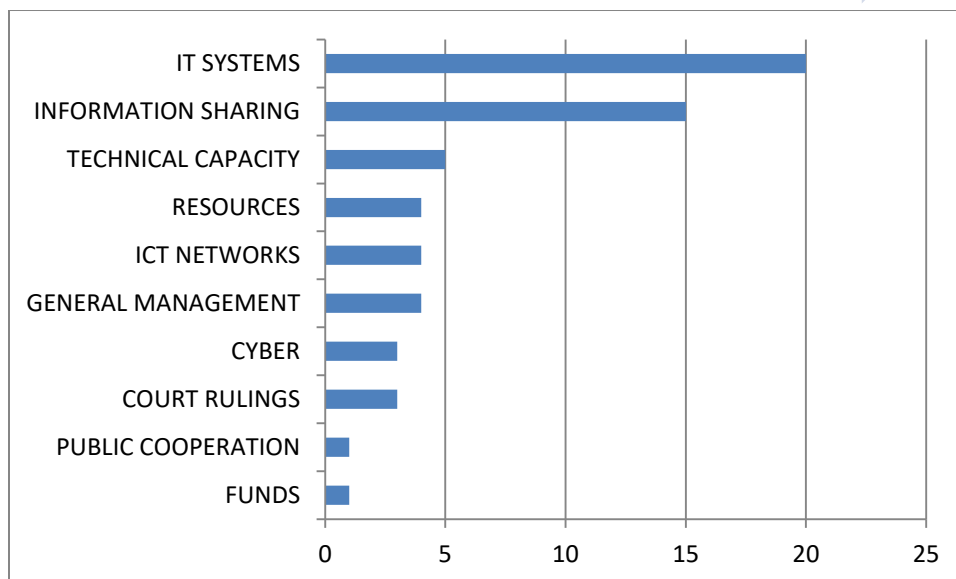
- CRIMINALS HAVE MORE ADVANCED COMMUNICATIONS AND IT EQUIPMENT THAN THE POLICE
- HUGE INCREASE CYBER CRIMES IN JAMAICA

COURT RULINGS

- TOO SOFT ON CYBER CRIMES
- TECHNOLOGY BASED EVIDENCE NOT ADMITTED AND NON DETERMINANT

GOVERNMENT INFORMATION SYSTEMS OUTPACED BY QUANTUM INCREASES IN DEMAND AND NATURE AND CRIME OVER TIME.

•6



IT SYSTEMS

- MANUAL PAPER BASED SYSTEMS - CASE MANAGEMENT
- JCF AND OTHER MNS DATABASES REMAIN IN SILOS AND NOT CONNECTED TO CENTRAL SERVER POLICE STATIONS EVEN WITHIN DIVISIONS NOT CONNECTED TO EACH OTHER

INFORMATION SHARING

- INFORMATION SILOS MAKE SHARING FOR INVESTIGATIONS SLOW AND UNCERTAIN
- DIFFICULT TO ACCESS INFORMATION NEEDED FOR PREVENTION AND INVESTIGATIONS
- JCF AND OTHER MNS DATABASES NOT CONNECTED TO CENTRAL SERVER

TECHNICAL CAPACITY AND RESOURCES

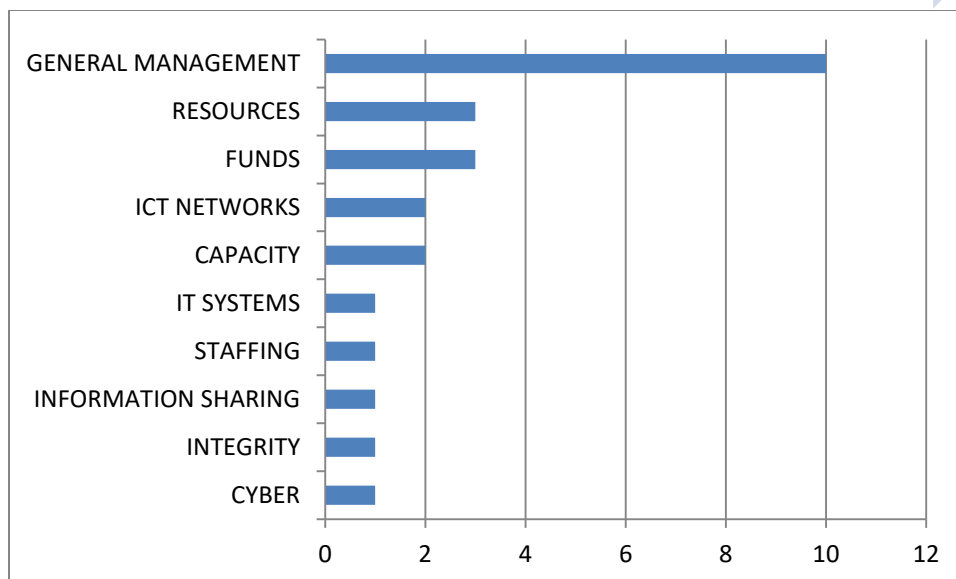
- RAPIDLY MOBILE AND DISTRIBUTED CRIME DUE TO HIGHWAYS AND MODERN TELECOMMUNICATIONS
- MANUAL AND OUTDATED SYSTEMS NO LONGER ABLE TO COPE WITH VOLUME, TYPE AND PACE OF INFORMATION FOR MANAGING CRIME
- INCREASE IN CRIME OVER TIME WITHOUT INCREASE IN HUMAN AND OTHER RESOURCE CAPACITIES.

ICT NETWORKS

- EXISTING MOTOROLA P25 SYSTEM LIMITED TO VOICE COMMUNICATIONS
- NO NETWORK FOR ACCESSING OR SHARING IMAGES AND VIDEO TO PATROL LEVEL
- 50% OF STATIONS ISLANDWIDE HAVE NO INTERNET FOR TRACKING CRIMINAL MOVEMENT

INEFFICIENT FLEET AND PERSONNEL MANAGEMENT IN THE JCF

•7



MANAGEMENT

- MONITORING AND EVALUATION OF FLEET AND PERSONNEL MANAGEMENT SYSTEMS
- FLEET AND PERSONNEL SCHEDULING
- EXCESSIVE COSTS OF PETROL

RESOURCES

- SHORTAGE OF JCF PATROL AND ADMINISTRATIVE VEHICLES
- SHORTAGE OF COMPUTERS AND DATA COMMS EQUIPMENT TO DIGITIZE DATA AND TO CONNECT AND MANAGE POLICE STATIONS ISLANDWIDE

FUNDS

- SOFTWARE SYSTEM DISCARDED FOR NON PAYMENT OF LICENSE

ICT NETWORKS

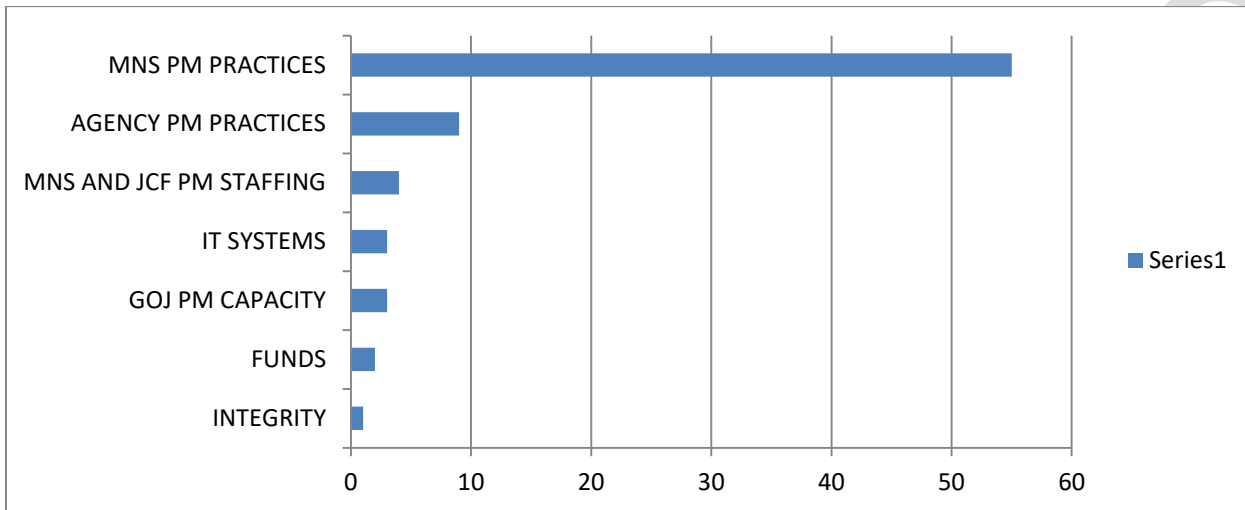
- EXISTING MOTOROLA P25 SYSTEM LIMITED TO VOICE COMMUNICATIONS
- JCF NOT ABLE TO ACCESS OR SHARE IMAGES AND VIDEO WITH PATROL CARS
- PATROLS NOT ABLE TO CHECK CITIZENS INFORMATION FROM VEHICLE OR HAND HELD DEVICE
- FLEET TRACKING ONLY AVAILABLE IN KINGSTON AND NOT ALL CARS YET FITTED WITH TRACKERS

CAPACITY

- GAPS IN VEHICLE MAINTENANCE AND MANAGEMENT CAPACITIES
- SECURITY GAPS IN VEHICLE MANAGEMENT IT SYSTEMS (INCOMPLETE MODULES)

STRATEGIC PROJECT MANAGEMENT CAPACITY GAPS

•8



MNS PM PRACTICES

- INADEQUATE INCLUSION AND OWNERSHIP OF PROJECT BENEFICIARIES / USERS
- INADEQUATE PROJECT PLANS
- LACK OF MAINTENANCE, MONITORING AND EVALUATION PLANNING

AGENCY PM PRACTICES

- UNDER PERFORMING JCF IT GOVERNANCE STRUCTURE AND PROJECT STAFF
- LACK OF MAINTENANCE, MONITORING AND EVALUATION PLANNING

MNS / JCF PROJECT STAFF

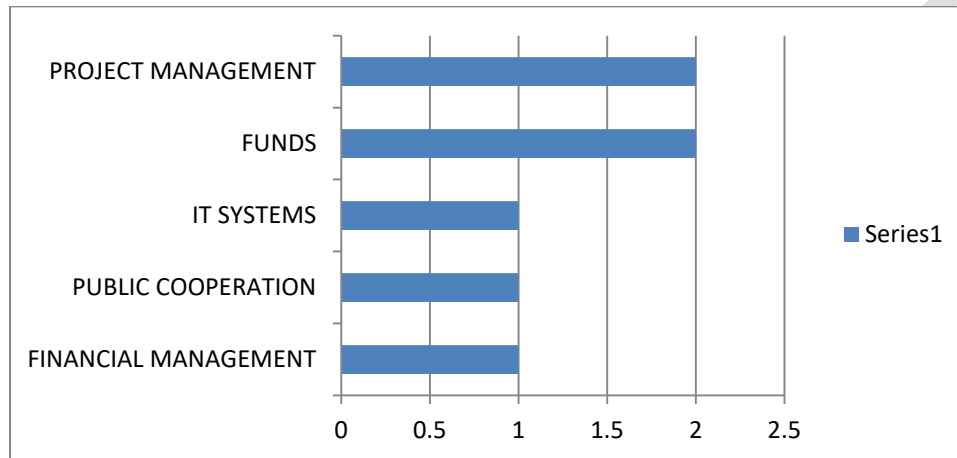
- GAPS IN QUALIFICATION, CAPACITY AND TRAINING
- UNSUITABLE AND INEFFECTIVE PROJECTS ORGANIZATION AND EXPECTATIONS

IT SYSTEMS

- SYSTEMS UNABLE TO PRODUCE SUFFICIENTLY ACCURATE INFORMATION FOR EVIDENCE BASED PROJECT ANALYSIS AND DEVELOPMENT
- RELUCTANCE TO EMBRACE AND OWN SYSTEMS FROM FEAR OF ABANDONMENT OR DISSERVICE AFTER BECOMING DEPENDENT

INADEQUATE FINANCING FOR CAPITAL AND OPERATIONAL REQUIREMENTS

•9



JCF PROJECT AND FINANCIAL MANAGEMENT

- CASH FLOW PROJECTIONS AND MITIGATION FOR RECURRING REQUIREMENTS IN PROJECT PLANNING STAGE
- POOR GOJ PAYMENT RECORD ALIENATES GOOD WILL OF SUPPLIERS AND VENDORS
- 50% OF POLICE STATIONS HAVE INTERNET ACCESS

FUNDS

- UNPAID SOFTWARE LICENSES RESULT IN SYSTEM SHUT DOWN AND ABANDONMENT

IT SYSTEMS

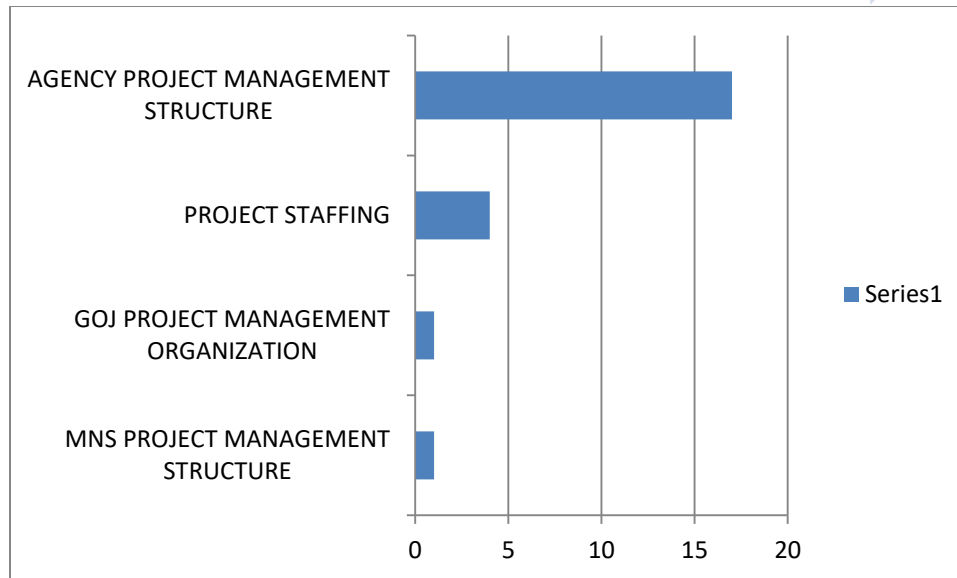
- RELUCTANCE TO EMBRACE AND OWN SYSTEMS FROM FEAR OF ABANDONMENT OR DIS-SERVICE AFTER BECOMING DEPENDENT

PUBLIC COOPERATION

- OUT DATED SYSTEMS FOR ATTRACTING PUBLIC INFORMATION FOR CRIME PREVENTION AND INVESTIGATIONS

INADEQUATE PROJECT MANAGEMENT STRUCTURES AND ORGANIZATION

•10



JCF PROJECT MANAGEMENT

- JCF ICTD AND DCS NOT STAFFED FOR PROJECT MANAGEMENT ACTIVITY DESPITE RECOMENDATIONS FOR JCF YEARS AGO
- LIMITATIONS IN JCF CONFIDENCE AND CAPACITY FOR TAKING ON THE MANY NEEDED IT PROJECTS OF VARYING SIZE AND COMPLEXITY

STAFFING

- MNS MODERNIZATION UNIT STAFFED AS A TECHNICAL PROCUREMENT AND MONITORING UNIT AND NOT FOR PROJECT DEVELOPMENT
- MNS MOD UNIT DUPLICATE PROCUREMENT LINES AND EFFECTIVELY ASSIST THE MNS PROCUREMENT UNIT WHICH DOES NOT OTHERWISE HAVE ADEQUATE STAFF FOR THIS WORK

GOV PROJECT MANAGEMENT ORGANIZATION

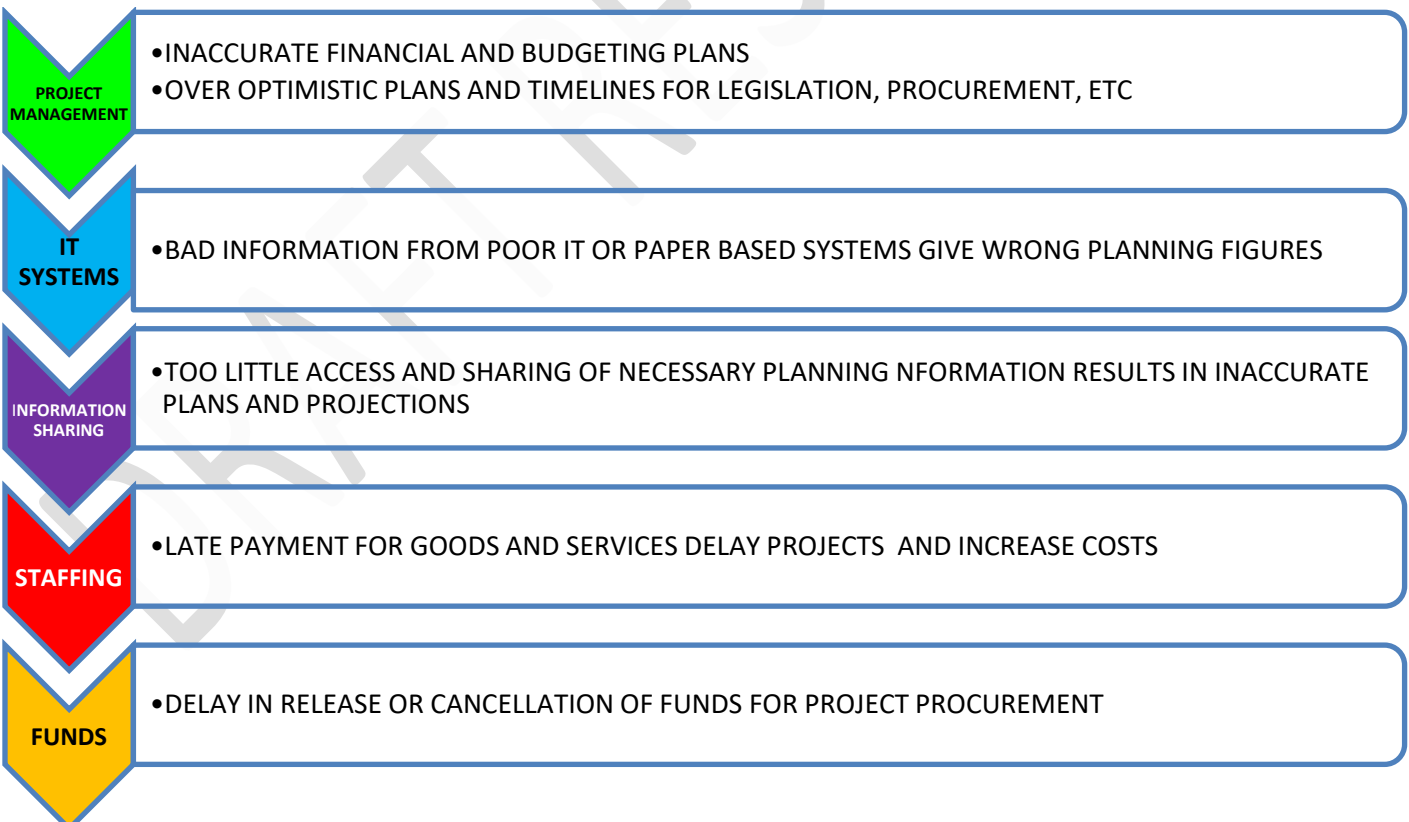
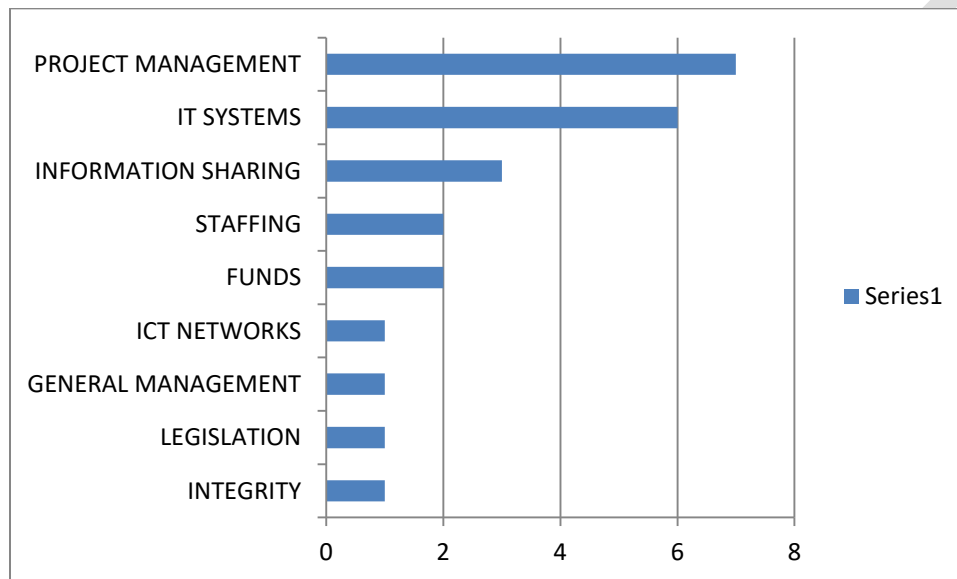
- E-GOV STRUCTURED FOR LARGE, LENGHTY, SLOW MOVING PROJECTS AND NOT FOR JCF / MNS TYPE OF PROJECT REQUIREMENTS

MNS PROJECT MANAGEMENT STRUCTURE

- MNS MODERNIZATION UNIT NOT STAFFED, QUALIFIED OR STRUCTURED TO CONDUCT OR MONITOR LARGE PROJECTS.

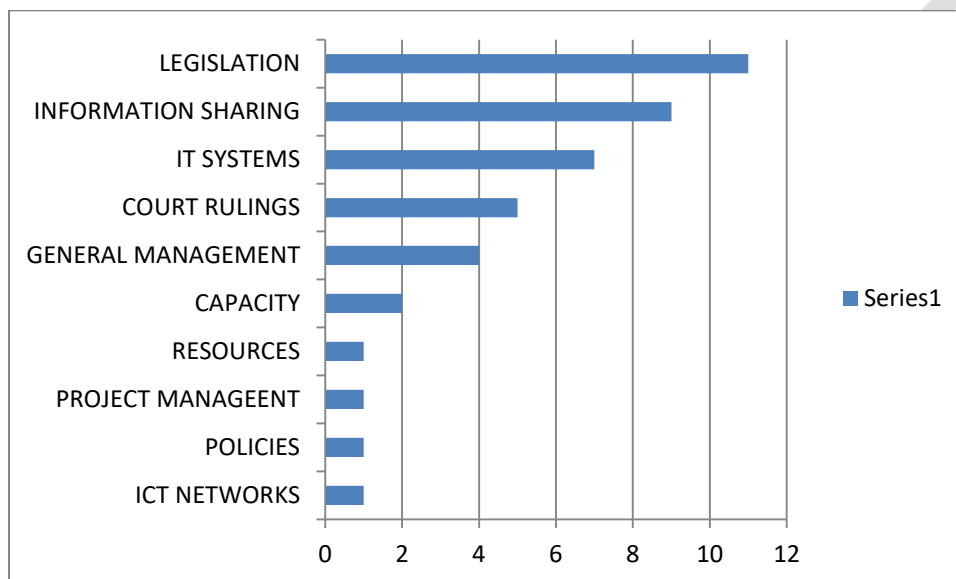
LATE DELIVERY AND COST OVER RUNS OF PROJECTS

•11



APPROPRIATE LEGISLATION AND POLICIES FOR MAINSTREAMING ANTI-CRIME MEASURES

•12



LEGISLATION

- ROAD TRAFFIC ACT, NIDS ACT, CUSTOMS ACT (APIS), EVIDENCE ACT, DATA PROTECTION ACT, CYBER CRIMES ACT, CHARTER OF RIGHTS, DNA ACT, ELECTORAL COMMISSIONS REGISTRATION ACT
- ADDRESSES CANNOT BE OBTAINED BY JCF FROM THE THE ELECTORAL DATABASE

INFORMATION SHARING

- LAWS BLOCK ACCESS AND SHARING OF ADDRESSES, FINGER PRINTS, HEALTH RECORDS, PRIVATE INFORMATION,
- SPECIAL PROVISIONS FOR NATIONAL SECURITY NOT ALWAYS KNOWN OR UNDERSTOOD AND SOMETIMES TOO SLOW AND DIFFICULT FOR INVESTIGATORS TO ACCESS. APPROACH NOT GOOD FOR REAL TIME CRIME PREVENTION ACTIVITIES

IT SYSEMS

- INFORMATION DIFFICULT TO ACCESS FROM 'MOUNTAINS' OF PAPER FILES OR INACCURATE DATA FROM IT SYSTEMS

COURT RULINGS

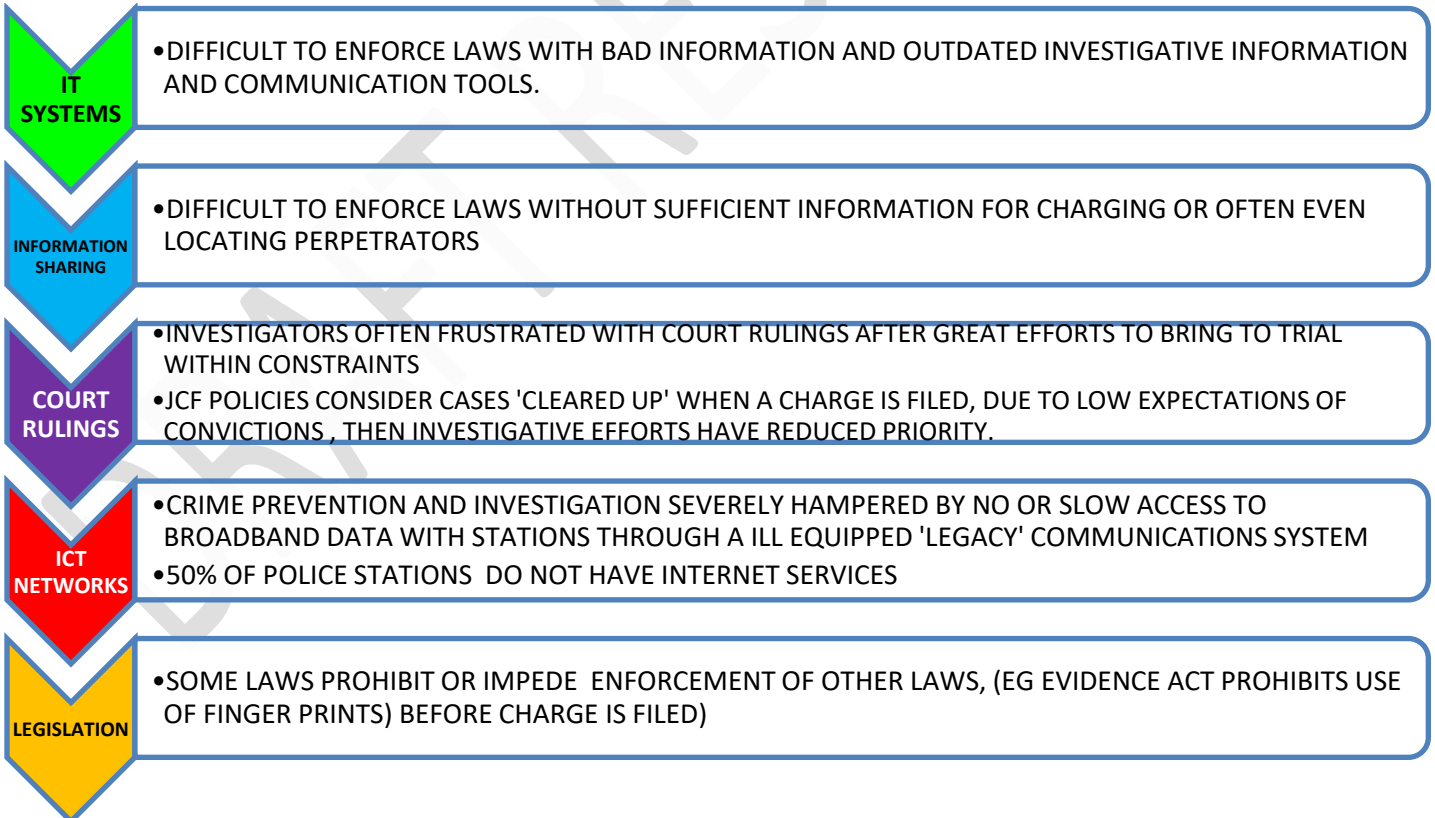
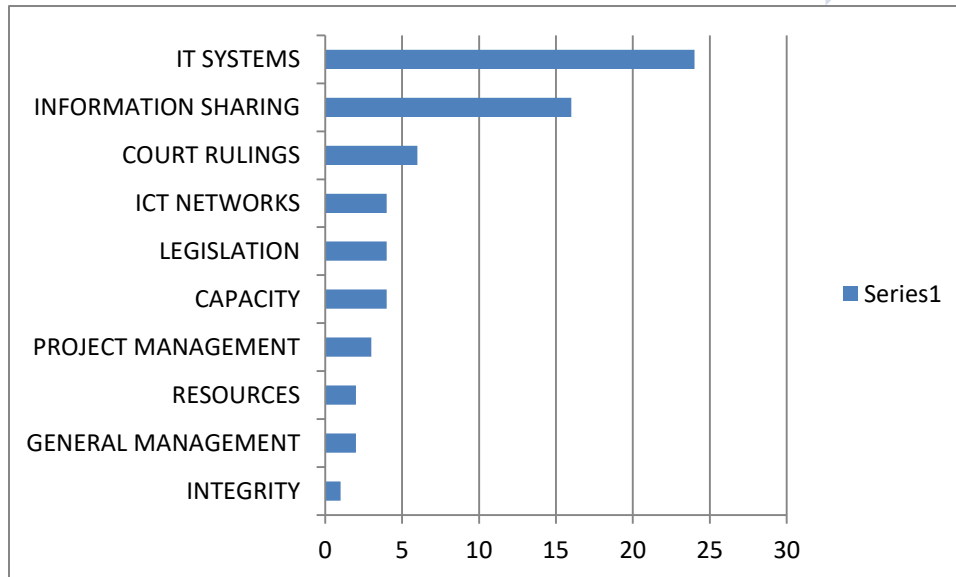
- NEW TECHNOLOGICAL EVIDENCE NOT FULLY UNDERSTOOD OR ACCEPTED BY SOME JUDGES
- PENALTIES TOO LIGHT ON TECHNOLOGY CRIMES INCLUDING CYBER CRIMES

MANAGEMENT

- NO MONITORING OR EVALUATION OF SYSTEMS AND PROJECTS

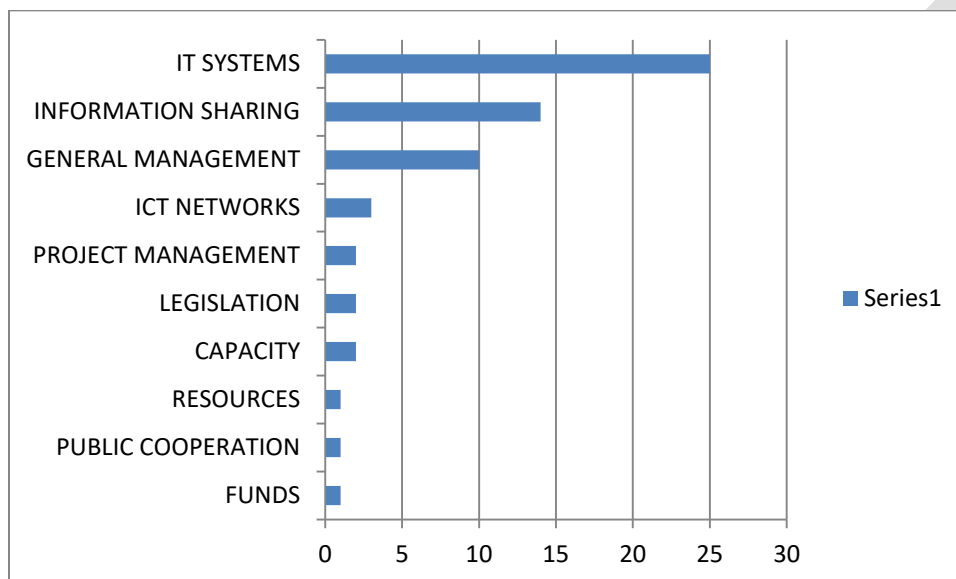
EFFECTIVE ENFORCEMENT OF EXISTING LEGISLATION AND REGULATION

•13



RELEVANT MANAGEMENT PLANS FOR KEY AGENCIES

•14



IT SYSTEMS

- JCF AND DCS PLANNING CAPACITY GAPS FOR IT, CASE AND PROJECT MANAGEMENT
- DCS PLANNING CAPACITY GAPS FOR IT AND PROJECTS MANAGEMENT

INFORMATION SHARING

- POLICIES AND PLANS FOR SHARING INFORMATION BASED ON CLASSIFICATION, MOUs, LETTERS OF REQUEST, PERSONNEL ATTACHMENTS FROM/TO OTHER AGENCIES, LENGTHY DATA RESEARCH OF MANUAL FILES AND BOOKS, PERSONAL RELATIONSHIPS TO ACQUIRE DATA, ETC

MANAGEMENT

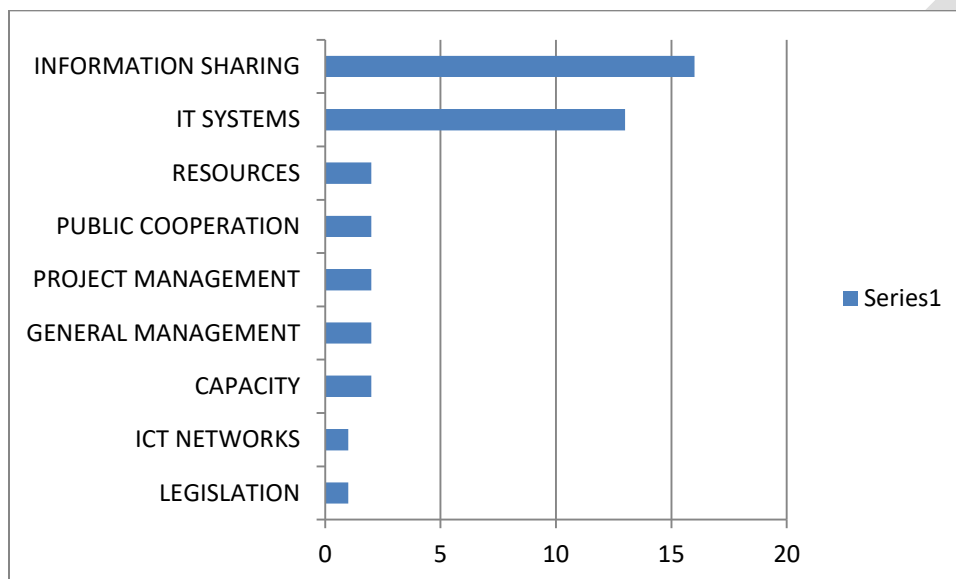
- JCF AND DCS PLANNING CAPACITY GAPS FOR PERSONNEL, FACILITIES, ADMINISTRATIVE, FINANCE, FLEET, EQUIPMENT, LOGISTICS AND RESOURCE MANAGEMENT.

ICT NETWORKS

- JCF AND DCS PLANNING CAPACITY GAPS FOR ICT MANAGEMENT

COLLABORATIVE MECHANISMS AMONG AND BETWEEN STATE AGENCIES AND STAKEHOLDERS FOR JOINT MANAGEMENT AND IMPLEMENTATION OF ANTI-CRIME MEASURES

•15



INFORMATION SHARING

- VERY LITTLE INFORMATION SHARED BETWEEN JCF AND OTHER STATE AGENCIES OR BETWEEN STATE AGENCIES
- NO CLASSIFICATION AUTHORITY TO DECIDE ON INFORMATION CLASSIFICATION LEVELS ALLOWS EVERYONE TO MAKE THEIR OWN LEVELS OF SECURITY

IT SYSTEMS

- IT "SILOS" MIRROR MANUAL SILO CULTURE, AS NO ONE KNOWS WHAT CAN OR CANT BE SHARED UNLESS TOLD BY HIGHER AUTHORITY OR THROUGH SLOW AND DELIBERATE MANUAL EXECUTION OF MOUS
- UNCONNECTED DATABASES WITH MOJ - "JEMS" SYSTEM FAILURE

RESOURCES

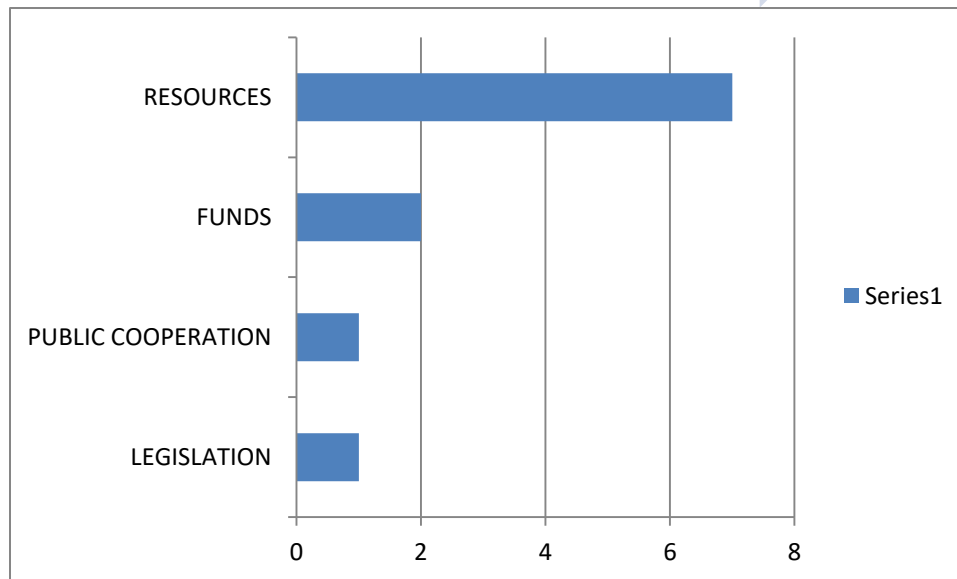
- NO INFRASTRUCTURE OR RESOURCES TO FACILITATE COST EFFECTIVE INFORMATION SHARING COLLABORATIVE SYSTEMS
- EG 4G LTE, INTERNET / VPN / NETWORK ACCESS FOR ALL STATIONS, COMPUTERS, SERVERS, IPADS, HAND HELD DEVICES, ETC

PUBLIC COOPERATION

- LITTLE KNOWLEDGE OR DATA EASILY AVAILABLE ON THE EFFECTIVENES OF CRIME STOP OR OTHER PUBLIC INFORMATION

FUNDING MECHANISMS AND PROGRAMMES.

•16



RESOURCES

- CRIME FIGHTING RESOURCES OFTEN SUPPLIED BY PRIVATE SECTOR THROUGH GOVERNMENT FEES (EG USE FOR COMPUTERS, TEC FOR CCTV, FLOW AND DIGICEL FOR TECHNOLOGY SUPPORT TO CORRECTIONAL SERVICES, ETC)

FUNDS

- TYPICAL PROGRAMME AND PROJECT SUPPORT FROM INTERNATIONAL AGENCIES (IDB, IMF, WORLD BANK, DFATD, USAID, DFID, EMBASSIES, UN AGENCIES, OTHERS)
- OFTEN PROJECT FUNDING SUPPORT FROM VENDORS

PUBLIC COOPERATION

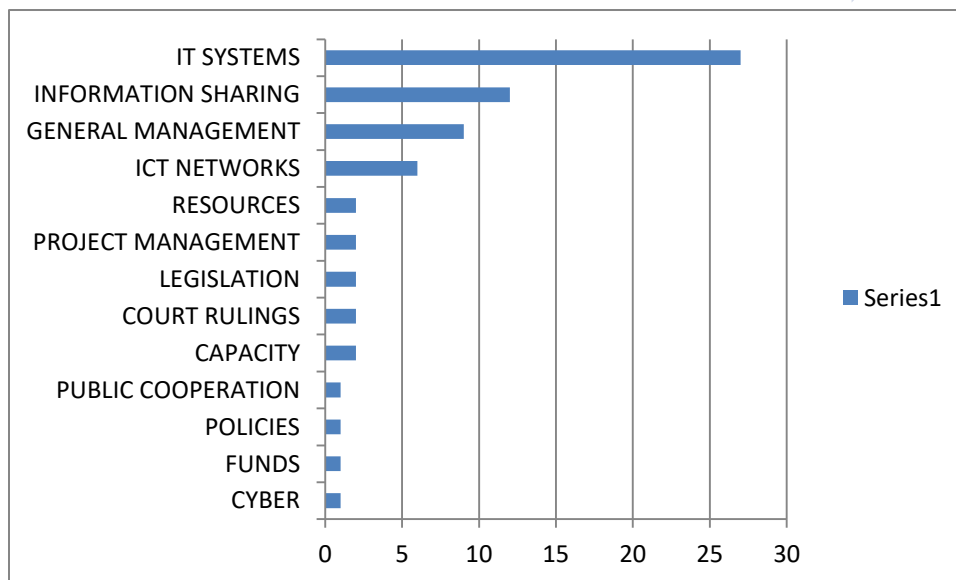
- CRIME STOP CONTINUES WITH ANECDOTAL "SUCCESS" BUT WITHOUT ANY WAY OF VERIFYING THE EXTENT OR MEASURE OF SUCCESS TO PLAN ADDITIONAL SUPPORT IF NECESSARY

LEGISLATION

- FUNDING SUPPORT FOR LEGISLATION FROM IDB FOR CYBER AND NIDS LEGISLATION AMONG OTHERS AND TECHNOLOGY PROGRAMMES

LEGISLATION, REGULATIONS, POLICIES, PLANS, PROGRAMMES, AVAILABILITY OF APPROPRIATE LICENCES AND AUTHORISATIONS

•17



IT SYSTEMS

- RECENT PROGRAMME FOR ADDRESSING CRIME THROUGH APPLICATION OF MODERN TECHNOLOGIES
- "CIMS" BEING UPGRADED WITH WEB ACCESS IN KEEPING WITH RECENT POLICIES FOR INTERNAL SHARING WITH DIVISIONAL HQS
- SLOW AND DIFFICULT INFORMATION SHARING SOMETIMES MISREAD AS POLICE OBSTRUCTION OR CORRUPTION

INFORMATION SHARING

- VALUE OF INFORMATION SHARING FROM MANY DIFFERENT SOURCES EVIDENT IN MNS AGENCIES FOR ANALYTIC SOLUTIONS

MANAGEMENT

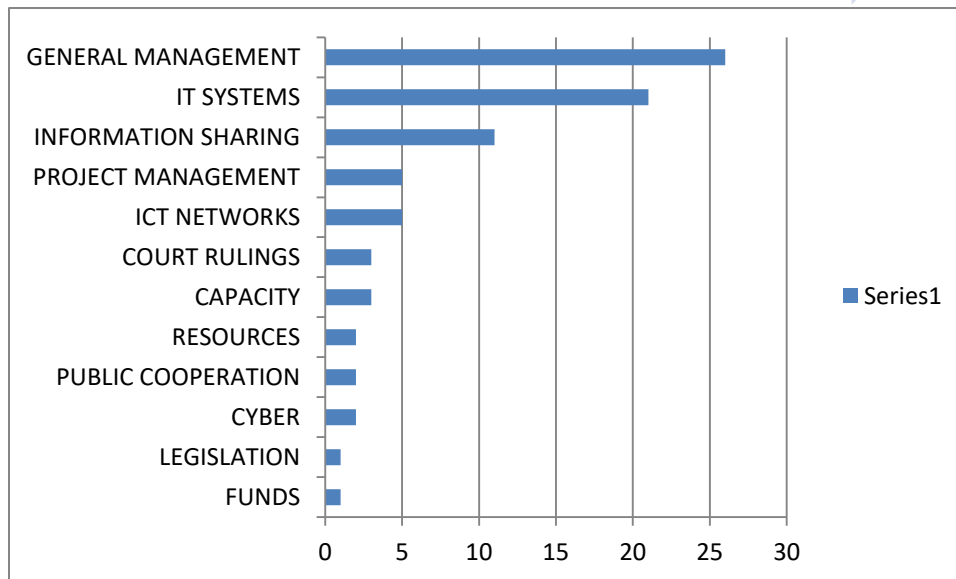
- NO KNOWN PROGRAMME FOR IMPROVEMENT OF MANAGEMENT SKILLS WITHIN THE JCF TO ADDRESS :
- UNSATISFACTORY MANAGEMENT AND ACCOUNTABILITY WITHIN THE JCF
- UNSATISFACTORY MONITORING AND EVALUATION,

ICT NETWORKS

- RECENT PLANS BEING DRAFTED FOR MODERNIZING THE GOJ FIBER NETWORK AND TO UPGRADE TO 4G LTE REQUIRED FOR EFFECTIVE POLICING AND PUBLIC SAFETY THROUGH INFORMATION DISTRIBUTION WHERE AND WHEN NEEDED

ISSUES OF MONITORING, ENFORCEMENT AND COMPLIANCE;

•18



MANAGEMENT

- TOO LITTLE MONITORING AND EVALUATION, ACCOUNTABILITY AND SANCTIONS, COLLECTIVE ENFORCEMENT OF INTEGRITY, INCENTIVES, STANDARDS, OWNERSHIP, FOCUS ON EFFECTIVENESS, RESULTS AND OUTCOMES,
- POOR IT GOVERNANCE STRUCTURE AND STAFFINGPERSONNEL, ACCESS AND FLEET MANAGEMENT ESPECIALLY POOR

IT SYSTEMS

- IT SYSTEMS NOT SUFFICIENTLY DEVELOPED AND PERFORMING IN SUPPORT OF CRIME AND ADMINISTRATIVE MANAGEMENT

INFORMATION SHARING

- WASTEFUL AND INEFFICIENT EFFORTS TRYING TO MONITOR AND ENFORCE WITHOUT TIMELY AND ACCURATE DISEMMINATION AND RETREIVAL OF DATA FROM ALL POLICE STATIONS AND POINTS OF PRESENCE

PROJECT MANAGEMENT

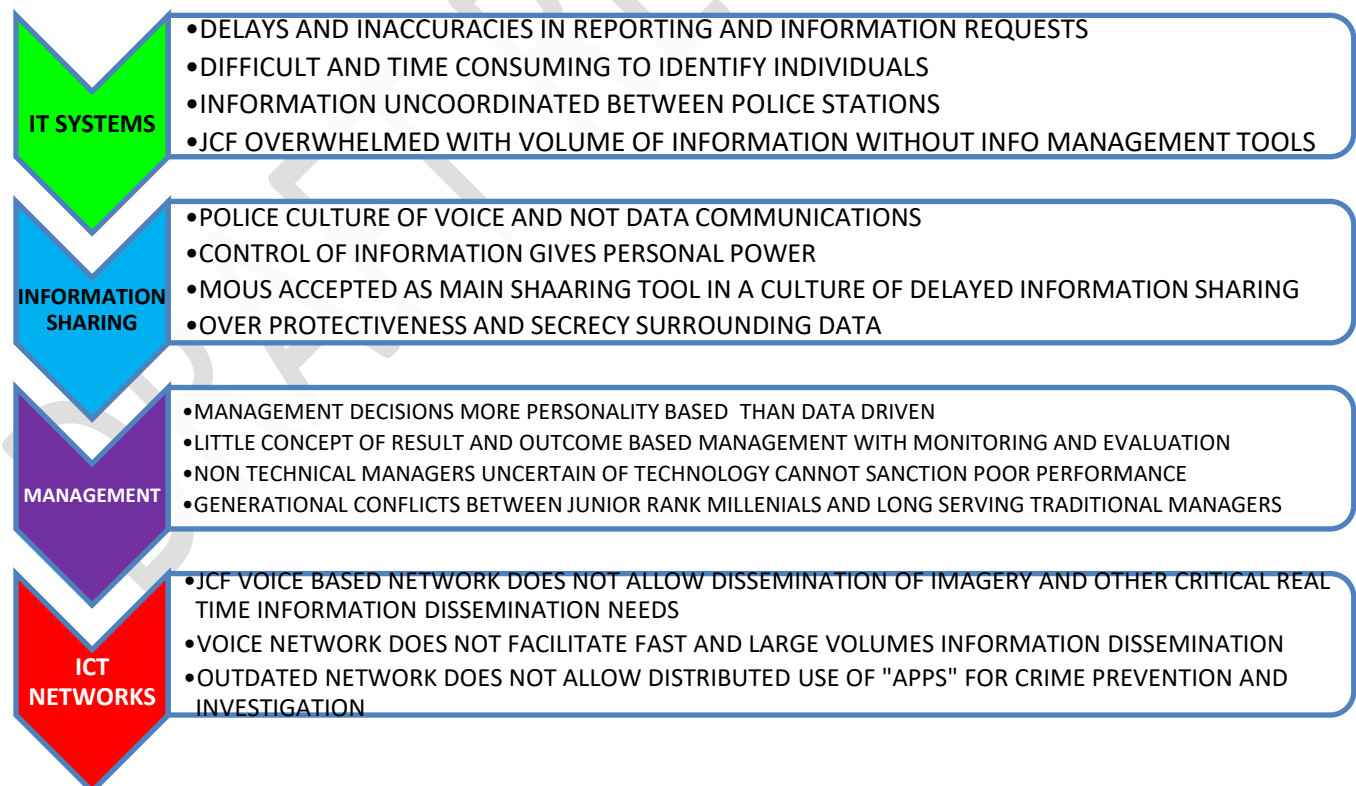
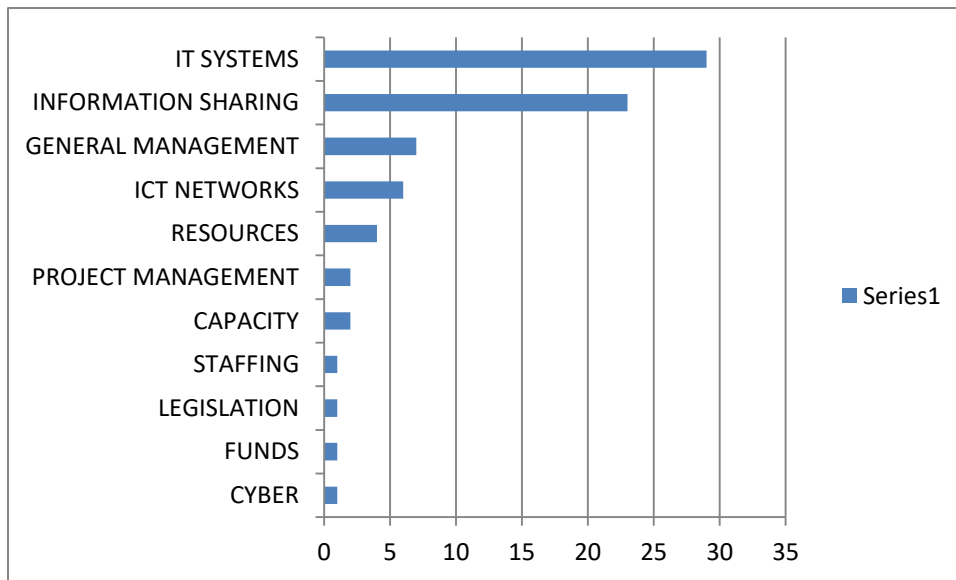
- JCF PROJECT MANAGEMENT STRUCTURE AND STAFFING INADEQUATE FOR ENFORCEMENT AND COMPLIANCE MONITORING WITH CURRENT RESOURCES AND POLICIES

ICT NETWORKS

- OUT DATED COMMUNICATIONS NETWORKS ARE NOT AMENABLE TO 24/7 MONITORING OF JCF PERSONNEL, EQUIPMENT AND PERFORMANCE.

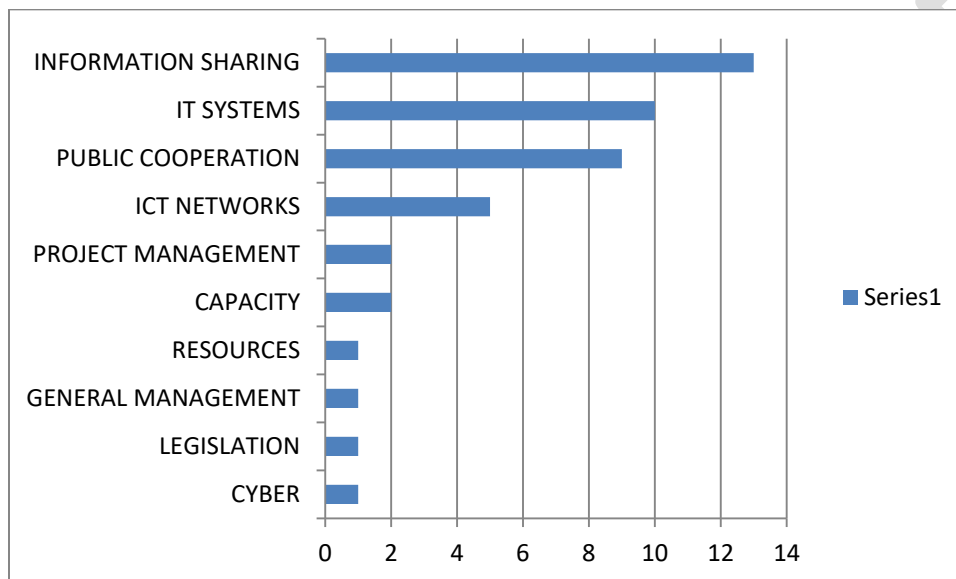
INFORMATION AVAILABILITY AND ACCESSIBILITY FOR (COLLECTION, STORAGE, ANALYSIS, DISSEMINATION AND USE IN DECISION MAKING) ALONGSIDE RESULTS AND OUTCOMES

•19



CROSS-SECTORAL LINKAGES AND PARTNERSHIPS PARTICULARLY BETWEEN AGENCIES, REGIONAL AND INTERNATIONAL GOVERNMENTS, PRIVATE ENTERPRISE, CIVIL SOCIETY AND THE GENERAL PUBLIC, INCLUDING PRIVATE-PUBLIC PARTNERSHIPS;

•20



INFORMATION SHARING

- UNWILLINGNESS TO SHARE INFORMATION WITH EXTERNAL PARTNERS ON BASIS OF CONFIDENTIALITY OR DATA CREDIBILITY
- LITTLE PUBLIC KNOWLEDGE OF THE EFFECTIVENESS OF PARTNERSHIPS (EG CRIME STOP)

IT SYSTEMS

- PARTNERS NOT ABLE TO GET QUICK, CREDIBLE OR ACCURATE INFORMATION FROM JCF IT SYSTEMS
- PARTNER IT ASSISTANCE TO JCF PROVEN UNSUSTAINABLE AT BEST
- IT GOVERNANCE AND PERSONALITY ISSUES DETER POTENTIALLY USEFUL IT LINKAGES AND ASSISTANCE
- DONATION OF INFERIOR IT EQUIPMENT SOMETIMES NEGATIVELY AFFECTS PARTNER RELATIONS

PUBLIC COOPERATION

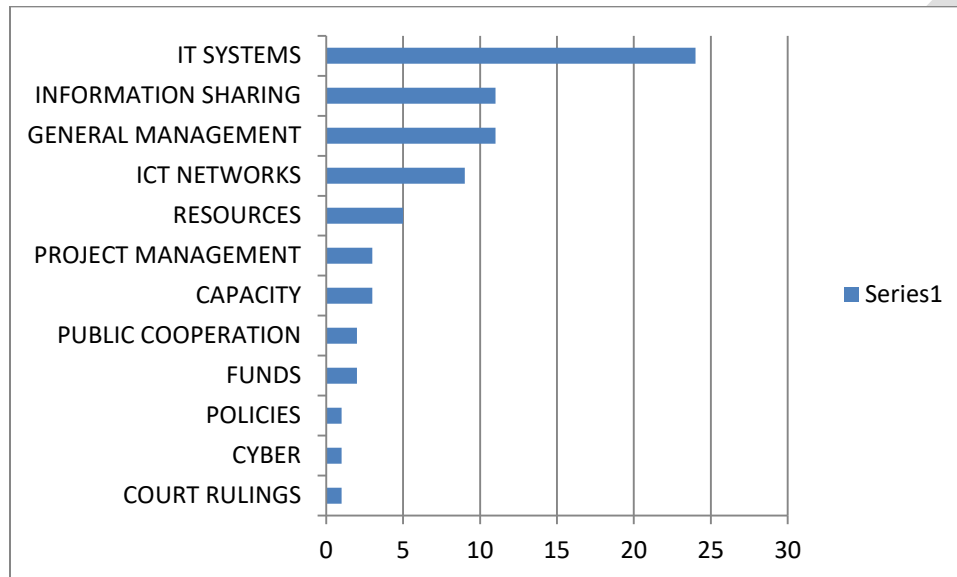
- HIGH PERCEPTION OF PUBLIC DISTRUST FOR POLICE LIMITS EXTERNAL PARTNERSHIPS AND PUBLIC COOPERATION
- NON-INFORMANT JAMAICAN CULTURE
- INADEQUATE FINANCIAL COMPENSATION FOR INFORMATION

ICT NETWORKS

- UNDERUTILIZED FREELY AVAILABLE PARTNER BROADBAND AND NETWORK FACILITIES BASED ON SECURITY CONCERNS
- PETTY COMPETITIVENESS AND SILOS BETWEEN TECHNICAL STAFF IN DIFFERENT PARTNER AGENCIES
- UNINFORMED AND PERSONALITY DRIVEN TECHNOLOGY RELATED POLICIES AND DECISIONS

CAPACITY AND INSTITUTIONAL ARRANGEMENTS.

•21



IT SYSTEMS

- CRITICAL SHORTAGES OF HUMAN AND EQUIPMENT ICT RESOURCES,
- INEFFICIENT AND INEFFECTIVE RESOURCE MANAGEMENT OF MANPOWER, VEHICLES, EQUIPMENT, BUILDING FACILITIES AND MONEY SHORTAGES

INFORMATION SHARING

- POOR RESOURCE MANAGEMENT PARTIALLY DUE TO INABILITY TO ACCESS SHARE INFORMATION FOR DATA DRIVEN RESOURCE DECISION MAKING AND MANAGEMENT

MANAGEMENT

- POOR PERSONNEL, MATERIAL AND EQUIPMENT JCF RESOURCE MANAGEMENT
- UNCERTAIN EFFECTIVENESS OF MANAGEMENT CAPACITY PROGRAMMES RELEVANT TO JCF NEEDS
- JCF INABILITY TO TAKE AND ACCEPT OWNERSHIP AND ACCOUNTABILITY FOR SYSTEMS AND PERFORMANCE RESULTS DUE TO MODERN MANAGEMENT CAPACITY SHORTAGES

ICT NETWORKS

- COSTLY MAINTENANCE FOR COMMUNICATION NETWORK WITHOUT COMENSURATE SERVICE LEVELS FOR EFFECTIVE JCF INSTITUTIONAL MANAGEMENT

SUMMARY OF MNS PROJECTS' STATUS

• **3**

Table 5 - As Is Summary Status of MNS Projects

PROJECT #	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	FUNDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	OPERATIONAL
1	DCS / MNS	CONSTRUCTION OF A NEW HOUSE BLOCK AT TAMARIND FARM									
2	JCF / MNS	NATIONAL MONITORING CENTRE									
3	JCF / MNS	CCTV EXPANSION									
3a	JCF / MNS	ALPR CAMERAS									
3b	JCF / MNS	FACIAL RECOGNITION CAMERAS / SOFTWARE									
3c	JCF / MNS	PRIVATE CCTV INCLUSION									
3d	MNS	DRONES									
4	DCS / MNS	ELECTRONIC MONITORING OF OFFENDERS									
5	JCF / MNS	LIQUEFIED NATURAL GAS FOR POLICE VEHICLES									
6	JCF / MNS	MODIFICATION OF THE TRAFFIC TICKETING MANAGEMENT SYSTEM (TTMS)									
7	FORENSICS / MNS	NATIONAL MORGUE									
8	DCS / MNS	UPGRADE OF DCS' TELECOMS SERVICES									
8a	DCS / MNS	CELL PHONE JAMMERS									
8b	DCS / MNS	INMATE PHONES									
8c	DCS / MNS	CCTV MONITORING									

PROJECT #	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	FUNDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	OPERATIONAL
9	JCF / MNS	ELECTRONIC ACCESS FOR POLICE STATIONS									
10	JCF / MNS	ELECTRONIC FLEET AND PERSONNEL MANAGEMENT									
11	JCF / MNS	DATA INTEGRATION									
12	JCF/ MNS	JCF MICROWAVE UPGRADE									
13	MNS	CASE MANAGEMENT									
14	JCF / MNS	UPGRADE JCF ICT NETWORKS									
15	JCF / MNS	JCF VEHICLE LEASE									

STATUS OF MNS CURRENT AND PROPOSED PROJECTS

• 4

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	FUNDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
1	DCS / MNS	CONSTRUCTION OF A NEW HOUSE BLOCK AT TAMARIND FARM									
<p>DESCRIPTION The construction of a new house block at the Tamarind Farm Adult Correctional Facility to include a 300 bed dormitory.</p> <p>PROBLEM BEING ADDRESSED Insufficient accommodation for current and anticipated inmates</p> <p>CURRENT SITUATION: Recommendations for new works for the sewage plant, high pressure water system and admin block have been signed off by MNS PS and a 300 bed dormitory at Tamarind Farm should be ready for use by September 2017.</p> <p>INTENDED BENEFITS: Modernization of the correctional services facilities and accommodation for expected additional inmates being deported from overseas for which there is currently insufficient accommodation.</p> <p>FEASIBILITIES: Cost and economic viability of operating such a facility could outweigh benefits to be accrued and may well be the determining factor in the extent to which this project is implemented.</p>											

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	FUNDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
2	JCF / MNS	NATIONAL MONITORING CENTRE									
	<p>DESCRIPTION This project will allow the establishment of a 'high security' National Monitoring and Operations Centre (C4i bunker) for accommodating national security leadership during (Police/Military) operations of national scale being conducted anywhere in Jamaica.</p> <p>It will be specified to withstand major local or external aggression and would include an 'Operations Room' for monitoring such operations, suitably equipped with 4G LTE, sat phones and other forms of direct communications with any JCF/JDF formation anywhere in the country, as well as with radio and television communications outlets to the public at large. It will also have large 'video wall display' monitors with access to all surveillance cameras nationwide, as well as suitable executive and administrative facilities for accommodating national leadership during periods of protracted operations.</p> <p>PROBLEM BEING ADDRESSED Need for a secure, national operations room with centralized communications and video monitoring capabilities for security operations of national nature and interest</p> <p>CURRENT SITUATION: An area has been identified at the Police National Emergency Centre for a 'video wall' with accessories (awaiting shipment) to be installed to monitor feeds from surveillance camera locations for viewing on an as needed basis. This facility will also be used to monitor CCTVs to be installed in New Kingston.</p> <p>Proposals from local and international suppliers are concurrently being awaited and evaluated for a wider MNS Technology Modernization project being funded under an IDB facility for deployment of an island-wide surveillance camera system (including CCTV, ALPR and Facial Recognition) packaged with Local and Regional monitoring and response centres that will share access links with the JIOC at Up Park Camp and MNS.</p> <p>Final decision on its location will shortly be made but it is most likely to be placed on the premises of the Police Commissioner's office, where space has already been identified.</p> <p>This project should be implemented between 2017 – 2018</p>										

INTENDED BENEFITS:

- A secure, C4i facility for command and monitoring of national level security operations
- This would routinely improve the speed and veracity of communications, reporting and decision making for fast moving operational scenarios between national and local levels of law enforcement and public safety agencies and where necessary with the public at large.
- This capability would cost effectively remove false or untimely reporting and build confidence and trust of law enforcement agencies in the eyes of the public.

FEASIBILITIES:

Increased bandwidth for hauling video data traffic around the country along with island-wide LTE network capacity are required for this to be effectively implemented. This capability already exists to a limited extent, but would require additional resources to proceed immediately. ICT Network requirement, implementation roll out, staffing and training must all be included in one comprehensive package.

Clear ownership along with policies must be established from within the JCF for detailed strategic Surveillance Camera Project Planning including monitoring and response Centres.

Some local operational monitoring centres have already been built and staffed along with CCTV cameras in a few cities and towns across Jamaica, but evaluation has shown less than desirable performance from these centres. These lessons must be incorporated among considerations for deployment of a national centre, along with lessons from the very mature UK Surveillance Camera Strategy.

TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	FINDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
3 JCF / MNS	CCTV EXPANSION									

DESCRIPTION

Expansion of CCTV Surveillance Cameras throughout Jamaica

PROBLEM BEING ADDRESSED

Need to supplement severe shortages in police personnel, vehicles and other resources in expanded monitoring and control of public spaces, unregulated / unmanned ports etc. throughout Jamaica.

CURRENT SITUATION:

This project hobbles along without a clear strategy or detailed project plan. Cameras have been purchased and installed but there is little structured accountability in the management of this system in which 25-30% of cameras in Mandeville and May Pen are defective and outdated and where staffing and training for monitoring centres in May Pen and Negril are not yet completed

CITY	FUNCTIONAL	NON FUNCTIONAL	TOTAL
MAY PEN	15	7	22
MANDEVILLE	17	5	22
MONTEGO BAY	38	2	40
OCHO RIOS	25	4	29
NEGRIL	56	-	56
	151	18	169

Figure 4- As Is Overall Camera Deployment

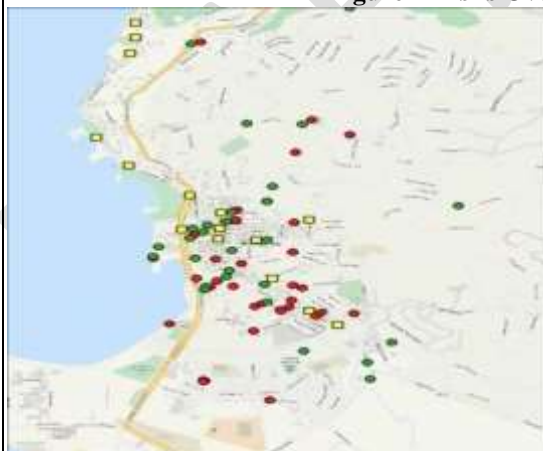


Figure 5 - Montego Bay Camera Deployment

Some local operational monitoring centres have already been built and staffed in cities and towns where CCTV cameras are installed, but while with some successes, evaluation has shown less than adequate performance and results from these centres, albeit without project bench marks. CCTV Cameras were originally placed in or near crime hot spots, but these have continually shifted as people become aware of the cameras without adequate “data driven” coverage of new hot spots. Hundreds of CCTV cameras (including private business cameras) will be needed to saturate the country by filling hot spot gaps

¹ Cornwall Report July 2016

year over year and creating meaningful impact.

Sixteen (16) additional cameras have recently been purchased for Montego Bay and purchase has been completed for three (3) long range Thermal Cameras and accessories to be installed for hot spot motoring at locations in Spanish Town, Down Town Kingston and Montego Bay.

Locations for installation are identified at Church Street Montego Bay, Spanish Town Police Station and Denham Police Station.

Construction of a local Monitoring Centre in Spanish Town is to commence in May, 2017

Procurement has primarily been concentrated on CCTV cameras, without sufficient recognition of ALPR or Facial Recognition camera deployment, which both bring significant law enforcement benefits. These are separately dealt with as a MOU with NWA for inclusion and access to ALPR cameras already deployed by that agency is about to be signed.

While slow expansion of cameras and local monitoring centres continue, planning, design, ownership, maintenance and procurement strategies for a comprehensive island-wide surveillance camera and monitoring system are now being implemented.

INTENDED BENEFITS:

- Significantly increases surveillance of public spaces with few police resources
- Crime deterrence and detection
- Linked to response from local police
- Assists in arrests
- Provision of evidence for investigations and prosecutions
- Provides increased sense of safety for the public
- Effectively expands JCF surveillance, intelligence and investigative and manpower capacities

FEASIBILITIES:

- CCTV has so far proven highly acceptable to the public at large who want far more application of this technology.
- Privacy issues including the addition of private cameras to the national network are under discussion at various levels including the legal community
- Bandwidth capacity needs to be upgraded around the country

Lessons from experiences so far gained must be incorporated among considerations for deployment of additional cameras, along with lessons from the UK Surveillance Camera Strategy document.

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	FINDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
3a	JCF / MNS	ALPR CAMERAS									
	<p>DESCRIPTION Deployment of fixed and mobile ALPR surveillance cameras along roads, highways, city centres, etc, with suitable analytics to automatically capture vehicle license plate and check databases for vehicles of interest.</p> <p>PROBLEM BEING ADDRESSED JCF needs assistance in increasing search rates for vehicles of interest.</p> <p>CURRENT SITUATION: Cameras are currently on order and awaiting delivery. MNS and NWA are working in unison with the fibre network provided by NWA resources under a draft MOU.</p> <p>INTENDED BENEFITS:</p> <ul style="list-style-type: none"> ▪ Effectively expands JCF surveillance, intelligence, investigative and manpower capacities ▪ Unifies GOJ resources towards crime fighting ▪ Transformational improvement to JCF ability to track vehicles of interest as they move around the country, including its own vehicles ▪ ALPR would deliver higher impact on crime for lower spend than most other technologies <p>FEASIBILITIES: Funding needs to be identified to address ICT communications from poorly serviced areas of the country for a comprehensive solution.</p> <p>NWA already have significant ALPR and fiber resources and expertise making it possible to work together with the JCF for a quantum leap in law enforcement effectiveness</p>										

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	FINDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
3b	JCF / MNS	FACIAL RECOGNITION CAMERAS									
	<p>DESCRIPTION Surveillance Cameras using Facial Recognition software automatically scan faces and identify persons of interest matched against facial databases. Initial facial capture is done at Airports, Tax and Passport Offices and or other places requiring photo registration.</p> <p>PROBLEM BEING ADDRESSED JCF needs assistance in increasing search rates for persons of interest.</p> <p>CURRENT SITUATION: Facial analytic software is currently being identified for use with existing cameras already located at relevant sites. Additional cameras are to be located at suitable sites for facial recognition in an ongoing expansion programme.</p> <p>INTENDED BENEFITS:</p> <ul style="list-style-type: none"> ▪ Effectively expands JCF surveillance, intelligence and investigative and manpower capacities ▪ Unifies GOJ resources for crime fighting ▪ Transformational improvement to JCF ability to track persons of interest as they move around the country <p>FEASIBILITIES: This would need additional bandwidth capacity outside of Kingston</p>										

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	FINDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
3c	JCF / MNS	PRIVATE CCTV INCLUSION									
	<p>DESCRIPTION Integration of Private/Commercial video feeds into public CCTV Surveillance System monitoring</p> <p>PROBLEM BEING ADDRESSED Need to improve perception of safety and security among business operators and private citizens.</p> <p>CURRENT SITUATION: This project is currently being assessed and designed with consideration given to privacy implications as addressed under the "Citizens Charter of Rights".</p> <p>INTENDED BENEFITS:</p> <ul style="list-style-type: none"> ▪ Effectively expands CCTV surveillance system and JCF intelligence, investigative and capacities ▪ Effectively increases "community patrols" <p>FEASIBILITIES: Upon understanding the benefits of inclusion in this network, it is expected that commercial business places, community associations and even some private citizens will likely opt for inclusion once formally offered by the MNS.</p> <p>Cost sharing and legal mechanisms still need to be considered and discussed before this can be fully implemented.</p>										

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	FINDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
3d	JCF / MNS	DRONES									
	<p>DESCRIPTION Acquisition and deployment of UAVs (Drones) to be used by JCF in short endurance, tactical surveillance and tracking operations.</p> <p>PROBLEM BEING ADDRESSED Manpower, vehicle and access challenges necessitate the use of drones for tactical operations such as searches, crowd control, day/night patrols in hostile and inaccessible areas and terrain, ad-hoc patrols of unmanned ports and illegal 'points of entry' and many other scenarios.</p> <p>CURRENT SITUATION: A number of drones have already been ordered and awaiting supply.</p> <p>The TAG team overseeing this project is currently finalizing a national policy for commercial, hobby and state usage and is concurrently working with the JCF to develop policies for training, deployment and maintenance of this technology.</p> <p>INTENDED BENEFITS:</p> <ul style="list-style-type: none"> ▪ Ability to conduct surveillance over areas inaccessible by foot and vehicle patrols ▪ Improves safety of police officers in hostile situations and terrain ▪ Effectively expands JCF surveillance, intelligence, investigative and manpower capacity <p>FEASIBILITIES: Concerns exist about the management capacity within the JCF to physically, technically and sustainably operate and maintain this resource.</p> <p>This would be one necessary instance of taking a 'leap of faith' in the interest of capacity building within the JCF, with close supervision by the MNS TAG and necessary assistance from the JDF for the first few years. This concern is not limited to drones, but applies to all other forms of technology for which the JCF does not yet have a proven track record.</p> <p>While citizens would need assurance that this technology would not result in intrusion into their private homes and lives, it is expected that this technology will meet with approval and cooperation from the law abiding public at large.</p>										

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	ENDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
4	DCS / MNS	ELECTRONIC MONITORING OF OFFENDERS									
<p>DESCRIPTION This project contemplates 'geo fencing' (use of GPS technology to monitor inmates within pre-programmed geographical boundaries) of low risk inmates within their home communities as one step towards rehabilitation, while saving on expenses normally incurred by full incarceration.</p> <p>PROBLEM BEING ADDRESSED Need for reduction in administrative and accommodation costs of low risk inmates.</p> <p>CURRENT SITUATION Pilot with a first supplier is complete and report sent to the PS Pilot with a second supplier has started to include training Both were conducted according to a pre-determined pilot plans with suitable indicators for assessment. A project plan is to be produced which will decide on implementation scheduling.</p> <p>INTENDED BENEFITS:</p> <ul style="list-style-type: none"> ▪ Reduced cost to GOJ ▪ Supports rehabilitation programme ▪ Easy to monitor <p>FEASIBILITIES:</p> <ul style="list-style-type: none"> ▪ Community residents where pilot tests are being conducted have not generally accepted this strategy and have strong views on "allowing convicted persons out of prisons" before their sentences are fully completed. ▪ Needs very demanding communication uptime specifications as black outs or time delays could eliminate its usefulness ▪ Physical strength of bracelets must prevent escape from monitoring. ▪ Strong political will exists for offender rehabilitation. 											

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	FINDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
5	JCF / MNS	LIQUEFIED NATURAL GAS FOR POLICE VEHICLES									
<p>DESCRIPTION Use of Liquefied Natural Gas (LNG) in place of petrol for selected police vehicles and geographic areas</p> <p>PROBLEM BEING ADDRESSED Need to reduce costs of vehicle fueling operations</p> <p>CURRENT SITUATION This project concept was based on a verbal unsolicited proposal and was never properly documented or established.</p> <p>An 'informal' pilot project was conducted by the vendor with two (2) vehicles at vendors location, but plans for this pilot were neither documented nor was the user (JCF) included in the pilot planning, monitoring or evaluation, all of which were done solely by the proposer/vendor.</p> <p>As such there has been disagreement between proposer and user as to the conduct and veracity of claims of pilot results and potential significant benefits to the JCF / GOJ.</p> <p>A documented pilot plan has now been prepared, based on which a proper evaluation will be conducted for (6) months using ten (10) vehicles, followed by a recommendation and possible projectization.</p> <p>INTENDED BENEFITS: This project is expected to reduce fuel expenditure for converted police vehicles by some 65% if projections made by the proponent holds true. This would be significant savings for the more than 600 police vehicles in the JCF, even if only a half of them were to be converted.</p> <p>FEASIBILITIES: There are doubts about the practicability of this application for country-wide use, as LNG fuel is not generally available at fuel stations in Jamaica which would mean either the JCF or some private entity taking on this responsibility of, establishing, maintaining and managing LNG refuelling points around the country. The JCF is not prepared and do not wish to take on this responsibility and a private provider would increase the cost of fuel to yet unknown levels which could reduce or remove any benefits to be accrued. The proposer has so far verbally agreed to provide fuelling points at stations around the country yet to be determined.</p> <p>Further, LNG tanks must be installed in vehicles' trunk space and while LNG vapour is</p>											

technically less volatile / explosive than gasoline, there are fears for the safety of officers in vehicles should high calibre rounds be deliberately or otherwise fired into these tanks. It was agreed with the proposer that LNG tanks will be double steel plated and tests with M16 rounds will be conducted as a part of the pilot.

This type of fuel would be limited for cars only and used only in certain non-operational roles and terrain to be determined where benefits are highest.

LNG fuel should pay for itself in accrued savings which could be used for purchase/conversion of other vehicles or other resources for the JCF. Actual costs will be finalized after the pilot is completed to include provision of fuel stations after which project decisions will be made.

Introduction of LNG would represent significant and possibly unwelcome change to JCF having over many years being fully accustomed to the benefits of using gasoline.

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	FINDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
6	JCF / MNS	MODIFICATION OF THE TRAFFIC TICKETING MANAGEMENT SYSTEM (TTMS)									
<p>DESCRIPTION Modification of the Traffic Ticketing Management System (TTMS)</p> <p>PROBLEM BEING ADDRESSED The Traffic Ticketing Management System (TTMS) addressing traffic offences has not worked successfully resulting in inability to verify collection of outstanding tickets. This situation has necessitated introduction of an amnesty period during which the system can be repaired under this project.</p> <p>In the first TTMS computerized system located at the Traffic Central and Regional Headquarters, those at the courts and those at the Tax Administration Department (Collector of Taxes) where not capable of interfacing with each other. As such, the arrangement was that information relating to the issuing of traffic tickets, payment of those traffic tickets and adjudication in the Courts were captured separately, saved on floppy disk, transported to Regional Headquarters and finally to Central Headquarters where the information was entered by data entry clerks.</p> <p>Because of these deficiencies in the old traffic ticketing system, the Jamaica Constabulary Force (JCF) and the Courts have not been able to fully and effectively enforce compliance with the Road Traffic Act. As a consequence, there has been an extraordinary accumulation of a backlog of traffic tickets as traffic offenders have failed to either pay their fines for traffic violations at the offices of Tax Administration Jamaica or have their matters addressed by the Courts, with virtual impunity.</p> <p>It was not until September 21, 2010 that the Ministry of National Security and the Ministry of Justice, in collaboration with the Tax Administration Department introduced a ticketing system that facilitated greater compliance with the Road Traffic Act.</p> <p>It was later discovered that this system too was flawed, as thousands of motorists who either paid their fines or had their matters adjudicated in Court, were still recorded on the system as not complying with the provisions of the Act.</p> <p>CURRENT SITUATION Both original and secondary TTMS projects have essentially failed as traffic tickets are being</p>											

issued without certain ability to enforce collection of fines through the courts, as reconciliation and verification of payments still cannot be accurately made, while over one million traffic tickets estimated at some J\$2b is outstanding.

Some reasons for this failure include:

- a. Data entry clerks at TTMS station terminal not recognizing issuing officers' name or signature with offenders then not being registered as ticketed.
- b. Payments are sometimes made without corresponding tickets in the system, with no verification of such payments to match tickets, so there are likely many un-reconcilable double payments, as well as non-payments.
- b. JCF often do not send had written tickets to data entry points due to vehicle or personnel shortages, or other logistics issues.
- c. Routers between some Traffic Central data entry stations and the Courts currently out of service.
- d. Practice of 'cash pan' collection of tickets still used at the courts and sometimes unreconciled.
- e. Outstanding ticket amounts owed can be checked by using the TRN number in an E-Gov App on smart phones, but JCF members are not issued with this resource and sometimes, at will, use personal phones for this check when motorists are stopped.
- f. Likewise police are not aware that fraudulent drivers licenses can be checked on a smart phone when motorists are stopped.
- g. Adjudication and enforcement of traffic tickets in the courts is sometimes an additional challenge, where some judges do not suspend drivers' licenses as a matter of "judgment" that cannot be challenged or enforced.

These issues make it almost impossible to remove serious offenders from the roads, hence illegal transport operations and traffic offences persist.

The new Road Traffic Act is expected to trigger upgrade of the TTMS system that is being contemplated to address these process issues. This Act will not however likely be passed before next September.

Procurement request for the lookup and business process review with e-Gov is now with procurement.

INTENDED BENEFITS:

- Allows some outstanding and future traffic fines to be collected
- Provides significant revenue to GOJ
- Re-establishes confidence in the Courts, JCF, MNS and MOF that government is capable of efficiently and effectively operating an automated traffic ticketing system
- Re-establishes enforcement of traffic regulations
- Reduces road fatalities and economic losses from traffic accidents

FEASIBILITIES:

JCF ICTD should be the de facto **system owner** but they do not possess the requisite governance and technical capacity resulting in the current situation.

MNS must now take full ownership of the TTMS as primarily a law enforcement system, which commenced with the intention of reducing fatalities from traffic accidents.

JCF must have capacity to own and manage the TTMS including data entry of hand written tickets which should be certified as sent to TTMS terminals, with suitable procedures for entry clerks who do not recognize the officers' handwriting. Preferably however, the new system should entirely eliminate the need for handwritten tickets and manual transit to data entry points.

Until the JCF ICTD is provided with adequate capacity, there will be little sustainable improvement to this system.

The Courts must be able to standardize and mandate the collection of traffic tickets and handling of the points system and suspension of drivers' licenses, instead of this being left to individually subjective rulings.

Some \$5-800m of outstanding traffic tickets were informally found by ALPR (Automatic License Plate Recognition) cameras, according to the TTMS database, which if even partially correct could pay for significant resources needed to update the system

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	FINDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
7	FORENSICS / MNS	NATIONAL MORGUE									
	<p>DESCRIPTION Construction of a Public Morgue to address gross inadequacies in the island's pathological facilities</p> <p>PROBLEM BEING ADDRESSED In the absence of a public morgue, bodies awaiting post-mortems are kept in storage facilities at private funeral homes, through special arrangements with the Government, at high costs and under embarrassing conditions well below international best practices.</p> <p>CURRENT SITUATION Still remaining in design stage after many years of setbacks, design changes have recently been agreed with 'Alberga Graham' and new drawings and costings are now awaited.</p> <p>INTENDED BENEFITS:</p> <ul style="list-style-type: none"> ▪ Improved conditions and public satisfaction with storage of cadavers awaiting post mortem ▪ Improved standards of pathological facilities and services ▪ Reduced grief for loved ones losing family members <p>FEASIBILITIES: Overall costs of outsourcing vs owning and operating a government facility to determine economic feasibility. This should include full time hiring of requisite skills, staff, maintenance costs etc to operate such a facility.</p>										

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	FUNDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
8	DCS / MNS	UPGRADE OF DCS' TELECOMS SERVICES									
<p>DESCRIPTION Upgrade of DCS' Telecoms Services</p> <p>PROBLEM BEING ADDRESSED Allow warders to communicate securely and reliably to, from and within correctional services facilities.</p> <p>CURRENT SITUATION Communication facilities within the Correctional Services have been ignored for many years and with little or no attention, has resulted in unreliable communications facilities which hampers administrative procedures and could put warders lives at risk were they unable to communicate under adverse conditions within cell blocks.</p> <p>Proposal has been proposed by MNS modernization team to send off to PIMSEC for approval.</p> <p>INTENDED BENEFITS:</p> <ul style="list-style-type: none"> Secure and reliable communications for warders within cell blocks and within the DCS in general. <p>FEASIBILITIES: A common and entirely feasible undertaking with assessment and proposals being made by FLOW and financing yet to be determined.</p> <p>As approval and funding have not yet been determined, no date can as yet be fixed on this project.</p>											

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	FINDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
8a	DCS / MNS	CELL PHONE JAMMERS									
<p>DESCRIPTION Upgrade from outdated jamming equipment to latest cell phone blocking and surveillance technologies.</p> <p>PROBLEM BEING ADDRESSED Need to manage cell phone calls from within correctional facilities and facilitate intelligence gathering.</p> <p>CURRENT SITUATION: Outdated and non-functional jammers (last used in 2010) were recently temporarily restored in one of two high security facilities.</p> <p>A few complaints have been received from DCS staff about cell calls being affected inside prisons and areas in close proximity around the facilities, as well as about disruption to internal radio communications between warders since jammers were reinstated. These effects have already been partially addressed by fine tuning antenna orientation, but will be further alleviated with more sophisticated equipment.</p> <p>Assessments are currently being conducted by Digicel and FLOW to propose 'State of Art' prison 'jamming' technology for installation.</p> <p>INTENDED BENEFITS:</p> <ul style="list-style-type: none"> ▪ Prevention of illegal cell calls from inside prisons ▪ Better communications management within cell blocks ▪ Safer prison environment and operations for warders ▪ Improved intelligence gathering <p>FEASIBILITIES: Upgrading and new installation costs now being awaited to determine funding sources and approval. Digicel has proposed to provide funding for assessment of all four facilities and for equipping two (2) of them.</p> <p>The effectiveness and integrity with which this and other DCS initiatives are employed will be fairly simple to monitor, so long as it continues to be managed from the highest levels within the MNS and DCS.</p> <p>Technical expertise currently being provided by FLOW and Digicel, along with JCF Telecoms,</p>											

	need to be continuously available and provided to the DCS to prevent illicit use of cell phones within correctional facilities and reduce “bleed over” of jamming signals into the public space (if jammers are used going forward). TELCOs should be more than willing to finance some of this activity and should be given all necessary access as their commercial interests are critically affected in addition to the national interests of public safety and security.
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	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	FINDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
8b	DCS / MNS	INMATE PHONES									
	<p>DESCRIPTION Installation of private provider subscriber call service for external inmate communications</p> <p>PROBLEM BEING ADDRESSED Controlled, secure and legally available, external communications needed for inmates as both Human Rights issues and 'best management' practices for correctional facilities</p> <p>CURRENT SITUATION: There has not been for many years a legally authorized and organized system for private inmate calls, hence this has been done through 'other channels', often dishonestly and in breach of security regulations. Inmate Phones are now being installed for "organized" subscriber inmate calls and intelligence gathering.</p> <p>An unsolicited proposal has been made by one company which is currently being evaluated and negotiations are in progress for providing this service.</p> <p>This will be at no cost to the GOJ with inmates using this "pay phone" service under closely managed security conditions. An MOU is being developed for this engagement.</p> <p>INTENDED BENEFITS:</p> <ul style="list-style-type: none"> ▪ Satisfies human rights concerns ▪ Removes need for dishonest practices with illegal cell phone operations ▪ Allows "controlled" external communications and surveillance from cell blocks <p>FEASIBILITIES: This system will be entirely self-financed and maintained by the service provider.</p> <p>Non-Exclusive agreements should be made with selected provider to allow for additional providers should this be considered necessary in future. Such agreements should also ensure that DCS maintains exclusive control of call logs and that a suitable fee is paid to the DCS by service providers to cover related costs.</p>										

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	ENDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
8c	DCS / DCS	CCTV MONITORING									
<p>DESCRIPTION Provision of CCTV Camera Surveillance for DCS facilities, with local monitoring stations at each facility and central monitoring of all facilities.</p> <p>PROBLEM BEING ADDRESSED Need for 24/7 monitoring of inmates and warders within correctional facilities.</p> <p>CURRENT SITUATION: This project is still at a preliminary stage with FLOW currently undertaking assessments with a view to providing the necessary equipment and maintenance services. As soon as costings are obtained, feasibility can be ascertained and a project developed.</p> <p>INTENDED BENEFITS:</p> <ul style="list-style-type: none"> ▪ Safer and more secure control and management of inmates ▪ Effectively increases DCS surveillance, manpower and intelligence resources within prisons <p>FEASIBILITIES: A completely feasible and necessary project with no objections anticipated.</p> <p>FLOW would have adequate resource capacity to provide and maintain this system.</p> <p>Costings are being awaited for decision on funding source.</p>											

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	ENDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
9	JCF / MNS	ELECTRONIC ACCESS FOR POLICE STATIONS									
<p>DESCRIPTION Electronic Access for all police stations and facilities throughout the country</p> <p>PROBLEM BEING ADDRESSED To cover information management and security gaps in access to JCF facilities.</p> <p>CURRENT SITUATION This project has not yet started and is currently being scoped and costed before a proposal is presented within coming weeks.</p> <p>It should use relatively standard technology already being used in the MNS and other high security government and private sector buildings and should cover all JCF buildings and police stations throughout Jamaica.</p> <p>This system will additionally allow personnel tracking that would support the JCF Personnel Management and security systems.</p> <p>INTENDED BENEFITS:</p> <ul style="list-style-type: none"> ▪ Secure Police stations and facilities ▪ Improved Personnel Management within the JCF ▪ Secure access information management and tracking <p>FEASIBILITIES: Standard technology widely used throughout Jamaica including within MNS building</p> <p>Finger prints and other biometrics suggested to be used to identify personnel instead of smart cards, which are not as secure as they can easily be defeated.</p> <p>Costing is currently being investigated.</p>											

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	ENDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
10	JCF / MNS	ELECTRONIC FLEET AND PERSONNEL MANAGEMENT									
<p>DESCRIPTION Electronic Management System for tracking and accounting for Fleet, Personnel and Equipment</p> <p>PROBLEM BEING ADDRESSED Severe management gaps for Personnel, Vehicles and Equipment</p> <p>CURRENT SITUATION: IBM's "Maxima" software was purchased and installed at JCF T&R approximately (5) years ago, initially with licenses for tracking and managing 'IT' equipment and vehicle parts and maintenance control, with plans for other resources to be later added.</p> <p>Use of this software was discontinued when it was reportedly 'shut down' due to non-payment of license fees, forcing sharing of a few passwords between many staff personnel and thereby removing accountability and operational integrity. This system was replaced with two (2) applications developed under the initiative of staff members at T & R and MNS, which although with significantly less comprehensive audit features, were quickly accepted by JCF users. These applications were developed without guidance or standards monitoring by ICTD.</p> <p>Deficiencies in locally developed software should be immediately fixed, while comprehensive specifications are developed by suitably qualified persons and signed off by the MNS to ensure acceptable accountability standards and fitness for purpose are met.</p> <p>Expansion of the CAD/AVL and improving the efficacy of the 119 Emergency service Project Concept is with PIMSEC awaiting defence.</p> <p>The new Motor Vehicle Fleet Policy proposal has been merged with the existing Policy and the merged document will now be reviewed by stakeholders</p> <p>INTENDED BENEFITS:</p> <ul style="list-style-type: none"> ▪ Significantly address equipment control (damage, theft and misuse), maintenance and other features which impact the JCF operational capacity and effectiveness in combatting crime. ▪ Huge cost savings from improved resource management ▪ Increased operational efficiency and effectiveness of JCF 											

FEASIBILITIES:

Given familiarity with locally developed asset management software applications for the past few years, along with vastly lower maintenance costs than IBMs license fees and considering the large number of user licenses that would be needed, while requiring considerable work to upgrade for system-wide use, it would be more feasible and sustainable to harden and deploy these local systems throughout the JCF.

Programmers working on these applications should be brought within the ICTD governance framework and MNS should immediately take ownership of this software, as 'developers' were on GOJ payroll (and continue to be) at the time these systems were developed.

For this and other JCF IT projects to be successful, ICTD must be upgraded at least in accordance with previous studies and recommendations to provide suitable IT governance and standards for the JCF.

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	FINDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
11	JCF / MNS	DATA INTEGRATION									
	<p>DESCRIPTION Integration of Law Enforcement and Public Safety databases commencing with security agencies within the MNS (JDF, JCF, FLA, PSRA, PICA, DCS), along with other sources of data useful to law enforcement and public safety.</p> <p>Towards its objective of effectively managing crime by integrating data from many sources in all government ministries and beyond, this proposal assumes the upgrading of JCF ICTD physical security, eco-environment, staff and IT resources for hosting the system, with a team comprising IT personnel primarily from MNS and its agencies as investigators, analysts and eventual Data Scientists developing analytics to suit local crime patterns and requirements, after appropriate training by well qualified and experienced vendors/consultants.</p> <p>PROBLEM BEING ADDRESSED There is a critical need to share and integrate data from diverse sources to provide “citizen 360°” profiles on individuals that will facilitate preventive, investigative and predictive solutions to crime.</p> <p>CURRENT SITUATION: This proposed project is simultaneously under feasibility study, planning and system development, using a ‘rolling wave’ methodology to ascertain the fastest and most sustainable approaches for implementation, as expected benefits for addressing crime are significant and urgent.</p> <p>Figures 8 and 9 below provide diagrammatic representation and inventory of the wide range and fragmentation that exists between databases currently used for law enforcement solutions, indicating the current lack of information sharing.</p>										

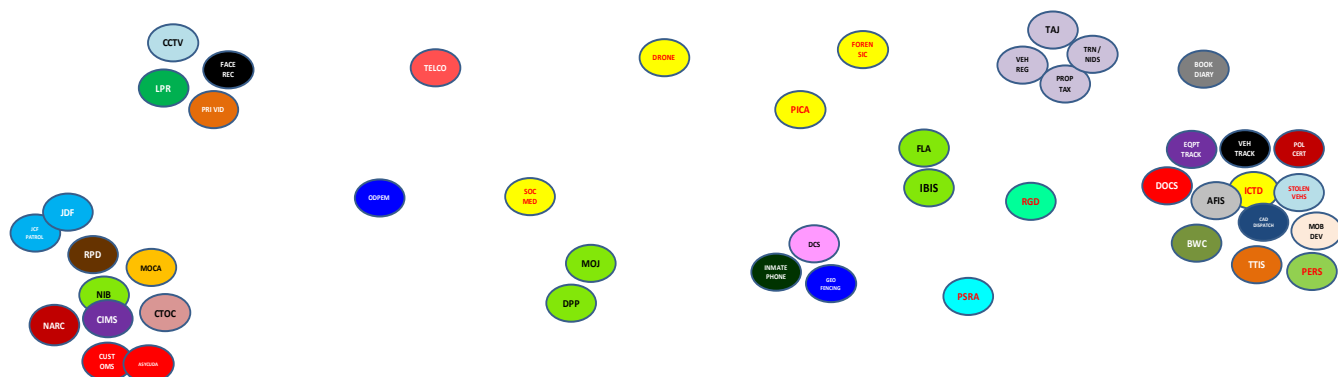


Figure 6 – Disconnected Databases throughout the Law Enforcement System

CCTV - Closed Circuit TV Cameras	INMATE PHONE Prisoner Calls	TAJ - Tax Authority of Jamaica	ICTD - ICT Division	NIB - National Intelligence Bureau	BWC - Body Worn Cameras	POL CERT - Police Certificate System	PROP TAX - Property Tax Database
LPR - Licence Plate Recognition Cams	DRONES - UAV Feeds	PSRA - Private Security Regulatory	MOJ - Min of Justice	CTOC - Counter terrorism Operations Centre	DOCS - JCF Documents System	MOB DEV - JCF Mobile Device Mgt	VEH REG - Vehicle Information database
FACE REC - Facial Recognition Cameras	PICA - Passport & Immigration	EQPT TRACK - JCF Equipment Tracking	JCF PATROL - Foot and Vehicle Patrols	RPD - Revenue protection Division	AFIS - Fingerprint ID System	PERS - JCF Personnel Mgt	CAD DISPATCH - Police Control Dispatch
PRI VID - Private Video feeds	FLA - Firearm Licenses Authority	VEH TRACK - JCF Vehicle Tracking	JDF - JDF	MOCA - Major Organized Crime Org	CASE MANGT System	FORENSIC - Forensic Science Labs	ODPEM - ODPEM
TELCO Telephone Call Record Data	RGD - Registrar General	PERS TRACK - JCF Personnel Tracking	CUSTOM S - Customs	CIMS - Criminal Intelligence Management System	TTMS - Traffic Ticket Inf System	IBIS - Integrated Ballistics Inf System	SOC MED - Social Media
E DIARY - Electronic Station Diary	DCS - Correctional services	BLDG ACCESS - JCF Building Access Data	NARC Narcotics	DPP - Director of Public Prosecutions	STOLEN VEHICLS - Database	TRN / NIDS - TRN / NIDS Databases	

Figure 7 – Some Current and Proposed Data Sources for Shared Integrated System

As the required software and hardware solution to this challenge is highly specialized, with few suppliers globally, some not readily responsive to the GOJ/MNS, with no national government expertise and with national security considerations in mind, it was necessary for MNS to seek guidance and support from trusted traditional and local institutions with expertise and experience in the required technology.

IBM's "i2 Base" software is already being used in Jamaica by some law enforcement agencies (including JDF, Customs, FID) and currently being pursued by others (PICA, ODPEM, etc). This is 'stand-alone' software that facilitates internally integrated operations, but a wider and more integrated approach is needed which would require an advanced version of this software designed for analytics to interrogate large volumes of data from multiple target sources.

Some reputable international vendors (including Palantir) were originally approached, but either proved unlikely and withdrew from direct competition, or did not return our calls, while interested local vendors were considered not to have sufficient knowledge, experience or capacity in this sphere of operations.

As primary software provider of E-Gov, JCF and other GOJ enterprise level systems, IBM was approached and along with six (6) other potential providers were evaluated using the 'generic' matrix at Figure 10. **IBM** emerged as the only viable supplier of software suitable for this application and has been requested to propose a suitable solution for Jamaica's needs.

DATA INTEGRATION SUPPLIER SELECTION MATRIX – (UNWEIGHTED)						
SELECTION CRITERIA	VENDOR A	VENDOR B	VENDOR C	VENDOR D	VENDOR E	VENDOR F
Local / Regional Company / Partnerships / Connections	4	1	3	2	5	6
Years of Activity in Jamaica						
Local Resource and Facilities Investments	2	3	1	4	5	6
Current activity and track record with relevant Jamaican Govt Agencies	5	1	2	4	3	6
Trustworthiness and Loyalty to Jamaica	5	3	2	1	4	6
Commitment to Training of Local Staff	5	2	3	1	4	6
Security Classification	5	2	1	3	4	6
Experience and ability to work with Local Law Enforcement Agencies	5	1	4	2	3	6
Access to Specialized Software and Data	2	3	1	4	5	6
Access to ICT Infrastructure for Data Transport	3	2	1	4	5	6
Experience with Product	3	2	4	5	6	1
Ability to provide holistic solutions	3	1	2	4	5	6
Software Licenses Policy	3	4	2	1	5	6
After Sales Support and Maintenance	4	2	1	3	5	6
Financing offered	4	1	2	5	3	6
Cost	4	2	3	1	5	6
Other						

FINAL SCORE:	57	30	32	44	67	85
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Figure 8 - Vendor Selection Matrix

Also, as owner of specialized data sources critical to crime fighting and with significant resources and expertise in the required technology, **Digicel** has been requested to make a proposal on provision of consultancy services to the MNS for training MNS and other GOJ personnel in setting up and operating this system.

Relevant legal and administrative issues are currently under assessment and resolution.

INTENDED BENEFITS:

- Transformational improvement in ability of the JCF to manage crime
- Comprehensive Crime management (CCM)
- Facilitates high volume of simultaneous criminal investigations, analysis and convictions
- Crime prediction capacity
- Quick access to information when and where needed with much improved security and privacy features than currently exists
- Improved monitoring and management control of information and resources (vehicles, firearms, immigration, passports, personnel, etc.)

FEASIBILITIES:

- There appears to be at this stage strong **political will** within the MNS to see this project through, with equally strong understanding and desire so far within MNS agencies, MSET and MOF to realize the benefits of this project.
- While the project is still at conception and design stage, **funding** is already being addressed under an IADB proposed loan facility which is expected to cover the cost of this and other technology projects under consideration. Timelines for this project will be finalized before June 2017 and financing should be available by October 2017.
- E-Gov does not presently have the **technical expertise** to lead, manage or implement this system and would need assistance and training from IBM and other software and hardware contractors to participate at some later stage.
- **Technical feasibility** for setting up and operating the system is however of little concern, as training and guidance of MNS and other GOJ agency and other 'IT' staff would be provided through institutional and contractual arrangements with MNS, MSET and other ministries and agencies, assisted by expert consultants from Digicel, IBM and IDB as necessary and suitable.
- Of greater concern would be the existing ICT infrastructure. While extremely high data bandwidth capacity is available via fiber around Kingston and less so around Montego Bay, some rationalization and gap filling would be needed to complete the 'fiber ring' around the island to provide adequate data communications for this system.
- There are also concerns about **information privacy** within management and technical staff of MNS and MSET agencies now that information would be 'stored' elsewhere outside of their

physical control. Aside from personal concerns about changes to the nature of their jobs, which would essentially remain the same, but with improved technical training and capacity, they also have concerns about the increased possibility of leaks and breaches of confidentiality, as well as the potential for compromising 'non-agency' persons with direct access to the information. Much of this is an expression of "fear of change and the unknown" sometimes expressed as legal, technical, bureaucratic and other obstacles. **Legal and Administrative feasibility** therefore represents the largest challenge to be overcome, but this is gradually being more accepted with better understanding of the systems' security capabilities

- While automated checks with alarms, logs and other audit features are built into the system to monitor integrity and other security issues, vigilance must be constantly invested in the adherence of MNS staff and other users to the necessary professional ethics of **integrity and confidentiality** to sustainably maintain credibility in the system. This will require selection of management at supervisory levels and above which lie beyond collusion or corruptive forces and which will prosecute and enforce sanctions wherever and whenever this may be attempted or occur.
- Significant resources must be committed **Cyber Security** to prevent hacking into these databases, as while existing fragmented databases are far less secure, the volume and impact of data stolen from one or more small databases would be minor compared to that stolen from a large consolidated database.
- This "Data Integration" project should provide great opportunity to further capacitate the JCF's IT governance structure and resource base by consolidating "National Security" databases at the ICTD and upgrading its management and staff, with provision for more timely and eventual inclusion of other government databases required for 'comprehensive crime management'.

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	ENDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
12	JCF / MNS	JCF MICROWAVE UPGRADE									
<p>DESCRIPTION Upgrade of JCF P25 Telecoms Radio System</p> <p>PROBLEM BEING ADDRESSED To facilitate continued secure and reliable radio communications within the JCF.</p> <p>CURRENT SITUATION The JCF needs to uphold its near 100% telecoms network reliability and security and approximately J\$350m is currently being spent on upgrading this network that has reportedly reached 'end of life' with only 35% of its capacity being utilized.</p> <p>This will not prevent migration and upgrade of ICT networks to more modern and effective LTE systems, which would provide significant benefits for carrying out critical law enforcement and public safety functions, which they are currently unable to do effectively.</p> <p>First payment on this upgrade was recently made and site surveys completed</p> <p>INTENDED BENEFITS: Continued secure and reliable radio communications within the JCF</p> <p>FEASIBILITIES: This upgrade is well advanced, but the cost-benefits of continuing support of 'legacy' technology for the JCF has increasingly come under question from MSET and smaller government agencies with advanced 'telecoms' needs.</p> <p>Telecommunications is one area in which the JCF has proven its technical competence over many years by maintaining near 100% reliability and security under often adverse funding and other circumstances, but now need migration to a more advanced network to deliver advanced services to its users nationwide.</p>											

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	ENDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
13	JCF / MNS	CASE MANAGEMENT									
<p>DESCRIPTION An information system for the JCF, DCS, (including the MOJ and DPP) capturing and managing information at every step from the occurrence of an incident to court conviction, sentencing and incarceration, including expansion and upgrade of the Computer Aided Dispatch (CAD), Automatic Vehicle Location (AVL), E-Diary, Incident Logs, 119 Calls, Stay Alert, and other JCF case-related systems.</p> <p>PROBLEM BEING ADDRESSED Need for an 'End to End' Case Management tool for tracking criminal records from incident to sentencing and incarceration across a single shared interagency platform to enable crime prediction, prevention and investigations.</p> <p>CURRENT SITUATION: A number of failed attempts have been made to establish such a system over the years, resulting in ad-hoc, disconnected databases being developed to satisfy various aspects of this overall requirement.</p> <p>Station diaries are still being documented in large hard cover books without any possibility of that information being digitally analysed for timely action by response or investigative units. Computers were provided at stations for this function but it was unclear what they were eventually used for.</p> <p>Incident logs are separately recorded with computers and transmitted daily to the Planning and Research Branch, where that data is primarily used for statistical purposes without much application to crime prevention and prediction, operational response or investigations.</p> <p>Being the most developed and functional of the IT response systems, the 119 service supported by a very dedicated and hard pressed staff generally works well. The physical system architecture however with fragmented and disconnected sub-systems is neither efficient nor user friendly and sometimes result in late or poorly prioritized responses to incidents that end in serious injury or death.</p> <p>The 'Stay Alert' system still has minor glitches which if not quickly addressed will result in outright failure, as current complaints by JCF Stay Alert operators testify. Some of these shortcomings relate to poor application development in not understanding the mechanics and psychology surrounding criminal assault. Yet another example of lack of JCF IT governance oversight and uncoordinated MNS project management, this well-intentioned yet ad-hoc</p>											

application was developed by a past employee of the MNS, with no accountability or ownership by ICTD, who simply refer all questions and responsibility for its shortcomings to the MNS. System issues are therefore not adequately, if at all being addressed, potentially heading for yet another failed system that could further undermine public confidence.

The Computer Aided Dispatch (CAD) system as reported by officers as senior as DCP, does not truly represent patrol vehicle deployment, as when checked in real time, the number of vehicles actually deployed is far less than that reflected by the CAD/AVL system. This particular observation is however more related to management than IT systems, as some 1,600 AVL trackers remain in storage while only 50% of patrol vehicles in Area 5 have been fitted.

This recurring story with JCF IT systems can only be overcome by proper IT governance infrastructure, policy, resources, staffing and training.

A suitable Case Management system should be identified and expeditiously implemented to satisfy comprehensive information tracking for criminal cases, commencing with source reporting systems, ie replacing manual station diaries with digital E-Diary entries, upgrading 119, CAD/AVL and Stay Alert reporting systems, all supported by a robust Governance structure at ICTD and a central server for connecting all stations together in real time.

INTENDED BENEFITS:

- Enhances crime management through Comprehensive approach to case management without critical information gaps.
- Faster and more effective responses to reported incidents
- Enhanced database of reported incidents and associated offenders and suspects
- Increased public safety and security
- More successful prosecutions
- Enhanced control of JCF patrol vehicles and personnel

FEASIBILITIES:

This system will lie at the centre of a JCF arsenal of crime management, as it would tie every other IT system and all law enforcement and public safety 'points of presence' into a network for measurable management control, prevention, prediction and responsiveness to crime and public safety.

Unfortunately, a predominantly negative culture and mind-set, though not entirely pervasive throughout the JCF, seems to have so far survived all efforts to change. It is believed that more automation will be needed **through "Data Integration" technologies** to directly address some of these issues but that it can be successfully done with an adequate IT governance structure and more sustained management oversight.

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	FINDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
14	JCF / MNS	UPGRADE JCF ICT NETWORKS									
<p>DESCRIPTION Consolidation and upgrading of National ICT Networks to a modern 4G LTE platform to facilitate Law Enforcement and Public Safety (MOH, ODPEM, Fire, NWC, etc)</p> <p>PROBLEM BEING ADDRESSED Outdated and isolated ICT Networks (silos) undermine the capacity for inter-agency coordination and data sharing strategies to adequately combat crime and provide public safety.</p> <p>CURRENT SITUATION: Approximately US\$12m is being identified to finance a stand-alone telecommunications system for a public safety agency (ODPEM). Other agencies are similarly seeking to upgrade, expand or maintain separate systems, while considerable government fiber bandwidth capacity installed by the NWA remains unused.</p> <p>Rationalization of separate telecommunications networks to form and exploit a national network using advanced LTE and fiber technology is now a critical necessity, which is in keeping with the GOJ telecommunications "Blueprint".</p> <p>INTENDED BENEFITS:</p> <ul style="list-style-type: none"> ▪ Reduced GOJ expenditure on telecoms networks ▪ Increased communications facilities for each agency ▪ Common and coordinated communications platform for all Law Enforcement and Public Safety agencies. <p>FEASIBILITIES: The greatest challenges are the administrative 'will' and bureaucracy to cooperate and collaborate between and across ministerial boundaries to achieve significant benefits, including the effective management of crime and public safety in Jamaica</p>											

	TARGET / IMPLEMENTING AGENCY	PROJECT	CONCEPT	DESIGN	PILOT	FINDING	LEGISLATION	PROCUREMENT	INSTALLATION	DELAYED	COMPLETED
15	JCF / MNS	JCF VEHICLE LEASE									
<p>DESCRIPTION Leasing new vehicles for JCF to be replaced every three years in place of outright purchase and ownership of vehicle fleet.</p> <p>PROBLEM BEING ADDRESSED High operational and maintenance costs and inefficiencies being experienced with current JCF fleet operations</p> <p>CURRENT SITUATION: JCF currently have unsustainably high capital and annual operating and maintenance costs for its vehicle fleet</p> <p>Vehicles are not managed and treated with sufficiently high standards of maintenance and operational care, with cases of neglect, misuse and abnormal damage not being adequately addressed.</p> <p>Badly worn JCF vehicles do not present sufficiently good imagery to earn respect, confidence and trust from the public and to instil fear in criminals for increased effectiveness in crime fighting and public safety.</p> <p>INTENDED BENEFITS:</p> <ul style="list-style-type: none"> ▪ Potentially huge cost savings ▪ Instils respect and confidence in JCF ▪ Increased effectiveness in crime fighting <p>FEASIBILITIES: This idea emerged from an unsolicited proposal and is currently being staffed to determine economic and other feasibilities.</p>											

CONCLUSIONS

• 5

The study concluded that the most urgent challenges to be overcome in key MNS agencies are:

- i. Monitoring, Enforcement and Compliance, particularly the limited **use of IT systems** and technology tools for **data-driven management decisions** being the area of greatest underperformance in the JCF and DCS and primarily accounting for the inefficiencies and low confidence in the functioning of these agencies;
- ii. Technology capacity deficit between law enforcement and criminals, exacerbated by absence or inaccessibility of real time information sharing, being too little, too slow, too late, inaccurate and incomplete, mainly attributable to outdated **manual and paper-based operations, fragmentation of databases** and other information sources throughout the system and **outdated ICT networks** and hand held devices for rapid communications. Criminals on the other hand have easy and affordable access to “off the shelf” equipment, networks and “apps” that can readily monitor law enforcement activities, information and movement without detection.
- iii. Outdated and under-performing Law Enforcement and Criminal Justice Systems, worsened by almost total separation of policies, communication and coordination between the Justice and Security ministries for **‘case management’**, resulting in reduced reliance on JCF investigative and courts management capacities and performance;
- iv. Strategic Project Management Capacity deficiencies within MNS, JCF and DCS, often where unqualified, uncoordinated and unprofessional project development continues unchecked throughout the project lifecycle resulting in policy, capacity and ownership gaps within beneficiary and user communities, which normally end in system failure with crime management issues remaining unaddressed.
- v. Inadequacy of existing JCF and DCS ICT networks and hand held devices to deliver information service levels necessary for modern crime prevention, response and investigations, as outdated systems are limited to voice communications.

Lower rated practical issues surrounded ■Resources ■Courts Administration and Rulings ■Capacity ■Legislation ■Public Cooperation ■Staffing ■Funds and ■Cyber Security

The “Data Integration” project should provide great opportunity to further capacitate the JCF’s IT governance structure and resource base by consolidating “National Security” databases at the ICTD and upgrading its management and staff, with provision for more timely and eventual inclusion of other government databases required for ‘comprehensive crime management’.

Recommendations for solutions to these challenges and “Future State” visioning will be the subject of the next Report.

ANNEXES

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ANNEX A – DETAILED FINDINGS

DELAY IN PASSAGE OF APPROPRIATE LEGISLATION

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1. Delays in legislation is not a major impediment to mainstreaming anti-crime measures
2. Passage is awaited for the Road Traffic Act to upgrade the new Traffic Ticketing System, (TTMS)
3. No unique number to accurately and reliably identify each citizen
4. NIDS Act not yet passed but would be used as unique identification for each Jamaican from birth until death.
5. Absent a unique identification number for each citizen, individuals are identified by the police using full name, date and parish of birth, mothers' and fathers' name, etc
6. NIDS database to be used for citizen identification in all IT systems when available
7. Under special provision of the Evidence Act, a Station Supt can give permission for individuals to be identified by use of fingerprints under special conditions. Such finger prints must however be immediately destroyed after identification.
8. The Electoral Office has the only database with citizens' correct addresses, but this information, along with fingerprint details is prohibited from use by the Electoral Commissions Act.
9. No information is captured on 'remandees' hence DCS does not know anything about them or what to do with them before conviction.
10. Evidence Act has recently been amended to include remote video evidence but issues still remain in solving the problem of witnesses being fearful of testifying, as the Courts still depend on exposure of witnesses' identity.
11. Evidence Act also needs consideration for newly introduced technologies such as surveillance cameras (CCTV, ALPR, Facial Recognition) and other biometric forms of identification.

OUTDATED AND UNDER- PERFORMING LAW ENFORCEMENT AND CRIMINAL JUSTICE SYSTEMS

•2

1. Response only strategy and tools with no comprehensive approach to include predictive, prevention, or mitigation strategies;
2. Existing systems either outdated, not implemented or only partially implemented, or otherwise ineffective;
3. Untrained and uncertified personnel not able to convert technology based evidence into convictions;
4. Insufficient deterrence to criminal activity with known multiple offenders (including cyber criminals) in Jamaica moving around freely and able to continue to commit such crimes at will
5. Courts overwhelmed with outstanding cases, some delays and backlogs resulting from not understanding or accepting some technology based evidence
6. Traffic ticket payments unverifiable as machine printed receipts not accepted by Courts
7. Courts modernization programme not yet sufficiently advanced to provide needed services and performance
8. Penalties far too soft on cyber and other crimes
9. JCF investigators and DPP attorneys do not sufficiently understand some new technologies and not able to get convictions with this evidence.
10. Outdated legislation and “burden of proof” does not recognize or understand some new technological forms of evidence
11. Payment for Traffic Tickets only accepted at Traffic Court in and only for Kingston offences undermines the Traffic Ticketing System and reduces revenues to GOJ
12. Privacy issues under the Citizens Charter and Data Protection Act relating to sharing private data restricts conditions under which citizens’ private data can be captured or shared.
13. No Cyber Security risk mitigation counter measures
14. Funding gaps and excessive bureaucracy delay modernization programmes
15. Inability to make timely payments on software license fees
16. JCF HR system failed due to software licensing issues and poor initial analysis of system needs by originally omitting auxiliaries (District Constables) and civilians in system sizing. JCF is hoping for assistance from the MNS with its HR system
17. Relatively little attention paid to crime prediction and prevention

18. Databases without adequate security features can easily be sabotaged or misused by users
19. Systems without adequate security features can easily be sabotaged by users
20. 10 Computer Aided Dispatch (CAD) Stations have been installed at 119 in Kingston for tracking vehicles in Area 4 and Area 5. This technology is not available elsewhere in the island, although there are plans for moving some of them from Kingston to Area 1 in St James soonest.
21. 163 Automatic Vehicle Locators (AVLs) have been installed to date with approximately 1,600 awaiting installation, reportedly due to lack of availability of vehicles which are working multiple shifts so unable to find the time for installation. Each AVL can be installed within 4-5 hours. Only 7 of the 163 vehicles had transponders turned on when visited on 4 May 2017.
22. Stations have difficulty managing persons in police custody
23. Data used more for analysis than as a management tool
24. The "Cleared up Rate" measure of investigative performance is calculated by JCF as ratio of charges filed vs incidents reported within any one month period and not on convictions, hence police functions are seen by the JCF as ending when charges are filed. This explains the backlog in the courts, as relatively little resources are then put into investigations for convictions.
25. The average "Cleared up Rate" across all 19 JCF Divisions is currently at 61%, but this does not give a complete and accurate picture of JCF investigative performance.
26. JCF ICT network underutilized and rapidly becoming obsolete without providing adequate services for modern solutions needed for crime fighting.
27. Current JCF communications technology does not allow 4G LTE distributed data communications capability needed for effectively tracking, monitoring and confronting crime all around the country
28. Most police stations have internet connection, but many do not work from time to time and other stations are in areas without service. Internet connections are not secure.
29. Motorola P25 system used by JCF allows voice and small amounts of data but not higher bandwidth requirements such as photo, video. The CAD system used is a proprietary Motorola system with special in-built features for Police Vehicle Tracking and Management. The P25 system can be made compatible with 4G LTE networks through Application Programme Interfaces (APIs) and continue in service with the CAD system until end of life after which they can the system can be upgraded.
30. Generic vehicle tracking software is available for 4G LTE networks, but these may not yet be sufficiently specialized for Police systems as is the Motorola P25 CAD system.
31. Only about 50% of police stations island-wide are estimated to have internet access
32. Major criminal activity such as murder or wounding is sent daily by email or radio voice messages from stations around the country to Divisional HQs. All stations have radio communications via the microwave radio system but not all stations have landlines.
33. There is no 4G LTE communications capability in the JCF for directly sharing data with vehicle or foot patrols. Radios voice messages are exclusively used for voice communications.

34. MOJ project on video links to courts delayed as vendor was not delivering then finally disappeared without completion
35. Outdated incentives and efforts for attracting criminal information from the public need review and re-energizing.
36. JCF personnel not given sufficient ICT tools and facilities to effectively combat criminals
37. Human and other technical resource capacity shortages within the JCF
38. Qualified human and technology systems capacity shortages within intelligence services.
39. Under resourced investigative and intelligence services
40. Inadequate coastal surveillance (no cameras or radar) to be integrated into national monitoring centres.
41. Intelligence services unable to predict and prevent multiple future crimes by projecting from available information sources
42. Information availability for investigations and prosecution often depend on personal relationships
43. Police systems unable to quickly and accurately identify individuals in real time from existing data available to them.
44. Effectiveness of JCF Case Management depends on personal interest of investigators rather than on well established procedures and technology based on information and facts
45. Current JCF technology not sufficiently advanced and does not adequately allow information sharing and other needed capabilities
46. Disjointed government resources (eg Telecoms network, multiplicity of disconnected databases and other data sources) existing in silos
47. Overprotective, over-secretive, 'silo' approach by agencies and departments
48. Unavailability of technology tools for 360° profile on individuals for quick and accurate identification
49. No unique number to accurately and reliably identify each citizen hence individuals typically identified by full name, date and parish of birth, mothers' and fathers' name, etc
50. Culture of 'Silos' driven by individuals not knowing what data can be shared, as there is no established classification authority or guidance provided throughout the government and security agencies, so each person decides what classification level to apply to each piece of data.
51. JCF gives data to external organizations based on 'letters of request' which introduces further delays and frustrations for investigators, media, analysts and others who need quick and accurate crime data.
52. Video from ABM machines not connected or routinely available to JCF Facial Recognition software or databases.
53. MNS Crime Observatory collects and stores a wide range of valuable data including data from non-MNS sources that is not routinely shared with JCF for investigations

54. There is a huge and 'disruptive' information gap between the MOJ, Courts and National Security coordination and systems resulting in case backlog and consequent escalation of crime, that must be urgently addressed.
55. MOU between PICA and NIB allows a PICA officer to be physically located at NIB with a terminal connected to the PICA database who assists NIB investigations with PICA related information searches. While this works in some slow moving cases, such MOUs represent slow, manual versions of 'automated data sharing' that may not be adequate in many other concurrent caseloads.
56. High, uncontrollable staff attrition with qualified JCF personnel
57. Inadequate salary structure for hi-tec areas within the JCF
58. Difficult to manage and share outdated and burdensome manual systems still used for some key management functions with limited effectiveness. (Eg Hard Cover Books still used for Station Diaries)
59. Consistent and unacceptably high crime rates over past decades partially linked to outdated and under-performing law enforcement and criminal justice practices.
60. Inaccurate and insufficient information from outdated or ineffective ICT systems frustrate efforts to successfully prosecute criminals and manage crime.
61. Much of data within JCF is stored in manual hard cover books
62. Difficult to get data for analytical purpose from JCF due to red tape, ad-hoc data classification as to who gets what, silos, data in manual format, varying protocols, etc
63. Each police station has some 20 different Registers (hard cover books different purposes, (eg. Station Diary, Persons in Lockup, local and business persons, businesses, women / youth who need protection, other categories, etc)
64. Information including data on all reported incidents, community members, etc is stored by JCF in hard cover registers, (Station Diary and others) but not easily available for crime prevention or investigation
65. Police stations have too many 'disconnected' data files and 'un-digitized' information in manual 'hard copies' hence difficult and time consuming to store, categorize, retrieve, share or use for management decision making or investigations. Delays in responding to queries are exaggerated by manpower shortages are often misconstrued as police obstruction or corruption.
66. Many small files with data stored on station computers about various topics
67. Difficult for police to capture and store spatial data
68. Manual scheduling of personnel too difficult and needs automation
69. Requests for data from external organizations have to be summarized by JCF STATS which is manually prepared and time consuming therefore usually delayed and insufficient. JCF will not give details to the public for "security reasons".
70. Production of statistics is mostly done manually with spreadsheets hence time consuming and some accuracy lost from information sources.

71. Delays in producing reports are further extended since data changes daily as investigations take place and more information is gathered.
72. JCF fears having to revert to manual system if computers systems continue to fail
73. CIMS not so effective and still needs more work to deliver
74. Police Statistics (STATS) and investigators get data from various sources including Division HQs, Police Emergency Centre, various registers (books) at police stations, all with many gaps and inefficiencies and inaccuracies and incompleteness.
75. STATS and investigators cannot adequately analyze data and retrieve information with sufficient granularity and accuracy for effective analysis or to close many cases.
76. CIMS database of criminal activity with known and wanted persons now being expanded to include court warrants and crime mapping.
77. The Electoral system is the only database with citizens correct addresses, but is prevented from use by prior agreements when it was being constructed..
78. No information is captured on remandees hence DCS does not know anything about them or what to do with them before conviction
79. Mona Informatics have a number of databases with invaluable geo spatial data not being used by the JCF
80. Too much 'cash' used in Jamaica which reduces paper trails useful for investigations

BACKLOGS AND OUTDATED METHODS EMPLOYED IN COURTS / JUSTICE SYSTEM

•3

1. JCF investigators often not motivated to take cases to court for lack of confidence in meeting high 'burden of proof'.
2. Untrained and uncertified personnel not able to convert technology based evidence into convictions
3. Courts modernization programme not sufficiently advanced while courts are overwhelmed with outstanding criminal cases
4. Current technology used by courts not adequately advanced to speed up adjudication of cases and ensure quick and certain dispensation and justice.
5. Insufficient deterrence to criminal activity as existing laws not enforced 'by the letter'.
6. JCF investigators and DPP attorneys do not sufficiently understand some new technologies and not able to get convictions in court.
7. Outdated legislation and "burden of proof" does not understand or recognize some new technological forms of evidence
8. Payment for Traffic Tickets only accepted at Traffic Court in and only for Kingston offences undermines the Traffic Ticketing System and reduces revenues to GOJ
9. Soft penalties on crimes (including cyber) demotivates police investigators.
10. Some forms of technological evidence not accepted by some judges (eg Machine printed receipts for traffic tickets, etc)
11. Bad actors and dishonest practices further delay and prevent prosecutions and convictions to take criminal elements out of circulation
12. Evidence Act has recently been amended to include video footage but issues still remain in solving the problem of witnesses being fearful of testifying.
13. IDB Assisted with Cyber Security Legislation and Policy
14. Stations have difficulty managing persons in police custody while awaiting trial.
15. The "Cleared up Rate" measure of investigative performance is calculated by JCF as ratio of charges filed vs incidents reported within any one month period and not on convictions, hence police functions are seen by the JCF as ending when charges are filed. This explains the backlog in the courts, as relatively little resources are then put into investigations for convictions.

16. The average "Cleared up Rate" across all 19 JCF Divisions is currently at 61%, but this does not give a complete and accurate picture of JCF investigative performance.
17. MOJ project on video links to courts delayed as vendor was not delivering then finally disappeared without completion
18. Ineffective deployment of government ICT resources (eg Telecoms network, disconnected databases, etc) prevent access to information and evidence in courts to avoid lengthy trial delays
19. Culture of 'Silos' driven by individuals not knowing what data can be shared, as there is no established classification authority or guidance provided throughout the government and security agencies, so each person decides what classification level to apply to each piece of data.
20. JCF gives data to external organizations based on 'letters of request' which introduces further delays and frustrations for investigators, courts, media, analysts and others who need quick and accurate crime data.
21. MOU between PICA and NIB allows a PICA officer to be physically located at NIB with a terminal connected to the PICA database who assists NIB investigations with PICA related information searches. While this works in some slow moving cases, such MOUs represent slow, manual versions of 'automated data sharing' that may not be adequate in many other concurrent case loads.
22. There is a huge and 'disruptive' information gap between the MOJ, Courts and National Security coordination and systems resulting in case backlog and consequent escalation of crime, that must be urgently addressed.
23. CIMS database of criminal activity with known and wanted persons now being expanded to include court warrants and crime mapping.
24. Delays in producing reports are further extended since data changes daily as investigations take place and more information is gathered.
25. No information is captured on remandees awaiting trial, hence DCS does not know anything about them or what to do with them before conviction.
26. STATS and investigators cannot adequately analyze data and retrieve information with sufficient granularity and accuracy for effective analysis or to close many cases.
27. The Electoral system is the only database with citizens correct addresses, but is prevented from use by prior agreements when it was being constructed.
28. The system still depends too much on human witnesses who can have many different agenda for testifying which add layers of complication to the search for justice.

FRAGMENTED INFORMATION DATABASES AND LACK OF COORDINATION ACROSS SECURITY SECTOR AGENCIES

•4

1. Capacity shortages within the JCF intelligence services minimizes information synthesis and investigative effectiveness.
2. Currently used IT technology does not adequately allow quick and easy information sharing (with appropriate security control features)
3. Major criminal activity such as murder or wounding is sent daily by email or radio voice messages from stations around the country to Divisional HQs. All stations have radio communications via the microwave radio system but not all stations have landlines.
4. Most police stations have internet connection, but many do not work from time to time and other stations are in areas without service. Internet connections are not secure.
5. Only about 50% of police stations island-wide are estimated to have internet access
6. There is no 4G LTE communications capability in the JCF for directly sharing data with vehicle or foot patrols. Radios voice messages are exclusively used for voice communications.
7. JCF personnel not given sufficient ICT tools and facilities to effectively combat criminals reduces operational effectiveness and criminal case management
8. Inadequate coastal surveillance (no cameras or radar) to be integrated into national monitoring centres.
9. Technology needed by JCF to provide data driven decision making
10. Agencies reluctance to share information reduces investigative effectiveness
11. Complicated, personalized system for sharing fragmented classified information between law enforcement agencies frustrates investigators and reduces effectiveness in solving crimes
12. Currently used technology does not adequately allow predictive capability
13. Disjointed information resources (eg Telecoms network, disconnected databases and other information sources) existing in silos prevent use of newly available crime fighting technologies
14. Informal and often personalized system for sharing fragmented classified information between law enforcement agencies too slow and too late in fast moving cases.
15. Law enforcement intelligence remains fragmented and reactive with little predictive capacity reduces crime deterrence and prevention
16. Little trust within and between Law Enforcement agencies results in multiple information 'silos'

17. Overprotective, over-secretive, 'silo' approach by agencies makes such information useless if not shared.
18. Police unable to quickly and accurately identify individuals in real time from existing data available to them allows unhindered movement of criminals in, out and around the country.
19. Slow and uncertain access to information critical to investigations and prosecutions reduces convictions in court
20. Video from ABM machines not connected or routinely available to JCF Facial Recognition software or databases.
21. Culture of 'Silos' driven by individuals not knowing what data can be shared, as there is no established classification authority or guidance provided throughout the government and security agencies, so each person decides what classification level to apply to each piece of data.
22. Effective policing cannot be done without accurate, complete useful data
23. Hospital, schools and many other databases are not routinely or readily available to the JCF for investigations
24. Hospitals have huge amount of data on violent crimes that are not shared with other institutions, but currently some hospitals (KPH) have no server and have resorted to manual system and fear they will lose more than 10 years of data captured
25. JCF gives data to external organizations based on 'letters of request' which introduces further delays and frustrations for investigators, media, analysts and others who need quick and accurate crime data.
26. JCF have a huge amount of data which is not shared or used as effectively as possible, as such data is generally considered too sensitive to be shared with the public
27. JCF willing to share summary data with media, academic and other institutions, which all need more detailed data for various forms of analysis.
28. MNS Crime Observatory collects and stores a wide range of valuable data including from non-MNS sources that is not routinely shared with JCF for investigations
29. MOU between PICA and NIB allows a PICA officer to be physically located at NIB with a terminal connected to the PICA database who assists NIB investigations with PICA related information searches. While this works in some slow moving cases, such MOUs represent slow, manual versions of 'automated data sharing' that may not be adequate in many other concurrent caseloads.
30. No data classification authority or protocols for sharing in Jamaica so each person decides on classification and whether or not and with who to share data.
31. Unshared data is useless having
32. Inaccurate and insufficient information from outdated or ineffective IT systems don't enable proactive investigations and reduce effectiveness of JCF investigators
33. Information including data on all reported incidents, community members, etc is stored by JCF in hard cover registers, (Station Diary and others) but not easily available for crime prevention or investigation

34. CIMS database of criminal activity with known and wanted persons now being expanded to include court warrants and crime mapping.
35. Delays in producing reports are further extended since data changes daily as investigations take place and more information is gathered.
36. Difficult for police to capture and store spatial data
37. Difficult to get data for analytical purpose from JCF due to red tape, ad-hoc data classification as to who gets what, silos, data in manual format, varying protocols, etc
38. Each police station has some 20 different Registers (hard cover books different purposes, (eg. Station Diary, Persons in Lockup, local and business persons, businesses, women / youth who need protection, other categories, etc)
39. Information capture at source in appropriate formats is the most important priority for any improvement in JCF data processing.
40. Many small files with data stored on station computers about various topics
41. Mona Informatics have a number of databases with invaluable geo data not being used by the JCF
42. Much of data within JCF is stored in manual hard cover books so difficult to share.
43. Police stations have too many 'disconnected' data files and 'un-digitized' information in manual 'hard copies' hence difficult and time consuming to store, categorize, retrieve, share or use for management decision making or investigations. Delays in responding to queries are exaggerated by manpower shortages are often misconstrued as police obstruction or corruption.
44. Police Statistics (STATS) and investigators get data from various sources including Division HQs, Police Emergency Centre, various registers (books) at police stations, all with many gaps and inefficiencies and inaccuracies and incompleteness.
45. Production of statistics is mostly done manually with spreadsheets hence time consuming and some accuracy lost from information sources.
46. Requests for data from external organizations have to be summarized by JCF STATS which is manually prepared and time consuming therefore usually delayed and insufficient. JCF will not give details to the public for "security reasons".
47. STATS and investigators cannot adequately analyze data and retrieve information with sufficient granularity and accuracy for effective analysis or to close many cases.
48. The Electoral system is the only database with citizens correct addresses, but is prevented from use by prior agreements when it was being constructed..
49. There are multiple sources of daily reports at police stations, but no standard formats or classifications for data being captured or reported

TECHNOLOGY CAPACITY DEFICIT BETWEEN LAW ENFORCEMENT AND CRIMINALS

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1. JCF investigators and DPP attorneys not able to get convictions with evidence from new technologies.
2. Technical capacity shortages within the JCF minimizes use of advanced technology in the fight against crime
3. Untrained and uncertified personnel not able to convert technology based evidence into convictions;
4. Insufficient deterrence to criminal activity by not adequately enforcing existing laws.
5. Outdated legislation and “burden of proof” does not recognize new technological forms of evidence
6. Penalties far too soft on cyber crime
7. Privacy issues under the Citizens Charter and Data Protection Act relating to sharing private data restricts conditions under which citizens’ private data can be captured or shared.
8. Some technology based evidence not accepted by courts;
9. Unhindered movement of criminals (including cyber) around the country overwhelms JCF capacity
10. No Cyber Security risk mitigation counter measures
11. Cyber technology capacity shortages in JCF and Jamaica render on-line systems vulnerable to attack
12. Increased instances of cyber-crimes with known multiple offender cyber criminals moving around freely in Jamaica able to continue committing such crimes at will
13. JCF on-line systems vulnerable to cyber attack and misuse
14. Potential ‘security gaps’ in locally developed software systems
15. Some software developed by JCF staff don’t meet minimum security standards and vulnerable to misuse
16. Bad actors and dishonest practices within and without MNS agencies minimizes success with crime fighting.
17. Information systems vulnerable to sabotage or misuse from internal bad actors
18. Funding and Financing gaps for supporting law enforcement technology needs

19. Evidence Act has recently been amended to include video footage but issues still remain in solving the problem of witnesses being fearful of testifying.
- 20.10 Computer Aided Dispatch (CAD) Stations have been installed at 119 in Kingston for tracking vehicles in Area 4 and Area 5. This technology is not available elsewhere in the island, although there are plans for moving some of them from Kingston to Area 1 in St James soonest.
21. 163 Automatic Vehicle Locators (AVLs) have been installed to date with approximately 1,600 awaiting installation, reportedly due to lack of availability of vehicles which are working multiple shifts so unable to find the time for installation. Each AVL can be installed within 4-5 hours. Only 7 of the 163 vehicles had transponders turned on when visited on 4 May 2017.
22. Systems without adequate security features can easily be sabotaged by users
23. Most police stations have internet connection, but many do not work from time to time and other stations are in areas without service. Internet connections are not secure.
24. Only about 50% of police stations island-wide are estimated to have internet access
25. There is no 4G LTE communications capability in the JCF for directly sharing data with vehicle or foot patrols. Radios voice messages are exclusively used for voice communications.
26. Current JCF communications technology does not allow 4G LTE distributed data communications capability needed for effectively tracking, monitoring and confronting crime all around the country
27. JCF communications network not evenly distributed or available throughout all areas of the country, allows criminals to move to areas of limited cover
28. Outdated policies relating to search and apprehension of suspects
29. Anti-informant culture effectively protects criminals
30. Insufficient incentives for criminal information from the public
31. Public fear of reprisal for giving information to police
32. Inadequate coastal surveillance (no cameras or radar) to be integrated into national monitoring centres.
33. Criminals have more access to sophisticated technologies than those available to the JCF which they use to monitor and track the police and conduct eves dropping and other activities.
34. JCF personnel not given sufficient ICT tools and facilities to effectively combat criminals, who are increasingly more computer savvy
35. Qualified human and technology capacity shortages within the JCF and intelligence services.
36. Under resourced investigative and intelligence services
37. Culture of 'Silos' driven by individuals not knowing what data can be shared, as there is no established classification authority or guidance provided throughout the government and security agencies, so each person decides what classification level to apply to each piece of data.
38. Hospital, schools and many other databases are not routinely or readily available to the JCF for investigations

39. Hospitals have huge amount of data on violent crimes that are not shared with other institutions, but currently some (KPH) have no server and have resorted to manual system and fear they will lose more than 10 years of data captured
40. JCF gives data to external organizations based on 'letters of request' which introduces further delays and frustrations for investigators, media, analysts and others who need quick and accurate crime data.
41. JCF have a huge amount of data which is not shared or used as effectively as possible, as such data is generally considered too sensitive to be shared with the public
42. MNS Crime Observatory collects and stores a wide range of valuable data including from non-MNS sources that is not routinely shared with JCF for investigations
43. MOU between PICA and NIB allows a PICA officer to be physically located at NIB with a terminal connected to the PICA database who assists NIB investigations with PICA related information searches. While this works in some slow moving cases, such MOUs represent slow, manual versions of 'automated data sharing' that may not be adequate in many other concurrent caseloads.
44. No unique number to accurately and reliably identify each citizen
45. Video from ABM machines not connected or routinely available to JCF Facial Recognition software or databases.
46. Current JCF IT technology not sufficiently advanced for predictive investigative capability
47. Currently applied technology does not allow 360° profiles on individuals for quick and accurate identification as and where needed to contain criminal activity
48. Currently used technology does not adequately allow information sharing capability
49. Disjointed government resources (eg Telecoms network, multiplicity of disconnected databases and other sources) exist in silos
50. Informal and personalized system for sharing fragmented classified information between law enforcement agencies too slow and unresponsive to current fast moving crime and criminal movement
51. Information often depends on personal relationships
52. JCF overwhelmed by slow and uncertain access to complete and accurate information critical to investigations, apprehension and prosecution of criminal activity.
53. Known multiple offence cyber criminals moving around freely in Jamaica and able to continue to commit such crimes at will
54. Law enforcement intelligence remains fragmented and reactive with little predictive investigative capacity needed to prevent some crimes before they happens
55. Little trust within and between Law Enforcement agencies results in multiple information 'silos'
56. Overprotective, over-secretive, 'silo' approach by agencies not helpful to information sharing
57. High staff attrition with technically qualified personnel

58. Inadequate salary structure for hi-tec areas within the JCF
59. Non-technical culture prevalent within the JCF reduces effectiveness of technology
60. Information including data on all reported incidents, community members, etc is stored by JCF in hard cover registers, (Station Diary and others) but not easily available for crime prevention or investigation
61. CIMS not so effective and still needs more work to deliver
62. Delays in producing reports are further extended since data changes daily as investigations take place and more information is gathered.
63. Difficult for police to capture and store spatial data
64. Difficult to get data for analytical purpose from JCF due to red tape, ad-hoc data classification as to who gets what, silos, data in manual format, varying protocols, etc
65. Each police station has some 20 different Registers (hard cover books different purposes, (eg. Station Diary, Persons in Lockup, local an business persons, businesses, women / youth who need protection, other categories, etc)
66. JCF fears having to revert to manual system if computers systems continue to fail
67. Mona Informatics have a number of databases with invaluable geo data not being used by the JCF
68. Much of data within JCF is stored in manual hard cover books
69. No information is captured on remandees hence DCS does not know anything about them or what to do with them before conviction
70. Police stations have too many 'disconnected' data files and 'un-digitized' information in manual 'hard copies' hence difficult and time consuming to store, categorize, retrieve, share or use for management decision making or investigations. Delays in responding to queries are exaggerated by manpower shortages are often misconstrued as police obstruction or corruption.
71. Police Statistics (STATS) and investigators get data from various sources including Division HQs, Police Emergency Centre, various registers (books) at police stations, all with many gaps and inefficiencies and inaccuracies and incompleteness.
72. Production of statistics is mostly done manually with spreadsheets hence time consuming and some accuracy lost from information sources.
73. Requests for data from external organizations have to be summarized by JCF STATS which is manually prepared and time consuming therefore usually delayed and insufficient. JCF will not give details to the public for "security reasons".
74. Station Logs not digitized to form directly connected E-Diary system that would require a communication architecture and technical support to each station.
75. STATS and investigators cannot adequately analyze data and retrieve information with sufficient granularity and accuracy for effective analysis or to close many cases.
76. The Electoral system is the only database with citizens correct addresses, but is prevented from use by prior agreements when it was being constructed..

- 77. The system still depends too much on human witnesses who can have many different agenda for testifying which add layers of complication to the search for justice.
- 78. Too much 'cash' used in Jamaica which reduces paper trails useful for investigations
- 79. Inaccurate and insufficient information from outdated or ineffective information systems frustrate efforts to successfully prosecute criminals and manage crime.

**GOVERNMENT INFORMATION SYSTEMS
OUTPACED BY QUANTUM INCREASES IN
DEMAND AND NATURE AND CRIME OVER
TIME.**

•6

1. Distribution of crime from major cities to other areas around the country, facilitated by new highways, with insufficient police vehicles and personnel to cover all areas
2. Technical capacity shortages within the JCF reduces anti-crime coping mechanisms
3. Untrained and uncertified personnel not able to turn technology based evidence into convictions;
4. Approximately 11,000 JCF personnel and 178 Police "Points of Presence" around the country at various service levels
5. People and processes, eg JCF internal policies, protocols, regulations, staff capacity, etc must be reviewed and addressed along with technology to improve the JCF systems
6. Insufficient deterrence to cyber-crimes in courts while known multiple offence cyber criminals moving around freely in Jamaica and able to continue to commit such crimes at will
7. Legal penalties too soft on cyber crime
8. The courts system still depends too much on human witnesses who can have many different agenda for testifying which add layers of complication to the search for justice.
9. Potential 'security gaps' in locally developed software systems vulnerable to cyber criminals
10. Vulnerability to increasing cases of cyber attack
11. No Cyber Security risk mitigation counter measures
12. Funding and Financing gaps
13. Databases vulnerable to sabotage or misuse, given growing instances and criminal cyber activity
14. Systems without adequate security features can easily be sabotaged by users
15. JCF personnel not tracked while on duty
16. Stations have difficulty managing persons in police custody
17. Major criminal activity such as murder or wounding is sent daily by email or radio voice messages from stations around the country to Divisional HQs. All stations have radio communications via the microwave radio system but not all stations have landlines.
18. Most police stations have internet connection, but many do not work from time to time and other stations are in areas without service. Internet connections are not secure.
19. Only about 50% of police stations island-wide are estimated to have internet access

20. There is no 4G LTE communications capability in the JCF for directly sharing photographic or video data with vehicle or foot patrols. Radios voice messages are exclusively used for voice communications.
21. Anti-informant culture, bad actors and dishonest practices not helpful to crime fighting and information gathering
22. Qualified human and technology systems capacity shortages within intelligence services.
23. Shortage of Biometric testing facilities for high volumes of 'questioning' and recruitment interviews in some key MNS agencies.
24. Under resourced investigative and intelligence services
25. Inadequate coastal surveillance (no cameras or radar) to be integrated into national monitoring centres.
26. Current JCF technology not sufficiently advanced to remain on top of increases in criminal activity
27. Currently used technology does not adequately allow information sharing capability needed to comprehensively address crime management.
28. Disjointed government resources (eg Telecoms network, multiplicity of disconnected databases and other data sources) existing in silos
29. Information availability depends largely on personal relationships
30. JCF overwhelmed by criminal activity and need fast and responsive data driven solutions
31. Law enforcement intelligence remains fragmented and reactive with little predictive capacity
32. Overprotective, over-secretive, 'silo' approach by agencies prevent much needed information sharing
33. Culture of 'Silos' driven by individuals not knowing what data can be shared, as there is no established classification authority or guidance provided throughout the government and security agencies, so each person decides what classification level to apply to each piece of data.
34. Hospital, schools and many other databases are not routinely or readily available to the JCF for investigations
35. Hospitals have huge amount of data on violent crimes that are not shared with other institutions, but currently some (KPH) have no server and have resorted to manual system and fear they will lose more than 10 years of data captured
36. JCF gives data to external organizations based on 'letters of request' which introduces further delays and frustrations for investigators, media, analysts and others who need quick and accurate crime data.
37. MOU between PICA and NIB allows a PICA officer to be physically located at NIB with a terminal connected to the PICA database who assists NIB investigations with PICA related information searches. While this works in some slow moving cases, such MOUs represent slow, manual versions of 'automated data sharing' that may not be adequate in many other concurrent case loads.

38. No data classification authority or protocols for sharing in Jamaica so each person decides on classification and whether or not and with who to share data.
39. No unique number to accurately and reliably identify each citizen
40. There is a huge and 'disruptive' information gap between the MOJ, Courts and National Security coordination and systems resulting in case backlog and consequent escalation of crime, that must be urgently addressed.
41. Inability to concurrently analyze and solve high volumes of criminal investigations
42. Inaccurate and insufficient information from dysfunctional or ineffective IT systems frustrate efforts to successfully prosecute criminals and manage crime.
43. Too much 'cash' used in Jamaica which reduces paper trails useful for investigations
44. Delays in producing reports are further extended since data changes daily as investigations take place and more information is gathered.
45. Difficult to get data for analytical purpose from JCF due to red tape, ad-hoc data classification as to who gets what, silos, data in manual format, varying protocols, etc
46. Each police station has some 20 different Registers (hard cover books different purposes, (eg. Station Diary, Persons in Lockup, local and business persons, businesses, women / youth who need protection, other categories, etc)
47. Individuals still typically identified by full name, date and parish of birth, mothers' and fathers' name, etc
48. Information including data on all reported incidents, community members, etc is stored by JCF in hard cover registers, (Station Diary and others) but not easily available for crime prevention or investigation
49. JCF fears having to revert to manual system if computers systems continue to fail
50. Manual scheduling of personnel too difficult and needs automation
51. Many small files with data stored on station computers about various topics
52. Much of data within JCF is stored in manual hard cover books
53. No information is captured on remandees hence DCS does not know anything about them or what to do with them before conviction
54. Police stations have too many 'disconnected' data files and 'un-digitized' information in manual 'hard copies' hence difficult and time consuming to store, categorize, retrieve, share or use for management decision making or investigations. Delays in responding to queries are exaggerated by manpower shortages are often misconstrued as police obstruction or corruption.
55. Police Statistics (STATS) and investigators get data from various sources including Division HQs, Police Emergency Centre, various registers (books) at police stations, all with many gaps and inefficiencies and inaccuracies and incompleteness.
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58. STATS and investigators cannot adequately analyze data and retrieve information with sufficient granularity and accuracy for effective analysis or to close many cases.
59. The Electoral system is the only database with citizens correct addresses, but is prevented from use by prior agreements when it was being constructed..
60. There are multiple sources of daily reports at police stations, but no standard formats or classifications for data being captured or reported

INEFFICIENT FLEET AND PERSONNEL MANAGEMENT IN THE JCF

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1. Approximately 11,000 JCF personnel and 178 Police “Points of Presence” around the country at various service levels
2. People and processes, eg JCF internal policies, protocols, regulations, staff capacity, etc must be reviewed and addressed along with technology to improve the JCF systems
3. Potential ‘security gaps’ in locally developed Fleet Management software systems
4. Bad actors and dishonest practices
5. Funding gaps
6. Inability to make timely payments on software license fees
7. JCF HR system failed due to software licensing issues and poor initial analysis of system needs by originally omitting auxiliaries (District Constables) and civilians in system sizing. JCF is hoping for assistance from the MNS with its HR system
8. Poor financial management planning and projections by JCF/MNS
9. Poor ICT Governance
10. 10 Computer Aided Dispatch (CAD) Stations have been installed at 119 in Kingston for tracking vehicles in Area 4 and Area 5. This technology is not available elsewhere in the island, although there are plans for moving some of them from Kingston to Area 1 in St James soonest.
11. 119 receives about 23,000 – 33,000 calls per day (7.5m calls per year) 70% of which re prank calls
12. 163 Automatic Vehicle Locators (AVLs) have been installed to date with approximately 1,600 awaiting installation, reportedly due to lack of availability of vehicles which are working multiple shifts so unable to find the time for installation. Each AVL can be installed within 4-5 hours. Only 7 of the 163 vehicles had transponders turned on when visited on 4 May 2017.
13. All vehicles in Area 4 and approx. 50% (50 vehicles) in Area 5 are reportedly equipped with AVL tracking
14. Approximately 50% of JCF personnel are in front line duty “on the street” at any time
15. JCF payroll being operated by the MNS
16. JCF personnel not tracked while on duty
17. Stations have difficulty managing persons in police custody
18. Generic vehicle tracking software is available for 4G LTE networks, but these may not yet be sufficiently specialized for Police systems as is the Motorola P25 CAD system.

19. Motorola P25 system used by JCF allows voice and small amounts of data but not higher bandwidth requirements such as photo, video. The CAD system used is a proprietary Motorola system with special in-built features for Police Vehicle Tracking and Management. It can be made compatible with 4G LTE networks through Application Programme Interfaces (APIs) and continue in service with the CAD system until end of life after which they can the system can be upgraded.
20. Current JCF Telecoms network does not provide 4G LTE data distribution services across the country as is now required for law enforcement and public safety agencies for last mile data sharing with vehicle and foot patrols using smart phones
21. Insufficient JCF human and fleet resources to secure public spaces throughout the country.
22. Qualified human and technology systems capacity shortages.
23. Currently used technology and IT systems do not adequately address Fleet and Personnel Management needs
24. Inadequate salary structure for hi-tec areas within the JCF
25. Manual scheduling of personnel too difficult and needs automation

STRATEGIC PROJECT MANAGEMENT CAPACITY GAPS

•8

1. E-Gov's institutional arrangements as a quasi-government / semi-commercial entity is operated under a government ministry, without yet having developed the requisite commercial skills, technical or competitive capacity. it is felt that MNS dependence on E-Gov for project management or other leading project role would result in excessive time, cost and bureaucratic hold ups, none of which would be helpful to the urgency and effectiveness that the current crime situation demands. E-Gov programmers should however be included in training programmes for familiarization with Big Data Science where appropriate.
2. Bad actors and dishonest practices
3. System failure from inability to make timely payments on software license cause
4. JCF HR system failed due to software licensing issues and poor initial analysis of system needs by originally omitting auxiliaries (District Constables) and civilians in system sizing. JCF is hoping for assistance from the MNS with its HR system
5. Dysfunctional project management structure and organization for service to MNS agencies
6. JCF governance structure and organization not suitable for project management
7. No project management performance related incentives or sanctions within MNS
8. Overworked (and often compromised) individuals designated to multiple projects due to outdated MNS practice and policy of 'one man' project team.
9. All vehicles in Area 4 and approx. 50% (50 vehicles) in Area 5 are reportedly equipped with AVL tracking
10. Ad-hoc deployment of critical systems without adequate policies and protocols
11. Breaches of established processes and protocols within MNS Projects Unit
12. Designated project managers often monopolize most aspects of project development (concept, design, procurement and sometimes self-evaluation) without sufficient inputs from other agencies and individuals.
13. Functional disconnect between MNS projects team and agencies that they serve.
14. Gifts from donors (eg Body Worn Cameras) often treated with lower standards of due diligence and performance requirements.
15. High rate of failed or poorly performing projects diminish effectiveness of JCF operations.
16. Inconclusive or meaningless evaluation of pilot studies

17. Intended users often uninvolved in project development
18. JCF and other users not normally included in conceptual discussions and decisions
19. Large project expenditures without adequate policies and plans for effective use
20. Late delivery and cost over-runs on projects
21. Little evidence of ownership by JCF for projects and operational systems
22. Little knowledge or practice of contracting and procurement best practices and protocols within MNS Projects Team
23. Major project design and development failures (eg Traffic Ticketing System)
24. MNS Project Unit under performing
25. No clear procedures for handling unsolicited proposals
26. No comprehensive project plans developed for MNS projects
27. No M&E plans made available to user agencies for post project monitoring and evaluation of system standards and performance.
28. No mandatory project schedules for tracking progress;
29. No periodic evaluation of system performance
30. No protocols or regular practice of project commissioning and handover to users
31. No routine monitoring of standards and evaluation planning or execution
32. Pilot studies conducted without pre-determined plans for structured and objective assessment.
33. Poor choice of suppliers
34. Poor management of MNS Project Unit and Team
35. Poor management of projects
36. Poor MNS project team leadership
37. Poor or no project budgeting and projections
38. Poor project management practices
39. Poor systems analysis, design and application development
40. Poorly developed projects and implementation without Key Performance Indicators (KPIs) or outcome expectations for monitoring performance and success.
41. Potential 'security gaps' in locally developed software systems
42. Project Charter not developed at project conception to establish sponsorship, ownership, 'buy-in' and feasibility, before funding is sought or allocated
43. Project implementation typically conducted by individual project manager rather than project team including users.
44. Project management capacity deficiencies within JCF and MNS

45. Project management process bypassed to expedite cases of national urgency without follow up and reconciliation
46. Project Management Unit internally dysfunctional and isolated from overall MNS organization with major communication challenges concerning projects throughout the MNS.
47. Project managers often 'personalize' projects without being checked
48. Project monitoring and evaluation often seen by JCF as interference
49. Project plans based more on technical specifications and less on performance standards with indicators
50. Project plans either non-existent, unrealistic (time and cost) or ill-conceived
51. Project plans limited to project work plans
52. Project management process bypassed to expedite cases of national urgency without follow up and reconciliation
53. Projects conceptualized in MNS with little or no participation or ownership by user agencies until after procurement
54. Projects treated as isolated activities rather than interconnecting elements within 'holistic' systems development and management
55. Severe capacity and staff shortage in Project Management qualifications, experience, understanding and practices within MNS
56. Some key MNS agencies need more project development assistance from MNS than others, depending on their capacity and operating standards.
57. Sparse interest shown by JCF users for projects 'imposed' on them without adequate prior knowledge or consent
58. Staff designated to manage projects based on technical knowledge rather than on project management qualification and experience
59. Systems deployed without planned, periodic evaluations, result in steady deterioration until abandonment
60. Systems under-utilized due to incomplete implementation
61. Too costly to hire qualified project management trainers or to send staff of courses
62. Too many projects being attempted without adequate project management capacity and structure within MNS
63. Under planned, under budgeted or underfunded projects
64. Unproductive "petty" competition between project managers in various government ministries
65. Unstable and unsustainable project results and outcomes
66. Unstructured, non-transparent vendor assessment and selection conducted without approved protocols for objective selection with criteria.
67. Unsuccessful projects with diminished outcomes.

68. Untrained or incompetent project management staff within MNS
69. User agencies often have little knowledge of project conception or problem being solved;
70. Users often have limited knowledge of origin of project concept
71. MOJ project on video links to courts delayed as vendor was not delivering then finally disappeared without completion
72. Motorola P25 system used by JCF allows voice and small amounts of data but not higher bandwidth requirements such as photo, video. The CAD system used is a proprietary Motorola system with special in-built features for Police Vehicle Tracking and Management. It can be made compatible with 4G LTE networks through Application Programme Interfaces (APIs) and continue in service with the CAD system until end of life after which they can the system can be upgraded.
73. The "Data Integration" project should provide great opportunity to further capacitate the JCF's IT governance structure and resource base by consolidating "National Security" databases at the ICTD and upgrading its management and staff, with provision for more timely and eventual inclusion of other government databases required for 'comprehensive crime management'.
74. Difficult to find affordable, trained, qualified and experienced project managers within government staff salary scale
75. Inadequate salary structure for 'Hi-Tec' areas within the JCF
76. Staff attrition with qualified technical and project management personnel
77. Any police station with internet access could access CIMS when needed as it now has a web application
78. CIMS database of criminal activity with known and wanted persons now being expanded to include court warrants and crime mapping.
79. CIMS not so effective and still needs more work to deliver

INADEQUATE FINANCING FOR CAPITAL AND OPERATIONAL REQUIREMENTS

•9

1. Financial resource challenges for administrative and logistics management within JCF negatively impact technology solutions geared towards crime management.
2. Unpaid software licenses result in system breakdown and return to slow and unwieldy manual processes which cannot deliver required information flows for law enforcement and public safety.
3. Only about 50% of police stations island-wide are estimated to have internet access
4. Poor financial planning, projections and availability of capital and recurrent funding to support technology solutions.
5. MOJ project on video links to courts delayed as vendor was not delivering then finally disappeared without completion
6. Outdated and underperforming programmes for attracting public information in preventing and solving crimes require additional funding for new sourcing technologies.
7. Insufficient and inaccurate information from outdated or ineffective IT systems frustrate efforts to successfully manage crime.
8. The “Data Integration” project should provide great opportunity to further capacitate the JCF’s IT governance structure and resource base by consolidating “National Security” databases at the ICTD and upgrading its management and staff, with provision for more timely and eventual inclusion of other government databases required for ‘comprehensive crime management’.

INADEQUATE PROJECT MANAGEMENT STRUCTURES AND ORGANIZATION

•10

1. Difficult to find affordable trained, qualified and experienced project managers within government staff salary scale
2. High staff attrition with qualified personnel within the JCF
3. Inadequate 'salary' structure for "Hi-Tec" areas within the JCF
4. Severe management and technical capacity deficiencies in JCF ICTD with inappropriate staffing and project management structure
5. Key MNS agencies operate in silos and have varying levels of project management capacity, hence varying standards of operation and assistance requirements from MNS.
6. Detailed requirements specified in PWH study in 2015.
7. Inadequate JCF ICT Governance structure despite many studies and recommendations, continue to deny JCF of mission critical IT project management capacity.
8. JCF over-dependence on MNS for ICT project development and management result in operational gaps that diminish its effectiveness in crime management.
9. JCF payroll being operated by the MNS
10. JCF HR system failed due to software licensing issues and poor initial analysis of system needs by originally omitting auxiliaries (District Constables) and civilians in system sizing. JCF is hoping for assistance from the MNS with its HR system
11. 10 Computer Aided Dispatch (CAD) Stations have been installed at 119 in Kingston for tracking vehicles in Area 4 and Area 5. This technology is not available elsewhere in the island, although there are plans for moving some of them from Kingston to Area 1 in St James soonest.
12. 163 Automatic Vehicle Locators (AVLs) have been installed to date with approximately 1,600 awaiting installation, reportedly due to lack of availability of vehicles which are working multiple shifts so unable to find the time for installation. Each AVL can be installed within 4-5 hours. Only 7 of the 163 vehicles had transponders turned on when visited on 4 May 2017.
13. Data used more for analysis than as a management tool
14. Motorola P25 system used by JCF allows voice and small amounts of data but not higher bandwidth requirements such as photo, video. The CAD system used is a proprietary Motorola system with special in-built features for Police Vehicle Tracking and Management. It can be made compatible with 4G LTE networks through Application Programme Interfaces (APIs) and continue in service with the CAD system until end of life after which they can the system can be upgraded.

15. Only about 50% of police stations island-wide are estimated to have internet access
16. There is no 4G LTE communications capability in the JCF for directly sharing data with vehicle or foot patrols. Radios voice messages are exclusively used for voice communications.
17. The "Data Integration" project should provide great opportunity to further capacitate the JCF's IT governance structure and resource base by consolidating "National Security" databases at the ICTD and upgrading its management and staff, with provision for more timely and eventual inclusion of other government databases required for 'comprehensive crime management'.
18. Technology needed by JCF to provide data driven decision making
19. Information including data on all reported incidents, community members, etc is stored by JCF in hard cover registers, (Station Diary and others) but not easily available for crime prevention or investigation
20. CIMS not so effective and still needs more work to deliver
21. JCF fears having to revert to manual system if computers systems continue to fail hence a culture of status quo
22. Station Logs to be digitized to form directly connected E-Diary system that would require a communication architecture and technical support to each station.
23. E-Gov's institutional arrangements as a quasi-government / semi-commercial entity is operated under a government ministry, without yet having developed the requisite commercial skills, technical or competitive capacity. it is felt that MNS dependence on E-Gov for project management or other leading project role would result in excessive time, cost and bureaucratic hold ups, none of which would be helpful to the urgency and effectiveness that the current crime situation demands. E-Gov programmers should however be included in training programmes for familiarization with Big Data Science where appropriate.

LATE DELIVERY AND COST OVER RUNS OF PROJECTS

•11

1. Bad actors and dishonest practices
2. Financial resource challenges for administrative and logistics management within JCF negatively impact technology solutions geared towards crime management.
3. Untimely availability of funds and late payments to suppliers often escalate prices and costs.
4. Project delays from Bureaucratic and legislative processes
5. Accurate information is difficult to access from the JCF for project planning
6. Only about 50% of police stations island-wide are estimated to have internet access
7. Inaccurate project budgeting and projections
8. No mandatory project schedules for tracking progress
9. Overpayment for goods and services
10. Poor procurement practices
11. Project budgeting not adequately coordinated with staff resources and information analysis in Finance Planning Units
12. MOJ project on video links to courts delayed as vendor was not delivering then finally disappeared without completion
13. The "Data Integration" project should provide great opportunity to further capacitate the JCF's IT governance structure and resource base by consolidating "National Security" databases at the ICTD and upgrading its management and staff, with provision for more timely and eventual inclusion of other government databases required for 'comprehensive crime management'.
14. Culture of 'Silos' driven by individuals not knowing what data can be shared, as there is no established classification authority or guidance provided throughout the government and security agencies, so each person decides what classification level to apply to each piece of data.
15. JCF only willing to share summary data with media, academic and other institutions, which all need more detailed data for various forms of analysis.
16. JCF shares data with external organizations based on 'letters of request' which introduces further delays and frustrations for investigators, media, analysts and others who need quick and accurate crime data.
17. High staff attrition with qualified and experienced project finance personnel

18. Project finance and budgeting staff capacity shortages within JCF and MNS project teams
19. Delays in producing reports are further extended since data changes daily as investigations take place and more information is gathered.
20. Difficult to get data for analytical purpose from JCF due to red tape, ad-hoc data classification as to who gets what, silos, data in manual format, varying protocols, etc
21. Information including data on all reported incidents, community members, etc is stored by JCF in hard cover registers, (Station Diary and others) but not easily available for crime prevention or investigation
22. Production of statistics is mostly done manually with spreadsheets hence time consuming and some accuracy lost from information sources.
23. Requests for data from external organizations have to be summarized by JCF STATS which is manually prepared and time consuming therefore usually delayed and insufficient. JCF will not give details to the public for "security reasons".
24. STATS and investigators cannot adequately analyze data and retrieve information with sufficient granularity and accuracy for effective analysis or to close many cases or for project analysis

APPROPRIATE LEGISLATION AND POLICIES FOR MAINSTREAMING ANTI-CRIME MEASURES

•12

1. JCF investigators and DPP attorneys not able to get convictions with evidence from new technologies.
2. Insufficient legal deterrence to criminal activity (eg Death penalty nor any other major deterrence to murderers enforced)
3. JCF investigators, DPP attorneys and judges do not yet sufficiently understand or admit some new technologies in court which demotivates police prosecutors from use of these forms of evidence.
4. Outdated legislation and “burden of proof” in courts do not yet sufficiently understand or recognize new technological forms of evidence.
5. Penalties in the **Cyber Crimes Act** far too soft on cyber crimes (eg multiple offender cyber criminals known by the police moving around freely in Jamaica and able to continue to commit such crimes at will).
6. Privacy issues under the **Constitutional Citizens Charter of Rights and Data Protection Act** (still in draft stage) relating to protection and sharing of private data restricts conditions under which citizens' private data can be captured or shared and will have significant impact on law enforcement and intelligence gathering.
7. **Customs Act** amendment to mandate use of APIS.
8. Legislation does not allow fingerprinting for persons unless charged with a crime, which hinders data capture for fingerprint database.
9. Relevant Legislation for technology applications either already enacted, in draft stage or already gazzeted.
10. Restrictions imposed by the various legislations would need some modification or special clauses for national security concerns. (eg Use of information from electoral database, machine printed receipts for traffic ticket payments not accepted by Courts, non-determinant, non-standard adjudication by some judges on suspension of drivers licenses, payment for traffic tickets only accepted at Traffic Court in and only for Kingston offences)
11. The **DNA Act** has now been passed and Regulations are already gazzetted and now being used in Forensic cases an projects
12. The **Evidence Act** is the most outdate of all pieces of legislation affecting law enforcement and is of even more dated and important since the introduction of new technologies to be used in court to prosecute accused persons. Some evidence is already being rejected in the courts (eg acceptance of CCTV and other video evidence without witness by the person taking the footage), and other instances related to the TTMS which has so far failed partially as a result of this gap.

13. The **National Identification and Registrations (NIDS) Act** will be used as the official unique identifier for every Jamaican and will necessitate update to all systems when eventually passed.
14. The **Road Traffic Act** is still in draft form and indefinitely holding up TTMS upgrade. It is unclear of the changes that will be made to TTMS resulting from the Act, but passage is awaited to trigger this upgrade, while millions of dollars will be lost in revenues until this is done.
15. Under special provision of the **Evidence Act**, a Station Supt can give permission for individuals to be identified by use their fingerprint under special conditions. Such finger prints must however be immediately destroyed after identification.
16. Evidence Act has recently been amended to include video footage but issues still remain in solving the problem of witnesses being fearful of testifying.
17. The system still depends too much on human witnesses who can have many different agenda for testifying which add layers of complication to the search for justice.
18. Data used more for analysis than as a management tool
19. People and processes, eg JCF internal policies, protocols, regulations, staff capacity, etc must be reviewed and addressed along with technology to improve the JCF systems
20. The "Cleared up Rate" measure of investigative performance is calculated by JCF as ratio of charges filed vs incidents reported within any one month period and not on convictions, hence police functions are seen by the JCF as ending when charges are filed. This explains the backlog in the courts, as relatively little resources are then put into investigations for convictions.
21. The average "Cleared up Rate" across all 19 JCF Divisions is currently at 61%, but this does not give a complete and accurate picture of JCF investigative performance.
22. Generic vehicle tracking software is available for 4G LTE networks, but these may not yet be sufficiently specialized for Police systems as is the Motorola P25 CAD system.
23. A "Drones" Policy" affecting commercial, hobby and state use is currently in draft stage at the MNS. It will not however affect use of drones by the JCF.
24. The "Data Integration" project should provide great opportunity to further capacitate the JCF's IT governance structure and resource base by consolidating "National Security" databases at the ICTD and upgrading its management and staff, with provision for more timely and eventual inclusion of other government databases required for 'comprehensive crime management'.
25. Technology needed by JCF to provide data driven decision making
26. Culture of 'Silos' driven by individuals not knowing what data can be shared, as there is no established classification authority or guidance provided throughout the government and security agencies, so each person decides what classification level to apply to each piece of data.
27. Hospital, schools and many other databases are not routinely or readily available to the JCF for investigations
28. JCF gives data to external organizations based on 'letters of request' which introduces further delays and frustrations for investigators, media, analysts and others who need quick and accurate crime data.

29. JCF have a huge amount of data which is not shared or used as effectively as possible, as such data is generally considered too sensitive to be shared with the public
30. JCF willing to share summary data with media, academic and other institutions, which all need more detailed data for various forms of analysis.
31. MOU between PICA and NIB allows a PICA officer to be physically located at NIB with a terminal connected to the PICA database who assists NIB investigations with PICA related information searches. While this works in some slow moving cases, such MOUs represent slow, manual versions of 'automated data sharing' that may not be adequate in many other concurrent caseloads.
32. No data classification authority or protocols for sharing in Jamaica so each person decides on classification and whether or not and with who to share data.
33. No unique number to accurately and reliably identify each citizen
34. Video from ABM machines not connected or routinely available to JCF Facial Recognition software or databases.
35. Motorola P25 system used by JCF allows voice and small amounts of data but not higher bandwidth requirements such as photo, video. The CAD system used is a proprietary Motorola system with special in-built features for Police Vehicle Tracking and Management. It can be made compatible with 4G LTE networks through Application Programme Interfaces (APIs) and continue in service with the CAD system until end of life after which they can the system can be upgraded.
36. Difficult to get data for analytical purpose from JCF due to red tape, ad-hoc data classification as to who gets what, silos, data in manual format, varying protocols, etc
37. Individuals typically identified by full name, date and parish of birth, mothers' and fathers' name, etc
38. No information is captured on remandees hence DCS does not know anything about them or what to do with them before conviction
39. Requests for data from external organizations have to be summarized by JCF STATS which is manually prepared and time consuming therefore usually delayed and insufficient. JCF will not give details to the public for "security reasons".
40. The Electoral system is the only database with citizens correct addresses, but is prevented from use by prior agreements when it was being constructed..
41. Too much 'cash' used in Jamaica which reduces paper trails useful for investigations
42. Methodologies exist that provide guidance as to what, when, where, who, etc to share data with in police systems.

EFFECTIVE ENFORCEMENT OF EXISTING LEGISLATION AND REGULATION

•13

1. Capacity shortages within the JCF
2. JCF investigators not motivated to take cases to Court
3. Approximately 11,000 JCF personnel and 178 Police “Points of Presence” around the country at various service levels
4. People and processes, eg JCF internal policies, protocols, regulations, staff capacity, etc must be reviewed and addressed along with technology to improve the JCF systems
5. Courts modernization programme not sufficiently advanced
6. Courts overwhelmed with outstanding cases
7. Difficulty gaining convictions in court for various reasons including legal and functional capacity deficiencies in prosecutions (JCF and DPP) and disproportionately high evidence bar for convictions
8. Difficulty getting some technological evidence accepted by courts (eg Machine printed receipts for traffic ticket, etc)
9. JCF investigators and courts overwhelmed by volume of criminal activity, resource shortages and backlogged cases
10. Payment for Traffic Tickets only accepted at Traffic Court in and only for Kingston offences reduces collection of revenue and denies just punishment for offenders.
11. Bad actors and dishonest practices
12. Enforcement of existing legislations proven insufficient deterrence to criminal activity
13. Legislation does not allow fingerprinting for persons unless charged with a crime, which hinders data capture for fingerprint database.
14. Under special provision of the Evidence Act, a Station Supt can give permission for individuals to be identified by use their fingerprint under special conditions. Such finger prints must however be immediately destroyed after identification.
15. Evidence Act has recently been amended to include video footage but issues still remain in solving the problem of witnesses being fearful of testifying.
16. The “Cleared up Rate” measure of investigative performance is calculated by JCF as ratio of charges filed vs incidents reported within any one month period and not on convictions, hence police functions are seen by the JCF as ending when charges are filed. This explains the backlog in the courts, as relatively little resources are then put into investigations for convictions.

17. The average "Cleared up Rate" across all 19 JCF Divisions is currently at 61%, but this does not give a complete and accurate picture of JCF investigative performance.
18. Major criminal activity such as murder or wounding is sent daily by email or radio voice messages from stations around the country to Divisional HQs. All stations have radio communications via the microwave radio system but not all stations have landlines.
19. Most police stations have internet connection, but many do not work from time to time and other stations are in areas without service. Internet connections are not secure.
20. Only about 50% of police stations island-wide are estimated to have internet access
21. There is no 4G LTE communications capability in the JCF for directly sharing data with vehicle or foot patrols. Radios voice messages are exclusively used for voice communications.
22. Poorly developed and implemented IT and technology systems with inadequate policies, advocacy and training including all stakeholders)
23. MOJ project on video links to courts delayed as vendor was not delivering then finally disappeared without completion
24. The "Data Integration" project should provide great opportunity to further capacitate the JCF's IT governance structure and resource base by consolidating "National Security" databases at the ICTD and upgrading its management and staff, with provision for more timely and eventual inclusion of other government databases required for 'comprehensive crime management'.
25. Inadequate coastal surveillance (no cameras or radar) to be integrated into national monitoring centres.
26. Technology needed by JCF to provide data driven decision making
27. Inaccurate, insufficient and untimely information from outdated or ineffective IT systems frustrate efforts to successfully prosecute criminals and manage crime.
28. Known multiple offender criminals moving around freely in Jamaica and able to continue to commit crimes at will
29. The Electoral system is the only database with citizens correct addresses, but is prevented from shared use by prior agreements when it was being constructed.
30. Culture of 'Silos' driven by individuals not knowing what data can be shared, as there is no established classification authority or guidance provided throughout the government and security agencies, so each person decides what classification level to apply to each piece of data.
31. Effective policing cannot be done without accurate, complete useful data
32. Hospital, schools and many other databases are not routinely or readily available to the JCF for investigations
33. Hospitals have huge amount of data on violent crimes that are not shared with other institutions, but currently some (KPH) have no server and have resorted to manual system and fear they will lose more than 10 years of data captured

34. JCF gives data to external organizations based on 'letters of request' which introduces further delays and frustrations for investigators, media, analysts and others who need quick and accurate crime data.
35. JCF have a huge amount of data which is not shared or used as effectively as possible, as such data is generally considered too sensitive to be shared with the public
36. JCF willing to share only summary data with media, academic and other institutions, which all need more detailed data for various forms of analysis.
37. MOU between PICA and NIB allows a PICA officer to be physically located at NIB with a terminal connected to the PICA database who assists NIB investigations with PICA related information searches. While this works in some slow moving cases, such MOUs represent slow, manual versions of 'automated data sharing' that may not be adequate in many other concurrent caseloads.
38. No data classification authority or protocols for sharing in Jamaica so each person decides on classification and whether or not and with who to share data.
39. No unique number to accurately and reliably identify each citizen
40. Unshared data is useless having
41. Video footage more useful for intelligence than for investigations
42. Video from ABM machines not connected or routinely available to JCF Facial Recognition software or databases.
43. "Manually" operated Case Management System in JCF
44. Consistent and unacceptably high crime rates over past decades largely due to ineffective enforcement of existing laws (eg Death penalty nor any other adequate deterrence enforced for murderers)
45. CIMS not so effective and still needs more work to deliver
46. Delays in producing reports are further extended since data changes daily as investigations take place and more information is gathered.
47. Difficult for police to capture and store spatial data
48. Difficult to get data for analytical purpose from JCF due to red tape, ad-hoc data classification as to who gets what, silos, data in manual format, varying protocols, etc
49. Each police station has some 20 different Registers (hard cover books different purposes, (eg. Station Diary, Persons in Lockup, local an business persons, businesses, women / youth who need protection, other categories, etc)
50. Individuals typically identified by full name, date and parish of birth, mothers' and fathers' name, etc
51. Information capture at source in appropriate formats is the most important priority for any improvement in JCF data processing.

52. Information including data on all reported incidents, community members, etc is stored by JCF in hard cover registers, (Station Diary and others) but not easily available for crime prevention or investigation
53. JCF fears having to revert to manual system if computers systems continue to fail
54. Manual scheduling of personnel too difficult and needs automation
55. Many small files with data stored on station computers about various topics
56. Much of data within JCF is stored in manual hard cover books
57. No information is captured on remandees hence DCS does not know anything about them or what to do with them before conviction
58. Police stations have too many 'disconnected' data files and 'un-digitized' information in manual 'hard copies' hence difficult and time consuming to store, categorize, retrieve, share or use for management decision making or investigations. Delays in responding to queries are exaggerated by manpower shortages are often misconstrued as police obstruction or corruption.
59. Police Statistics (STATS) and investigators get data from various sources including Division HQs, Police Emergency Centre, various registers (books) at police stations, all with many gaps and inefficiencies and inaccuracies and incompleteness.
60. Production of statistics is mostly done manually with spreadsheets hence time consuming and some accuracy lost from information sources.
61. Requests for data from external organizations have to be summarized by JCF STATS which is manually prepared and time consuming therefore usually delayed and insufficient. JCF will not give details to the public for "security reasons".
62. Station Logs to be digitized to form directly connected E-Diary system that would require a communication architecture and technical support to each station.
63. STATS and investigators cannot adequately analyze data and retrieve information with sufficient granularity and accuracy for effective analysis or to close many cases.
64. The system still depends too much on human witnesses who can have many different agenda for testifying which add layers of complication to the search for justice.
65. There are multiple sources of daily reports at police stations, but no standard formats or classifications for data being captured or reported
66. Too much 'cash' used in Jamaica which reduces paper trails useful for investigations

RELEVANT MANAGEMENT PLANS FOR KEY AGENCIES

•14

1. Poor management, monitoring and lack of accountability within key MNS agencies
2. Management mainly situational and response oriented with little attention paid to crime **Prediction, Prevention and Mitigation**
3. Inadequate management plans or execution relevant to deployment of technology solutions include **Personnel Management, Facilities Management, Equipment, Fleet and Personnel Management, Administrative, Logistics and Resource Management, Finance Management, Case Management, Projects Management and ICT Management**
4. **Finance Management plans** to address:
 - a. Funding and Financing for implementing capital projects and recurring expenditures for operations
 - b. Monetary benefits from “proceeds of crime”
5. **Case Management plans** to address:
 - a. Crime fighting often personalized around “special individuals” rather than by well-established case management procedures and good intelligence and evidence provided and managed by technologies and human sources
 - b. Consistent and unacceptably high crime rates over past decades related to management and capacity deficiencies within JCF and other key agencies
 - c. Outdated and overwhelmed manual systems used for some key management functions. (Eg Station Diary);
 - d. Overprotective, over-secretive, ‘silo’ approach by agencies
6. **Administrative and Personnel Management plans** to address:
 - a. Administrative Management challenges within JCF and DCS
 - b. Outdated and overwhelmed administrative management, methods and absence of suitable technology solutions
 - c. High staff attrition with technically qualified personnel
 - d. Inadequate salary structure for technical areas within the JCF
 - e. Ineffective personnel scheduling and monitoring technologies along with clear administrative procedures
 - f. JCF personnel not fully motivated to use information systems effectively

- g. No credible system to flag abnormal practices
- h. No incentives or sanctions
- i. No routine standards monitoring, evaluations
- j. No SOPs or technical job performance standards used for evaluations
- k. Poor supervision and accountability throughout the JCF
- l. Poorly trained operations personnel

7. ICT Management plans to address:

- a. Inadequate ICT Governance and planning within JCF despite many studies and recommendations.
- b. Large number of fragmented databases and mini- IT systems developing throughout the JCF with varying levels of proficiency and security profiles and management control or connectivity from ICTD
- c. Severe management and technical capacity deficiencies in JCF ICTD. Detailed requirements specified in PWH study in 2015.
- d. Poor IT Governance structure and management in JCF
- e. Poorly performing ICT systems
- f. Systems without adequate security features can easily be sabotaged by users

8. Projects Management plans to address:

- a. Large project expenditures without adequate policies and plans for effective use
- b. Poor project financial budgeting, planning and projections by JCF/DCS/MNS
- c. Ownership not taken by JCF / DCS for projects and systems
- d. Project plans focused more on technical specifications and less on project management principles, performance and outcomes with indicators
- e. Projects and systems neglected in some key agencies (eg cell phone jammers and radio communications in DCS)

9. Facilities Management plans to address:

- a. Access and security of key JCF and DCS buildings and facilities

10. Logistics and Resource Management (including Equipment and Fleet Management) plans to address:

- a. Management and resource challenges primarily within JCF and DCS
- b. Vehicle operating, replacement, maintenance costs and efficiencies, Vehicle Tracking, Fueling, etc
- c. IT and ICT equipment procurement, tracking, replacement costs and efficiencies, etc
- d. Other equipment procurement, tracking, replacement costs and efficiencies, etc

11. Inadequate and/or incorrect attention given to management capacity challenges within key MNS agencies, with too much dependence on a few individuals at the top, rather than a systemic, results based force-wide management approach.
12. Approximately 11,000 JCF personnel and 178 Police "Points of Presence" around the country at various service levels
13. JCF HR system failed due to software licensing issues and poor initial analysis of system needs by originally omitting auxiliaries (District Constables) and civilians in system sizing. JCF is hoping for assistance from the MNS with its HR system
14. Under special provision of the Evidence Act, a Station Supt can give permission for individuals to be identified by use their fingerprint under special conditions. Such finger prints must however be immediately destroyed after identification.
15. Evidence Act has recently been amended to include video footage but issues still remain in solving the problem of witnesses being fearful of testifying.
16. 10 Computer Aided Dispatch (CAD) Stations have been installed at 119 in Kingston for tracking vehicles in Area 4 and Area 5. This technology is not available elsewhere in the island, although there are plans for moving some of them from Kingston to Area 1 in St James soonest.
17. 163 Automatic Vehicle Locators (AVLs) have been installed to date with approximately 1,600 awaiting installation, reportedly due to lack of availability of vehicles which are working multiple shifts so unable to find the time for installation. Each AVL can be installed within 4-5 hours. Only 7 of the 163 vehicles had transponders turned on when visited on 4 May 2017.
18. All vehicles in Area 4 and approx. 50% (50 vehicles) in Area 5 are reportedly equipped with AVL tracking
19. Approximately 50% of JCF personnel are in front line duty "on the street" at any time
20. Data used more for analysis than as a management tool
21. JCF payroll being operated by the MNS
22. People and processes, eg JCF internal policies, protocols, regulations, staff capacity, etc must be reviewed and addressed along with technology to improve the JCF systems
23. Stations have difficulty managing persons in police custody
24. The "Cleared up Rate" measure of investigative performance is calculated by JCF as ratio of **charges filed vs incidents reported** within any one month period and not on **convictions**, hence police functions are seen by the JCF as ending when charges are filed. This explains the backlog in the courts, as relatively little resources are then put into investigations for convictions.
25. The average "Cleared up Rate" across all 19 JCF Divisions is currently at 61%, but this does not give a complete and accurate picture of JCF investigative performance.
26. Generic vehicle tracking software is available for 4G LTE networks, but these may not yet be sufficiently specialized for Police systems as is the Motorola P25 CAD system.
27. Major criminal activity such as murder or wounding is sent daily by email or radio voice messages from stations around the country to Divisional HQs. All stations have radio communications via the microwave radio system but not all stations have landlines.

28. Most police stations have internet connection, but many do not work from time to time and other stations are in areas without service. Internet connections are not secure.
29. Only about 50% of police stations island-wide are estimated to have internet access
30. There is no 4G LTE communications capability in the JCF for directly sharing data with vehicle or foot patrols. Radios voice messages are exclusively used for voice communications.
31. Motorola P25 system used by JCF allows voice and small amounts of data but not higher bandwidth requirements such as photo, video. The CAD system used is a proprietary Motorola system with special in-built features for Police Vehicle Tracking and Management. It can be made compatible with 4G LTE networks through Application Programme Interfaces (APIs) and continue in service with the CAD system until end of life after which they can the system can be upgraded.
32. The "Data Integration" project should provide great opportunity to further capacitate the JCF's IT governance structure and resource base by consolidating "National Security" databases at the ICTD and upgrading its management and staff, with provision for more timely and eventual inclusion of other government databases required for 'comprehensive crime management'.
33. Public perception of crime wrong or misconstrued
34. Technology needed by JCF to provide data driven decision making
35. Culture of 'Silos' driven by individuals not knowing what data can be shared, as there is no established classification authority or guidance provided throughout the government and security agencies, so each person decides what classification level to apply to each piece of data.
36. Effective policing cannot be done without accurate, complete useful data
37. Hospital, schools and many other databases are not routinely or readily available to the JCF for investigations
38. JCF gives data to external organizations based on 'letters of request' which introduces further delays and frustrations for investigators, media, analysts and others who need quick and accurate crime data.
39. JCF have a huge amount of data which is not shared or used as effectively as possible, as such data is generally considered too sensitive to be shared with the public
40. JCF willing to share summary data with media, academic and other institutions, which all need more detailed data for various forms of analysis.
41. MNS Crime Observatory collects and stores a wide range of valuable data including from non-MNS sources that is not routinely shared with JCF for investigations
42. MOU between PICA and NIB allows a PICA officer to be physically located at NIB with a terminal connected to the PICA database who assists NIB investigations with PICA related information searches. While this works in some slow moving cases, such MOUs represent slow, manual versions of 'automated data sharing' that may not be adequate in many other concurrent caseloads.
43. No data classification authority or protocols for sharing in Jamaica so each person decides on classification and whether or not and with who to share data.

44. No unique number to accurately and reliably identify each citizen
45. There is a huge and 'disruptive' information gap between the MOJ, Courts and National Security coordination and systems resulting in case backlog and consequent escalation of crime, that must be urgently addressed.
46. Unshared data is useless having
47. Video footage more useful for intelligence than for investigations
48. Video from ABM machines not connected or routinely available to JCF Facial Recognition software or databases.
49. Information including data on all reported incidents, community members, etc is stored by JCF in hard cover registers, (Station Diary and others) but not easily available for crime prevention or investigation
50. Any police station with internet access could access CIMS when needed as it now has a web application
51. CIMS database of criminal activity with known and wanted persons now being expanded to include court warrants and crime mapping.
52. CIMS not so effective and still needs more work to deliver
53. Delays in producing reports are further extended since data changes daily as investigations take place and more information is gathered.
54. Difficult for police to capture and store spatial data
55. Difficult to get data for analytical purpose from JCF due to red tape, ad-hoc data classification as to who gets what, silos, data in manual format, varying protocols, etc
56. Each police station has some 20 different Registers (hard cover books different purposes, (eg. Station Diary, Persons in Lockup, local and business persons, businesses, women / youth who need protection, other categories, etc)
57. Individuals typically identified by full name, date and parish of birth, mothers' and fathers' name, etc
58. Information capture at source in appropriate formats is the most important priority for any improvement in JCF data processing.
59. Manual scheduling of personnel too difficult and needs automation
60. Many small files with data stored on station computers about various topics
61. Mona Informatics have a number of databases with invaluable geo data not being used by the JCF
62. Much of data within JCF is stored in manual hard cover books
63. No information is captured on remandees hence DCS does not know anything about them or what to do with them before conviction
64. Police stations have too many 'disconnected' data files and 'un-digitized' information in manual 'hard copies' hence difficult and time consuming to store, categorize, retrieve, share or use for

management decision making or investigations. Delays in responding to queries are exaggerated by manpower shortages are often misconstrued as police obstruction or corruption.

65. Police Statistics (STATS) and investigators get data from various sources including Division HQs, Police Emergency Centre, various registers (books) at police stations, all with many gaps and inefficiencies and inaccuracies and incompleteness.
66. Production of statistics is mostly done manually with spreadsheets hence time consuming and some accuracy lost from information sources.
67. Requests for data from external organizations have to be summarized by JCF STATS which is manually prepared and time consuming therefore usually delayed and insufficient. JCF will not give details to the public for "security reasons".
68. Station Logs to be digitized to form directly connected E-Diary system that would require a communication architecture and technical support to each station.
69. STATS and investigators cannot adequately analyze data and retrieve information with sufficient granularity and accuracy for effective analysis or to close many cases.
70. The Electoral system is the only database with citizens correct addresses, but is prevented from use by prior agreements when it was being constructed..
71. The system still depends too much on human witnesses who can have many different agenda for testifying which add layers of complication to the search for justice.
72. There are multiple sources of daily reports at police stations, but no standard formats or classifications for data being captured or reported
73. Too much 'cash' used in Jamaica which reduces paper trails useful for investigations
74. 119 receives about 23,000 – 33,000 calls per day (7.5m calls per year) 70% of which are prank calls
75. "Precision policing" is the latest form of data driven policing
76. Data driven policing will bring down crime but not in a sustainable way. Only prevention policies are sustainable which cannot happen without prosecutors and the courts.
77. Methodologies exist that provide guidance as to what, when, where, who, etc to share data with in police systems before spending money on systems
78. NIDS database to be added to the data warehouse when available
79. There are not many murderers in Jamaica but rather a high rate of multiple murderers
80. There are very few murderers in prisons, with the majority of inmates being thieves.

**COLLABORATIVE MECHANISMS AMONG AND
BETWEEN STATE AGENCIES AND STAKEHOLDERS
FOR JOINT MANAGEMENT AND
IMPLEMENTATION OF ANTI-CRIME MEASURES**

•15

1. Capacity and resource shortages within the JCF intelligence services
2. Further capacitate the JCF's IT governance structure and resource base by immediately hosting all "National Security related" databases at the ICTD and upgrading its management and staff, with provision for more timely and eventual inclusion of other government databases hosted at E-Gov, which could provide specific component services on a competitive basis.
3. Evidence Act has recently been amended to include video footage but issues still remain in solving the problem of witnesses being fearful of testifying.
4. The "Cleared up Rate" measure of investigative performance is calculated by JCF as ratio of charges filed vs incidents reported within any one month period and not on convictions, hence police functions are seen by the JCF as ending when charges are filed. This explains the backlog in the courts, as relatively little resources are then put into investigations for convictions.
5. The average "Cleared up Rate" across all 19 JCF Divisions is currently at 61%, but this does not give a complete and accurate picture of JCF investigative performance.
6. JCF has limited broadband capacity around the country, while other microwave and fibre facilities are freely available from other government agencies and not being used.
7. Inadequate communication and collaboration between MNS Projects Team, users and other government agencies (eg NWA) with valuable and needed resources to be addressed.
8. MOJ project on video links to courts delayed as vendor was not delivering then finally disappeared without completion
9. Insufficient assistance from the public in preventing and solving crimes.
10. Public perception of crime wrong or misconstrued
11. Current JCF Telecoms network does not provide 4G LTE data distribution services across the country as is now required for law enforcement and public safety agencies for last mile data sharing with vehicle and foot patrols using smart phones
12. Inadequate coastal surveillance (no cameras or radar) to be integrated into national monitoring centres.
13. Disjointed government resources (eg Telecoms network, multiplicity of disconnected databases and other data sources) existing in silos result in slow information sharing, incomplete individual profiles and unnecessary replication of expenditure

14. Informal and personalized system for sharing fragmented classified information between law enforcement agencies often result in slow and uncertain access to information critical to investigations and prosecution.
15. Information availability largely depends on personal relationships
16. Law enforcement intelligence remains fragmented and reactive with little to no predictive capacity
17. MOUs used between some Law Enforcement agencies to assist with information sharing
18. Overprotective, over-secretive, 'silo' approach by agencies
19. Culture of 'Silos' driven by individuals not knowing what data can be shared, as there is no established classification authority or guidance provided throughout the government and security agencies, so each person decides what classification level to apply to each piece of data.
20. Hospital, schools and many other databases are not routinely or readily available to the JCF for investigations
21. JCF gives data to external organizations based on 'letters of request' which introduces further delays and frustrations for investigators, media, analysts and others who need quick and accurate crime data.
22. JCF have a huge amount of data which is not shared or used as effectively as possible, as such data is generally considered too sensitive to be shared with the public
23. MNS Crime Observatory collects and stores a wide range of valuable data including from non-MNS sources that is not routinely shared with JCF for investigations
24. MOU between PICA and NIB allows a PICA officer to be physically located at NIB with a terminal connected to the PICA database who assists NIB investigations with PICA related information searches. While this works in some slow moving cases, such MOUs represent slow, manual versions of 'automated data sharing' that may not be adequate in many other concurrent caseloads.
25. No data classification authority or protocols for sharing in Jamaica so each person decides on classification and whether or not and with who to share data.
26. There is a huge and 'disruptive' information gap between the MOJ, Courts and National Security coordination and systems resulting in case backlog and consequent escalation of crime, that must be urgently addressed.
27. Video footage more useful for intelligence than for investigations
28. Video from ABM machines not connected or routinely available to JCF Facial Recognition software or databases.
29. Consistent and unacceptably high crime rates over past decades partly resulting from fragmentation and slow collaboration and information sharing.
30. CIMS database of criminal activity with known and wanted persons now being expanded to include court warrants and crime mapping.
31. Delays in producing reports are further extended since data changes daily as investigations take place and more information is gathered.

32. Difficult to get data for analytical purpose from JCF due to red tape, ad-hoc data classification as to who gets what, silos, data in manual format, varying protocols, etc
33. Mona Informatics have a number of databases with invaluable geo data not being used by the JCF
34. NIDS database to be added to the data warehouse when available
35. No information is captured on remandees hence DCS does not know anything about them or what to do with them before conviction
36. Police Statistics (STATS) and investigators get data from various sources including Division HQs, Police Emergency Centre, various registers (books) at police stations, all with many gaps and inefficiencies and inaccuracies and incompleteness.
37. Requests for data from external organizations have to be summarized by JCF STATS which is manually prepared and time consuming therefore usually delayed and insufficient. JCF will not give details to the public for "security reasons".
38. The Electoral system is the only database with citizens correct addresses, but is prevented from use by prior agreements when it was being constructed.
39. The system still depends too much on human witnesses who can have many different agenda for testifying which add layers of complication to the search for justice.
40. There are multiple sources of daily reports at police stations, but no standard formats or classifications for data being captured or reported
41. Too much 'cash' used in Jamaica which reduces paper trails useful for investigations

FUNDING MECHANISMS AND PROGRAMMES.

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1. There is no guaranteed programme support for payments of annual software license fees, which represent a huge challenge in the purchase of proprietary software, as if not paid results in system lockout and breakdown. This possibility cannot be accepted particularly for mission and safety critical systems.
2. IDB, UK Invest, GOJ Budgeting, Vendor funding (Digicel, IBM, Aralia, etc),
3. IDB Assisted with Cyber Security Legislation and Policy
4. Outdated and underperforming programmes for attracting public information in preventing and solving crimes require additional funding for additional information sourcing technologies.
5. Administrative, Logistics and Resource management remain challenges to be addressed key MNS agencies
6. Capital funding for law enforcement projects is well supported outside MNS budgets (eg Surveillance cameras in tourist areas from the TEF and computers for police stations from the USF), but more tangible results need to be showed to justify continuing support.
7. High capacity fiber network largely built to date at almost zero cost by ad-hoc agency and individual staff initiatives. This now needs funding support for completion to facilitate transformation in law enforcement and public safety through low-cost, all island camera surveillance and communications.
8. Insufficient JCF manpower and fleet resources to physically secure all public spaces throughout the country that need regular police presence.
9. Unacceptably high crime rates over past decades partially linked to lack of timely and consistent funding sources for critical equipment, resources and training for law enforcement and public safety agencies.
10. FLOW and Digicel assisting with JCF and DCS communications and technologies
11. Leasing of vehicles

**LEGISLATION, REGULATIONS,
POLICIES, PLANS, PROGRAMMES,
AVAILABILITY OF APPROPRIATE
LICENCES AND AUTHORISATIONS**

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1. People and processes, eg JCF internal policies, protocols, regulations, staff capacity, etc must be reviewed and addressed along with technology to improve the JCF systems
2. Machine printed payments for traffic ticket receipts not accepted by Courts undermining verification of payment for traffic tickets
3. Payment for traffic tickets only accepted at Traffic Court in and only for Kingston offences reduces revenue collection and undermines traffic ticketing system.
4. No Cyber Security risk mitigation counter measures
5. JCF HR system failed due to software licensing issues and poor initial analysis of system needs by originally omitting auxiliaries (District Constables) and civilians in system sizing. JCF is hoping for assistance from the MNS with its HR system
6. Under special provision of the Evidence Act, a Station Supt can give permission for individuals to be identified by use their fingerprint under special conditions. Such finger prints must however be immediately destroyed after identification.
7. Evidence Act has recently been amended to include video footage but issues still remain in solving the problem of witnesses being fearful of testifying.
8. 10 Computer Aided Dispatch (CAD) Stations have been installed at 119 in Kingston for tracking vehicles in Area 4 and Area 5. This technology is not available elsewhere in the island, although there are plans for moving some of them from Kingston to Area 1 in St James soonest.
9. 163 Automatic Vehicle Locators (AVLs) have been installed to date with approximately 1,600 awaiting installation, reportedly due to lack of availability of vehicles which are working multiple shifts so unable to find the time for installation. Each AVL can be installed within 4-5 hours. Only 7 of the 163 vehicles had transponders turned on when visited on 4 May 2017.
10. All stations have radio communications via the microwave radio system but not all stations have landlines.
11. All vehicles in Area 4 and approx. 50% (50 vehicles) in Area 5 are reportedly equipped with AVL tracking
12. Data used more for analysis than as a management tool
13. JCF payroll being operated by the MNS
14. Stations have difficulty managing persons in police custody

15. The "Cleared up Rate" measure of investigative performance is calculated by JCF as ratio of charges filed vs incidents reported within any one month period and not on convictions, hence police functions are seen by the JCF as ending when charges are filed. This explains the backlog in the courts, as relatively little resources are then put into investigations for convictions.
16. The average "Cleared up Rate" across all 19 JCF Divisions is currently at 61%, but this does not give a complete and accurate picture of JCF investigative performance.
17. Replicated, disjointed government ICT networks (silos) each without adequate capacity to effectively provide services for new technological applications while unnecessarily multiplying GOJ expenses.
18. Generic vehicle tracking software is available for 4G LTE networks, but these may not yet be sufficiently specialized for Police systems as is the Motorola P25 CAD system.
19. Most police stations have internet connection, but many do not work from time to time and other stations are in areas without service. Internet connections are not secure.
20. Motorola P25 system used by JCF allows voice and small amounts of data but not higher bandwidth requirements such as photo, video. The CAD system used is a proprietary Motorola system with special in-built features for Police Vehicle Tracking and Management. It can be made compatible with 4G LTE networks through Application Programme Interfaces (APIs) and continue in service with the CAD system until end of life after which they can the system can be upgraded.
21. Only about 50% of police stations island-wide are estimated to have internet access
22. There is no 4G LTE communications capability in the JCF for directly sharing data with vehicle or foot patrols. Radios voice messages are exclusively used for voice communications.
23. GOJ MSET has already developed and approved policy and established an agency for rationalization of replicated, disjointed government ICT networks. There is however yet no corresponding policy consideration within the MNS which would bring huge benefits and growth to law enforcement and public safety as well as in overall reduction of GOJ expenses.
24. Policy disconnect between MNS and key agencies often results in large expenditures made without adequate policies and plans for effective use
25. The "Data Integration" project should provide great opportunity to further capacitate the JCF's IT governance structure and resource base by consolidating "National Security" databases at the ICTD and upgrading its management and staff, with provision for more timely and eventual inclusion of other government databases required for 'comprehensive crime management'.
26. Public perception of crime wrong or misconstrued
27. Inadequate coastal surveillance (no cameras or radar) need to be integrated into national monitoring centres.
28. Technology needed by JCF to provide data driven decision making
29. Law enforcement intelligence remains fragmented and reactive with little predictive capacity
30. Culture of 'Silos' driven by individuals not knowing what data can be shared, as there is no established classification authority or guidance provided throughout the government and security agencies, so each person decides what classification level to apply to each piece of data.

31. Hospital, schools and many other databases are not routinely or readily available to the JCF for investigations
32. Hospitals have huge amount of data on violent crimes that are not shared with JCF
33. JCF gives data to external organizations based on 'letters of request' which introduces further delays and frustrations for investigators, media, analysts and others who need quick and accurate crime data.
34. JCF have a huge amount of data which is not shared or used as effectively as possible, as such data is generally considered too sensitive to be shared with the public
35. MNS Crime Observatory collects and stores a wide range of valuable data including from non-MNS sources that is not routinely shared with JCF for investigations
36. MOU between PICA and NIB allows a PICA officer to be physically located at NIB with a terminal connected to the PICA database who assists NIB investigations with PICA related information searches. While this works in some slow moving cases, such MOUs represent slow, manual versions of 'automated data sharing' that may not be adequate in many other concurrent case loads.
37. No data classification authority or protocols for sharing in Jamaica so each person decides on classification and whether or not and with who to share data.
38. No unique number to accurately and reliably identify each citizen
39. Video footage more useful for intelligence than for investigations
40. Video from ABM machines not connected or routinely available to JCF Facial Recognition software or databases.
41. Consistent and unacceptably high crime rates over past decades largely due to ineffective enforcement of existing laws (eg Traffic Ticket collection, Death penalty for murderers, or any other serious deterrence efforts to instill discipline and respect for our laws)
42. Information including data on all reported incidents, community members, etc is stored by JCF in hard cover registers, (Station Diary and others) but not easily available for crime prevention or investigation
43. Any police station with internet access could access CIMS when needed as it now has a web application
44. CIMS database of criminal activity with known and wanted persons now being expanded to include court warrants and crime mapping.
45. CIMS not so effective and still needs more work to deliver
46. Delays in producing reports are further extended since data changes daily as investigations take place and more information is gathered.
47. Delays in responding to queries are exaggerated by manpower shortages are often misconstrued as police obstruction or corruption.
48. Difficult for police to capture and store spatial data

49. Difficult to get data for analytical purpose from JCF due to red tape, ad-hoc data classification as to who gets what, silos, data in manual format, varying protocols, etc
50. Each police station has some 20 different Registers (hard cover books different purposes, (eg. Station Diary, Persons in Lockup, local and business persons, businesses, women / youth who need protection, other categories, etc)
51. Individuals typically identified by full name, date and parish of birth, mothers' and fathers' name, etc
52. Information capture at source in appropriate formats is the most important priority for any improvement in JCF data processing.
53. Manual scheduling of personnel too difficult and needs automation
54. Mona Informatics have a number of databases with invaluable geo data not being used by the JCF
55. Much of data within JCF is stored in manual hard cover books
56. NIDS database to be added to the data warehouse when available
57. No information is captured on remandees hence DCS does not know anything about them or what to do with them before conviction
58. Police stations have too many 'disconnected' data files and 'un-digitized' information in manual 'hard copies' hence difficult and time consuming to store, categorize, retrieve, share or use for management decision making or investigations.
59. Police Statistics (STATS) and investigators get data from various sources including Division HQs, Police Emergency Centre, various registers (books) at police stations, all with many gaps and inefficiencies and inaccuracies and incompleteness.
60. Production of statistics is mostly done manually with spreadsheets hence time consuming and some accuracy lost from information sources.
61. Requests for data from external organizations have to be summarized by JCF STATS which is manually prepared and time consuming therefore usually delayed and insufficient. JCF will not give details to the public for "security reasons".
62. Station Logs to be digitized to form directly connected E-Diary system that would require a communication architecture and technical support to each station.
63. STATS and investigators cannot adequately analyze data and retrieve information with sufficient granularity and accuracy for effective analysis or to close many cases.
64. The Electoral system is the only database with citizens correct addresses, but is prevented from use by prior agreements when it was being constructed..
65. The system still depends too much on human witnesses who can have many different agenda for testifying which add layers of complication to the search for justice.
66. There are multiple sources of daily reports at police stations, but no standard formats or classifications for data being captured or reported
67. Too much 'cash' used in Jamaica which reduces paper trails useful for investigations

ISSUES OF MONITORING, ENFORCEMENT AND COMPLIANCE;

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1. Capacity shortages within the JCF often prevent qualified monitoring supervision
2. Supervisors of 'mission critical' systems demanding high reliability must treat such systems as "personally owned" in order to maintain serviceability, rather than as part of a regulated management structure. Software systems paid for and installed but either never used or shut down for divers reasons.
3. People and processes, eg JCF internal policies, protocols, regulations, staff capacity, etc must be reviewed and addressed along with technology to improve the JCF systems
4. Courts modernization programme not sufficiently technologically advanced
5. Courts overwhelmed with outstanding cases, some delays resulting from not understanding or accepting technology based evidence
6. Machine printed payments for Traffic Ticket receipts not accepted by Courts
7. Potential 'security gaps' in locally developed software systems
8. No Cyber Security risk mitigation counter measures
9. JCF HR system failed due to software licensing issues and poor initial analysis of system needs by originally omitting auxiliaries (District Constables) and civilians in system sizing. JCF is hoping for assistance from the MNS with its HR system
10. Under special provision of the Evidence Act, a Station Supt can give permission for individuals to be identified by use their fingerprint under special conditions. Such finger prints must however be immediately destroyed after identification.
11. Inadequate monitoring, supervision and accountability in JCF Information Systems
12. Indiscipline and non-performance often pass without sanction.
13. Ineffective personnel monitoring systems/ technologies and administrative procedures
14. IT supervisory job descriptions and SOPs either not written or followed as part of staff job functions to be used for personnel evaluations.
15. IT systems easily sabotaged or deliberately undermined without sanctions.
16. JCF Information Systems not being used or under-performing, without urgent remedial IT management action.
17. JCF systems not coping effectively with solving crime without further analysis and correction.
18. No checks and balances, alarms, etc to flag irregular events or practices, nor any action taken or results publicized

19. No incentives or special recognition for good performance
20. No routine standards monitoring or evaluations of IT systems
21. Outdated and overwhelming administrative management methods and absence of suitable technology solutions
22. Ownership responsibilities not typically accepted by JCF for projects and systems
23. Personnel within the security sector do not automatically report abnormal or irregular practices by bad actors
24. Poor IT governance structure and management and lack of accountability within JCF agencies
25. Poor supervision and accountability at all levels throughout the JCF
26. Some JCF IT systems often exposed to overwhelming operational and supervisory requirements without management recognition or action on stress factors (eg overwhelming prank calls from 119, CAD, Stay Alert, etc)
27. 10 Computer Aided Dispatch (CAD) Stations have been installed at 119 in Kingston for tracking vehicles in Area 4 and Area 5. This technology is not available elsewhere in the island, although there are plans for moving some of them from Kingston to Area 1 in St James soonest.
28. 163 Automatic Vehicle Locators (AVLs) have been installed to date with approximately 1,600 awaiting installation, reportedly due to lack of availability of vehicles which are working multiple shifts so unable to find the time for installation. Each AVL can be installed within 4-5 hours. Only 7 of the 163 vehicles had transponders turned on when visited on 4 May 2017.
29. All stations have radio communications via the microwave radio system but not all stations have landlines.
30. All vehicles in Area 4 and approx. 50% (50 vehicles) in Area 5 are reportedly equipped with AVL tracking
31. Approximately 50% of JCF personnel are in front line duty "on the street" at any time
32. Data used more for analysis than as a management tool
33. JCF personnel not tracked while on duty
34. Stations have difficulty managing persons in police custody
35. The "Cleared up Rate" measure of investigative performance is calculated by JCF as ratio of charges filed vs incidents reported within any one month period and not on convictions, hence police functions are seen by the JCF as ending when charges are filed. This explains the backlog in the courts, as relatively little resources are then put into investigations for convictions.
36. The average "Cleared up Rate" across all 19 JCF Divisions is currently at 61%, but this does not give a complete and accurate picture of JCF investigative performance.
37. Generic vehicle tracking software is available for 4G LTE networks, but these may not yet be sufficiently specialized for Police systems as is the Motorola P25 CAD system.
38. Most police stations have internet connection, but many do not work from time to time and other stations are in areas without service. Internet connections are not secure.

39. Motorola P25 system used by JCF allows voice and small amounts of data but not higher bandwidth requirements such as photo, video. The CAD system used is a proprietary Motorola system with special in-built features for Police Vehicle Tracking and Management. It can be made compatible with 4G LTE networks through Application Programme Interfaces (APIs) and continue in service with the CAD system until end of life after which they can the system can be upgraded.
40. Only about 50% of police stations island-wide are estimated to have internet access
41. There is no 4G LTE communications capability in the JCF for directly sharing data with vehicle or foot patrols. Radios voice messages are exclusively used for voice communications.
42. Breaches of established processes and protocols within MNS and agencies without sanctions
43. High profile MNS/JCF/E-Gov TTMS project failure due to poor project management, poor system design, lack of coordination between project developers, poor feasibility studies and analysis of the business processes centring on IT weaknesses, poor administrative and logistics management, along with lack of monitoring and enforcement at multiple levels.
44. Project plans rarely include performance standards and indicators for monitoring and evaluation
45. Sparse interest shown by JCF users for imposed systems without ownership or accountability at any level
46. The "Data Integration" project should provide great opportunity to further capacitate the JCF's IT governance structure and resource base by consolidating "National Security" databases at the ICTD and upgrading its management and staff, with provision for more timely and eventual inclusion of other government databases required for 'comprehensive crime management'.
47. Low credibility, trust and belief in the law enforcement system's ability to manage the crime situation. as the assumption is either that nothing has been done or that crime has been covered up by persons and/or parties unknown, leading to general innuendo and suspicion, sometimes unwarranted, but always causing decline in perception of the systems credibility and integrity
48. Public perception of crime wrong or misconstrued
49. Administrative and resource challenges within JCF often prevent enforcement and compliance
50. Inadequate coastal surveillance (no cameras or radar) to be integrated into national monitoring centres.
51. Known multiple offender cyber and other criminals moving around freely in Jamaica and able to continue to commit crimes at will reduces belief in the crime management system's ability to manage crime
52. Culture of 'Silos' driven by individuals not knowing what data can be shared, as there is no established classification authority or guidance provided throughout the government and security agencies, so each person decides what classification level to apply to each piece of data.
53. Effective policing cannot be done without accurate, complete useful data
54. Hospital, schools and many other databases are not routinely or readily available to the JCF for investigations

55. JCF gives data to external organizations based on 'letters of request' which introduces further delays and frustrations for investigators, media, analysts and others who need quick and accurate crime data.
56. JCF have a huge amount of data which is not shared or used as effectively as possible, as such data is generally considered too sensitive to be shared with the public
57. JCF willing to share only summary data with media, academic and other institutions, which all need more detailed data for various forms of analysis.
58. MNS Crime Observatory collects and stores a wide range of valuable data including from non-MNS sources that is not routinely shared with JCF for investigations
59. MOU between PICA and NIB allows a PICA officer to be physically located at NIB with a terminal connected to the PICA database who assists NIB investigations with PICA related information searches. While this works in some slow moving cases, such MOUs represent slow, manual versions of 'automated data sharing' that may not be adequate in many other concurrent caseloads.
60. No unique number to accurately and reliably identify each citizen
61. There is a huge and 'disruptive' information gap between the MOJ, Courts and National Security coordination and systems resulting in case backlog and consequent escalation of crime, that must be urgently addressed.
62. High staff attrition with qualified supervisory personnel
63. Inadequate salary structure for technical areas within the JCF further reduces qualified supervisory personnel
64. Poorly trained IT personnel
65. Difficult to supervise, outdated and burdensome manual systems with limited effectiveness still used for some key management functions. (Eg Station Diary);
66. Inaccurate and insufficient information from outdated or ineffective JCF IT systems frustrate compliance efforts.
67. Information including data on all reported incidents, community members, etc is stored by JCF in hard cover registers, (Station Diary and others) but not easily available for crime prevention or investigation
68. CIMS not so effective and still needs more work to deliver
69. Delays in producing reports are further extended since data changes daily as investigations take place and more information is gathered.
70. Difficult for police to capture and store spatial data
71. Difficult to get data for analytical purpose from JCF due to red tape, ad-hoc data classification as to who gets what, silos, data in manual format, varying protocols, etc
72. Individuals typically identified by full name, date and parish of birth, mothers' and fathers' name, etc
73. Manual scheduling of personnel too difficult and needs automation

74. No information is captured on remandees hence DCS does not know anything about them or what to do with them before conviction
75. Police stations have too many 'disconnected' data files and 'un-digitized' information in manual 'hard copies' hence difficult and time consuming to store, categorize, retrieve, share or use for management decision making or investigations. Delays in responding to queries are exaggerated by manpower shortages are often misconstrued as police obstruction or corruption.
76. Police Statistics (STATS) and investigators get data from various sources including Division HQs, Police Emergency Centre, various registers (books) at police stations, all with many gaps and inefficiencies and inaccuracies and incompleteness.
77. Production of statistics is mostly done manually with spreadsheets hence time consuming and some accuracy lost from information sources.
78. Requests for data from external organizations have to be summarized by JCF STATS which is manually prepared and time consuming therefore usually delayed and insufficient. JCF will not give details to the public for "security reasons".
79. STATS and investigators cannot adequately analyze data and retrieve information with sufficient granularity and accuracy for effective analysis or to close many cases.
80. The Electoral system is the only database with citizens correct addresses, but is prevented from use by prior agreements when it was being constructed..
81. There are multiple sources of daily reports at police stations, but no standard formats or classifications for data being captured or reported
82. Too much 'cash' used in Jamaica which reduces paper trails useful for investigations

**INFORMATION AVAILABILITY AND
ACCESSIBILITY FOR (COLLECTION, STORAGE,
ANALYSIS, DISSEMINATION AND USE IN
DECISION MAKING) ALONGSIDE RESULTS AND
OUTCOMES**

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1. Approximately 11,000 JCF personnel and 178 Police “Points of Presence” around the country at various service levels
2. People and processes, eg JCF internal policies, protocols, regulations, staff capacity, etc must be reviewed and addressed along with technology to improve the JCF systems
3. Potential ‘security gaps’ in locally developed software systems not being addressed with urgency
4. JCF HR system failed due to software licensing issues and poor initial analysis of system needs by originally omitting auxiliaries (District Constables) and civilians in system sizing. JCF is hoping for assistance from the MNS with its HR system
5. Under special provision of the Evidence Act, a Station Supt can give permission for individuals to be identified by use their fingerprint under special conditions. Such finger prints must however be immediately destroyed after identification.
6. Systems sabotaged by users without supervision or accountability
7. 10 Computer Aided Dispatch (CAD) Stations have been installed at 119 in Kingston for tracking vehicles in Area 4 and Area 5. This technology is not available elsewhere in the island, although there are plans for moving some of them from Kingston to Area 1 in St James soonest.
8. 163 Automatic Vehicle Locators (AVLs) have been installed to date with approximately 1,600 awaiting installation, reportedly due to lack of availability of vehicles which are working multiple shifts so unable to find the time for installation. Each AVL can be installed within 4-5 hours. Only 7 of the 163 vehicles had transponders turned on when visited on 4 May 2017.
9. All vehicles in Area 4 and approx. 50% (50 vehicles) in Area 5 are reportedly equipped with AVL tracking
10. Data used more for analysis than as a management tool
11. JCF payroll being operated by the MNS
12. Stations have difficulty managing persons in police custody
13. Generic vehicle tracking software is available for 4G LTE networks, but these may not yet be sufficiently specialized for Police systems as is the Motorola P25 CAD system.
14. Major criminal activity such as murder or wounding is sent daily by email or radio voice messages from stations around the country to Divisional HQs. All stations have radio communications via the microwave radio system but not all stations have landlines.

15. Most police stations have internet connection, but many do not work from time to time and other stations are in areas without service. Internet connections are not secure.
16. Motorola P25 system used by JCF allows voice and small amounts of data but not higher bandwidth requirements such as photo, video. The CAD system used is a proprietary Motorola system with special in-built features for Police Vehicle Tracking and Management. It can be made compatible with 4G LTE networks through Application Programme Interfaces (APIs) and continue in service with the CAD system until end of life after which they can the system can be upgraded.
17. Only about 50% of police stations island-wide are estimated to have internet access
18. There is no 4G LTE communications capability in the JCF for directly sharing data with vehicle or foot patrols. Radios voice messages are exclusively used for voice communications.
19. Inadequate communication and collaboration between MNS Projects Team, users and other government agencies (eg NWA) with valuable and needed communications and information sharing resources.
20. The "Data Integration" project should provide great opportunity to further capacitate the JCF's IT governance structure and resource base by consolidating "National Security" databases at the ICTD and upgrading its management and staff, with provision for more timely and eventual inclusion of other government databases required for 'comprehensive crime management'.
21. Qualified human and technology systems capacity shortages within intelligence services slow down criminal investigations while being overwhelmed with multiple new cases daily.
22. Under resourced IT systems in investigative and intelligence services prevent fast, high volume analysis to solve and predict criminal activity
23. Inadequate coastal surveillance (no cameras or radar) to be integrated into national monitoring centres.
24. Technology needed by JCF to provide data driven decision making
25. Current JCF technology and human capacity not adequately technically advanced
26. Disjointed government resources (eg Telecoms network, multiplicity of disconnected databases and other data sources) existing in silos prevent rapid information sharing
27. Informal and personalized system for sharing fragmented classified information between law enforcement agencies often result in slow and uncertain access to information critical to investigations and prosecution.
28. Information depends on personal relationships and slow in coming, which is often too late for solving some cases
29. JCF overwhelmed by criminal activity and information
30. Law enforcement intelligence and information remains sparse and fragmented with little analytic and predictive capacity
31. MOUs between Law Enforcement agencies used to assist with information access through sharing
32. Overprotective, over-secretive, 'silo' approach by agencies prevent quick solutions to some criminal cases from lack of information that may be sitting somewhere on a database

33. Police unable to quickly and accurately identify individuals in real time from existing data available to them.
34. Culture of 'Silos' driven by individuals not knowing what data can be shared, as there is no established classification authority or guidance provided throughout the government and security agencies, so each person decides what classification level to apply to each piece of data.
35. Effective policing cannot be done without accurate, complete useful data
36. Hospital, schools and many other databases are not routinely or readily available to the JCF for investigations
37. Hospitals have huge amount of data on violent crimes that are not shared with other institutions, but currently some (KPH) have no server and have resorted to manual system and fear they will lose more than 10 years of data captured
38. JCF gives data to external organizations based on 'letters of request' which introduces further delays and frustrations for investigators, media, analysts and others who need quick and accurate crime data.
39. JCF have a huge amount of data which is not shared or used as effectively as possible, as such data is generally considered too sensitive to be shared with the public
40. JCF willing to share summary data with media, academic and other institutions, which all need more detailed data for various forms of analysis.
41. MNS Crime Observatory collects and stores a wide range of valuable data including from non-MNS sources that is not routinely shared with JCF for investigations
42. MOU between PICA and NIB allows a PICA officer to be physically located at NIB with a terminal connected to the PICA database who assists NIB investigations with PICA related information searches. While this works in some slow moving cases, such MOUs represent slow, manual versions of 'automated data sharing' that may not be adequate in many other concurrent case loads.
43. No data classification authority or protocols for sharing in Jamaica so each person decides on classification and whether or not and with who to share data.
44. No unique number to accurately and reliably identify each citizen
45. There is a huge and 'disruptive' information gap between the MOJ, Courts and National Security coordination and systems resulting in case backlog and consequent escalation of crime, that must be urgently addressed.
46. Unshared data is useless having
47. Video from ABM machines not connected or routinely available to JCF Facial Recognition software or databases.
48. IT capacity shortages within the JCF reduce speed and accuracy of information dissemination and sharing
49. Consistent and unacceptably high crime rates over past decades partially linked to lack of timely and credible information when and where needed

50. Inability to concurrently analyze and solve high volumes of investigations
51. Inaccurate and insufficient information from outdated or ineffective IT systems frustrate efforts to successfully prosecute criminals and manage crime.
52. JCF has no Case Management IT system for effectively following up and closing cases in a structured and timely manner.
53. Information including data on all reported incidents, community members, etc is stored by JCF in hard cover registers, (Station Diary and others) but not easily available for crime prevention or investigation
54. Any police station with internet access could access CIMS when needed as it now has a web application
55. CIMS database of criminal activity with known and wanted persons now being expanded to include court warrants and crime mapping.
56. CIMS not so effective and still needs more work to deliver
57. Delays in producing reports are further extended since data changes daily as investigations take place and more information is gathered.
58. Difficult for police to capture and store spatial data
59. Difficult to get data for analytical purpose from JCF due to red tape, ad-hoc data classification as to who gets what, silos, data in manual format, varying protocols, etc
60. Each police station has some 20 different Registers (hard cover books different purposes, (eg. Station Diary, Persons in Lockup, local and business persons, businesses, women / youth who need protection, other categories, etc)
61. Individuals typically identified by full name, date and parish of birth, mothers' and fathers' name, etc
62. Information capture at source in appropriate formats is the most important priority for any improvement in JCF data processing.
63. JCF fears having to revert to manual system if computers systems continue to fail
64. Many small files with data stored on station computers about various topics
65. Mona Informatics have a number of databases with invaluable geo data not being used by the JCF
66. Much of data within JCF is stored in manual hard cover books
67. NIDS database to be added to the data warehouse when available
68. No information is captured on remandees hence DCS does not know anything about them or what to do with them before conviction
69. Police stations have too many 'disconnected' data files and 'un-digitized' information in manual 'hard copies' hence difficult and time consuming to store, categorize, retrieve, share or use for management decision making or investigations. Delays in responding to queries are exaggerated by manpower shortages are often misconstrued as police obstruction or corruption.

70. Police Statistics (STATS) and investigators get data from various sources including Division HQs, Police Emergency Centre, various registers (books) at police stations, all with many gaps and inefficiencies and inaccuracies and incompleteness.
71. Production of statistics is mostly done manually with spreadsheets hence time consuming and some accuracy lost from information sources.
72. Requests for data from external organizations have to be summarized by JCF STATS which is manually prepared and time consuming therefore usually delayed and insufficient. JCF will not give details to the public for "security reasons".
73. Station Logs to be digitized to form directly connected E-Diary system that would require a communication architecture and technical support to each station.
74. STATS and investigators cannot adequately analyze data and retrieve information with sufficient granularity and accuracy for effective analysis or to close many cases.
75. The Electoral system is the only database with citizens correct addresses, but is prevented from use by prior agreements when it was being constructed..
76. There are multiple sources of daily reports at police stations, but no standard formats or classifications for data being captured or reported
77. Too much 'cash' used in Jamaica which reduces paper trails useful for investigations

**CROSS-SECTORAL LINKAGES AND PARTNERSHIPS
PARTICULARLY BETWEEN AGENCIES, REGIONAL AND
INTERNATIONAL GOVERNMENTS, PRIVATE
ENTERPRISE, CIVIL SOCIETY AND THE GENERAL
PUBLIC, INCLUDING PRIVATE–PUBLIC PARTNERSHIPS;.**

•20

1. Capacity and resource shortages within the JCF intelligence services
2. People and processes, eg JCF internal policies, protocols, regulations, staff capacity, etc must be reviewed and addressed along with technology to improve the JCF systems
3. No Cyber Security risk mitigation counter measures
4. IDB Assisted with Cyber Security Legislation and Policy
5. All stations have radio communications via the microwave radio system but not all stations have landlines.
6. JCF has limited broadband capacity around the country, while other microwave and fiber facilities are freely available from other government agencies and not being used.
7. Generic vehicle tracking software is available for 4G LTE networks, but these may not yet be sufficiently specialized for Police systems as is the Motorola P25 CAD system.
8. Most police stations have internet connection, but many do not work from time to time and other stations are in areas without service. Internet connections are not secure.
9. Only about 50% of police stations island-wide are estimated to have internet access
10. There is no 4G LTE communications capability in the JCF for directly sharing data with vehicle or foot patrols. Radios voice messages are exclusively used for voice communications.
11. Inadequate linkages and collaboration between MNS Projects Team, users and other government agencies (eg NWA) for valuable and needed communications and information sharing resources.
12. The “Data Integration” project should provide great opportunity to further capacitate the JCF’s IT governance structure and resource base by consolidating “National Security” databases at the ICTD and upgrading its management and staff, with provision for more timely and eventual inclusion of other government databases required for ‘comprehensive crime management’.
13. Insignificant monetary benefits to public for information
14. Insufficient assistance from public in preventing and solving crimes.
15. Insufficient assistance from the public in preventing and solving crimes.
16. Low public confidence from lack of information on high profile crime investigations
17. Low public confidence from lack of information on high profile crime investigations
18. Media strategy now being executed to inform and advise the public of anti-crime measures being taken for crime deterrence and public safety.

19. Outdated and underperforming programmes for attracting public information in preventing and solving crimes require additional funding for new sourcing technologies
20. Public fear of reprisal for giving information to police
21. Public perception of crime wrong or misconstrued
22. Current JCF Telecoms network does not provide 4G LTE data distribution services across the country as is now required for law enforcement and public safety agencies for last mile data sharing with vehicle and foot patrols using smart phones
23. Informal and personalized system for sharing fragmented classified information between law enforcement agencies often result in slow and uncertain access to information critical to investigations and prosecution.
24. Information availability largely depends on personal cross sector linkages
25. Law enforcement intelligence and information remains sparse and fragmented with little analytic and predictive capacity
26. MOUs between Law Enforcement agencies used to assist with information sharing
27. Overprotective, over-secretive, 'silo' approach by agencies prevent quick solutions to some criminal cases from lack of information that may be sitting somewhere on a database
28. Culture of 'Silos' driven by individuals not knowing what data can be shared, as there is no established classification authority or guidance provided throughout the government and security agencies, so each person decides what classification level to apply to each piece of data.
29. Effective policing cannot be done without accurate, complete useful data
30. Hospital, schools and many other databases are not routinely or readily available to the JCF for investigations
31. JCF gives data to external organizations based on 'letters of request' which introduces further delays and frustrations for investigators, media, analysts and others who need quick and accurate crime data.
32. JCF willing to share summary data with media, academic and other institutions, which all need more detailed data for various forms of analysis.
33. MOU between PICA and NIB allows a PICA officer to be physically located at NIB with a terminal connected to the PICA database who assists NIB investigations with PICA related information searches. While this works in some slow moving cases, such MOUs represent slow, manual versions of 'automated data sharing' that may not be adequate in many other concurrent caseloads.
34. Unshared data is useless having
35. Video from ABM machines not connected or routinely available to JCF Facial Recognition software or databases.
36. Consistent and unacceptably high crime rates over past decades partly resulting from fragmentation and slow collaboration and information sharing.

37. Any police station with internet access could access CIMS when needed as it now has a web application
38. CIMS database of criminal activity with known and wanted persons now being expanded to include court warrants and crime mapping.
39. Delays in producing reports are further extended since data changes daily as investigations take place and more information is gathered.
40. JCF fears having to revert to manual system if computers systems continue to fail
41. Mona Informatics have a number of databases with invaluable geo data not being used by the JCF
42. Production of statistics is mostly done manually with spreadsheets hence time consuming and some accuracy lost from information sources.
43. Requests for data from external organizations have to be summarized by JCF STATS which is manually prepared and time consuming therefore usually delayed and insufficient. JCF will not give details to the public for "security reasons".
44. STATS and investigators cannot adequately analyze data and retrieve information with sufficient granularity and accuracy for effective analysis or to close many cases.
45. Too much 'cash' used in Jamaica which reduces paper trails useful for investigations

CAPACITY AND INSTITUTIONAL ARRANGEMENTS.

•21

1. Capacity shortages within the JCF
2. Approximately 11,000 JCF personnel and 178 Police “Points of Presence” around the country at various service levels
3. People and processes, eg JCF internal policies, protocols, regulations, staff capacity, etc must be reviewed and addressed along with technology to improve the JCF systems
4. Insufficient legal deterrence to criminal activity (eg Death penalty nor any other major deterrence to murderers enforced)
5. No Cyber Security risk mitigation counter measures
6. Funding and Financing gaps
7. JCF HR system failed due to software licensing issues and poor initial analysis of system needs by wall omitting auxiliaries (District Constables) and civilians in system sizing. JCF is hoping for assistance from the MNS with its HR system
8. Inadequate JCF ICT Governance structure despite many studies and recommendations, continue to deny JCF of IT project management and systems development capacity.
9. Ownership responsibilities not typically accepted by JCF for projects and systems
10. 10 Computer Aided Dispatch (CAD) Stations have been installed at 119 in Kingston for tracking vehicles in Area 4 and Area 5. This technology is not available elsewhere in the island, although there are plans for moving some of them from Kingston to Area 1 in St James soonest.
11. 163 Automatic Vehicle Locators (AVLs) have been installed to date with approximately 1,600 awaiting installation, reportedly due to lack of availability of vehicles which are working multiple shifts so unable to find the time for installation. Each AVL can be installed within 4-5 hours. Only 7 of the 163 vehicles had transponders turned on when visited on 4 May 2017.
12. All vehicles in Area 4 and approx. 50% (50 vehicles) in Area 5 are reportedly equipped with AVL tracking
13. Approximately 50% of JCF personnel are in front line duty “on the street” at any time
14. JCF payroll being operated by the MNS
15. JCF personnel not tracked while on duty
16. Stations have difficulty managing persons in police custody
17. The “Cleared up Rate” measure of investigative performance is calculated by JCF as ratio of charges filed vs incidents reported within any one month period and not on convictions, hence

police functions are seen by the JCF as ending when charges are filed. This explains the backlog in the courts, as relatively little resources are then put into investigations for convictions.

18. The average "Cleared up Rate" across all 19 JCF Divisions is currently at 61%, but this does not give a complete and accurate picture of JCF investigative performance.
19. JCF has limited broadband capacity around the country, while other microwave and fibre facilities are freely available from other government agencies and not being used.
20. Replicated, disjointed government ICT networks (silos) each without adequate capacity to effectively provide services for new technological applications while unnecessarily multiplying GOJ expenses.
21. Generic vehicle tracking software is available for 4G LTE networks, but these may not yet be sufficiently specialized for Police systems as is the Motorola P25 CAD system.
22. ICT Networks not evenly distributed and available throughout all areas of the country allows criminals to move to areas of limited cover
23. Major criminal activity such as murder or wounding is sent daily by email or radio voice messages from stations around the country to Divisional HQs. All stations have radio communications via the microwave radio system but not all stations have landlines.
24. Most police stations have internet connection, but many do not work from time to time and other stations are in areas without service. Internet connections are not secure.
25. Motorola P25 system used by JCF allows voice and small amounts of data but not higher bandwidth requirements such as photo, video. The CAD system used is a proprietary Motorola system with special in-built features for Police Vehicle Tracking and Management. It can be made compatible with 4G LTE networks through Application Programme Interfaces (APIs) and continue in service with the CAD system until end of life after which the system can be upgraded.
26. Only about 50% of police stations island-wide are estimated to have internet access
27. There is no 4G LTE communications capability in the JCF for directly sharing data with vehicle or foot patrols. Radios voice messages are exclusively used for voice communications.
28. GOJ MSET has already developed and approved policy and established an agency for rationalization of replicated, disjointed government ICT networks. There is however yet no corresponding policy consideration within the MNS which would bring huge benefits and growth to law enforcement and public safety as well as in overall reduction of GOJ expenses.
29. Inadequate communication and collaboration between MNS Projects Team, users and other government agencies (eg NWA) with valuable and needed resources.
30. Key MNS agencies operate in silos and have varying levels of capacity hence varying standards of operation and assistance needed from MNS.
31. The "Data Integration" project should provide great opportunity to further capacitate the JCF's IT governance structure and resource base by consolidating "National Security" databases at the ICTD and upgrading its management and staff, with provision for more timely and eventual inclusion of other government databases required for 'comprehensive crime management'.

32. Low credibility, trust and belief in the law enforcement system's ability to manage the crime situation.
33. Public perception of crime wrong or misconstrued
34. Administrative and Logistics management and resource capacity challenges within JCF
35. Current JCF Telecoms network does not provide 4G LTE data distribution services across the country as is now required for law enforcement and public safety agencies for last mile data sharing with vehicle and foot patrols using smart phones
36. High capacity fiber network largely built to date at almost zero cost by ad-hoc agency and individual staff initiatives. This now needs funding support for completion to facilitate transformation in law enforcement and public safety through low-cost, all island camera surveillance and communications.
37. Inadequate coastal surveillance (no cameras or radar) to be integrated into national monitoring centres.
38. Technology needed by JCF to provide data driven decision making
39. Informal and personalized system for sharing fragmented classified information between law enforcement agencies often result in slow and uncertain access to information critical to investigations and prosecution.
40. Law enforcement intelligence and information remains sparse and fragmented with little analytic and predictive capacity
41. Police unable to quickly and accurately identify individuals in real time from existing data available to them.
42. Culture of 'Silos' driven by individuals not knowing what data can be shared, as there is no established classification authority or guidance provided throughout the government and security agencies, so each person decides what classification level to apply to each piece of data.
43. Effective policing cannot be done without accurate, complete useful data
44. JCF gives data to external organizations based on 'letters of request' which introduces further delays and frustrations for investigators, media, analysts and others who need quick and accurate crime data.
45. JCF willing to share only summary data with media, academic and other institutions, which all need more detailed data for various forms of analysis.
46. MNS Crime Observatory collects and stores a wide range of valuable data including from non-MNS sources that is not routinely shared with JCF for investigations
47. MOU between PICA and NIB allows a PICA officer to be physically located at NIB with a terminal connected to the PICA database who assists NIB investigations with PICA related information searches. While this works in some slow moving cases, such MOUs represent slow, manual versions of 'automated data sharing' that may not be adequate in many other concurrent caseloads.
48. No data classification authority or protocols for sharing in Jamaica so each person decides on classification and whether or not and with who to share data.

49. Unshared data is useless having
50. Consistent and unacceptably high crime rates over past decades partially linked to capacity shortages in the JCF
51. Inaccurate and insufficient information from outdated or ineffective IT systems frustrate efforts to successfully prosecute criminals and manage crime.
52. Information including data on all reported incidents, community members, etc is stored by JCF in hard cover registers, (Station Diary and others) but not easily available for crime prevention or investigation
53. Any police station with internet access could access CIMS when needed as it now has a web application
54. CIMS database of criminal activity with known and wanted persons now being expanded to include court warrants and crime mapping.
55. CIMS not so effective and still needs more work to deliver
56. Delays in producing reports are further extended since data changes daily as investigations take place and more information is gathered.
57. Difficult for police to capture and store spatial data
58. Difficult to get data for analytical purpose from JCF due to red tape, ad-hoc data classification as to who gets what, silos, data in manual format, varying protocols, etc
59. Each police station has some 20 different Registers (hard cover books different purposes, (eg. Station Diary, Persons in Lockup, local and business persons, businesses, women / youth who need protection, other categories, etc)
60. Information capture at source in appropriate formats is the most important priority for any improvement in JCF data processing.
61. JCF fears having to revert to manual system if computers systems continue to fail
62. Manual scheduling of personnel too difficult and needs automation
63. Many small files with data stored on station computers about various topics
64. Much of data within JCF is stored in manual hard cover books
65. No information is captured on remandees hence DCS does not know anything about them or what to do with them before conviction
66. Police stations have too many 'disconnected' data files and 'un-digitized' information in manual 'hard copies' hence difficult and time consuming to store, categorize, retrieve, share or use for management decision making or investigations. Delays in responding to queries are exaggerated by manpower shortages are often misconstrued as police obstruction or corruption.
67. Police Statistics (STATS) and investigators get data from various sources including Division HQs, Police Emergency Centre, various registers (books) at police stations, all with many gaps and inefficiencies and inaccuracies and incompleteness.

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70. Station Logs to be digitized to form directly connected E-Diary system that would require a communication architecture and technical support to each station.
71. STATS and investigators cannot adequately analyze data and retrieve information with sufficient granularity and accuracy for effective analysis or to close many cases.
72. The Electoral system is the only database with citizens correct addresses, but is prevented from use by prior agreements when it was being constructed..
73. There are multiple sources of daily reports at police stations, but no standard formats or classifications for data being captured or reported
74. Data used more for analysis than as a management tool

ANNEX B - REFERENCES

Documents Reviewed included:

1. Canadian Police Information Centre Policy Manual
2. Canadian Police Information Centre Visit Report Summary – Readiness of Jamaican MNS to Securely Share Information (2017)
3. Case Manager System JSAT project technical specs
4. Comments on Draft Cabinet Submission for the establishment of a National Electronic Surveillance Systems Monitoring (of Public Spaces) Policy
5. DCS Chronicles Magazine – June 2016
6. Economic Growth Council 5 in 4 Action Plan
7. IMF Schedule for Improving Citizen Security and Public Safety project
8. JCF IT Strategy Baseline Assessment by Price Water House - 2012
9. JCF Lease Vehicles Proposal – Excel Motors
10. JDF briefing notes on UAVs
11. Law Enforcement Systems and Databases in Jamaica as compiled by the Canadian High Commission
12. Memorandum – Preliminary Assessment of the Electronic Monitoring Pilot which commenced on 1st February, 2017
13. Memorandum on Drones Policy Proposal for deployment in the Commercial and Hobby sectors
14. MNS CCTV Presentation to managers
15. MNS CCTV Study Final report
16. MNS Citizen Security and Public Safety 5 in 4 Action Plan
17. MNS Donor Activity Mapping
18. MNS Modernization Initiatives and Strategic Projects Division – Report on JCF Assets and Management dated 28 Feb 2017
19. MNS Policy Action Items
20. MNS Strategy Document
21. Permission letter from Minister of Finance for sharing Drivers License Database
22. Presentation Emergency Management and Intelligence – GOJ and IBM
23. Prince 2 Methodology
24. Procurement Comments and Recommendations from Drones TAG
25. Proposed Data Integration Project Charter
26. Proposed JCF ICTD Structure – 2015
27. Proposed JCF Information Communication Technology Division

28. Proposed Strategic CCTV Kingston Locations Map
29. RCMP Needs Assessment summary for Canadian Law Enforcement Police Network
30. Request to Min of Finance for permission to accept funds from Universal service Fund to support JCF Tablet Computer Programme
31. Requirement Specification for purchase of Drones
32. Safe City Proposal – Digicel
33. Security Assessment of Correctional services dated 13th March
34. TORs – E-GovJa proposed assistance for Data Integration Project
35. UK Home Office National CCTV Strategy
36. Various Vendor Proposals for Technology Applications

ANNEX C – LIST OF PERSONS CONSULTED

NAME	AGENCY	POSITION
ACP Glenford Hudson	Jamaica Constabulary Force	Services Branch
Actg. Commissioner Novelette Grant	Jamaica Constabulary Force	Actg Police Commissioner
Andrene Gayle	E-GovJa	Analyst
Annika Shuttleworth	E-GovJa	Manager
Arturo Muelle-Kunigami	Inter-American Development Bank	Specialist in State Modernization
Camille Mejia	Inter-American Development Bank	Specialist in State Modernization
Capt Andrew Wynter	Passport and Immigration Control Authority	Chief Executive Officer
Cecil McCain	MSET	Director - Post and Telecommunications
Colleen Pigeon	Canadian High Commission	Security Branch
David Mitchell	Canadian High Commission	Head Security Branch
Dianne McIntosh	Ministry of National Security	Permanent secretary
Everton Stewart	Ministry of National Security	Projects Manager
Garth Soares	Ministry of National Security	Projects Manager
Henrique Smiley	Department of Correctional Services	Telecoms Officer
Hon Robert Montague	Ministry of National Security	Minister of National Security
Ina Hunter	Department of Correctional Services	Director
Joseph Livingstone	E-Tech Ltd	CIMS System developer

NAME	AGENCY	POSITION
Joseph Manley	Office of the Chief Information Officer	Actg Chief Information Officer
Keith Montague	Passport and Immigration Control Authority	IT manager
Lisa Gaye Greene	Mona Geo Infomatics	Projects Officer
Lt Col Mahatma Williams	Jamaica Defence Force	JIOC
Lt Col Rohan Johnson	Jamaica Defence Force	JIOC
Maj Gen Anthony Anderson	Office of the Prime Minister	National Security Adviser
Maj General Rocky Meade	Jamaica Defence Force	Chief Of Staff
Major Sheldon Bryan	Jamaica Defence Force	JIOC
Maurice Barnes	E-GovJa	Chief Executive Officer
Michelle Lemmon – Policy	Ministry of National Security	Policy Branch
Mitsy Beaumont- Daley – MNS Legal Officer	Ministry of National Security	Head Legal Branch
Mr Gayle – Director DCS Security	Department of Correctional Services	Director of Security
Nadine Stewart	Ministry of National Security	ICT manager
Paris Leow Ayee	Mona Geo Infomatics	
Sharon Coombs	Private Security Regulatory Authority	Manager
SP Jacqueline Coombs	Jamaica Constabulary Force	Transport and Repairs
SP Kirk Rickets	Jamaica Constabulary Force	National Intelligence Bureau
SP Norris Rhoomes	Jamaica Constabulary Force	Head Information and Communications Technology Division
SSP Calvin Small	Jamaica Constabulary Force	National Intelligence Bureau

NAME	AGENCY	POSITION
SSP Desmond Brooks	Jamaica Constabulary Force	RPLSB
SSP Leonardo Brown	Jamaica Constabulary Force	Services Branch
Stephen Knight	Office of the Chief Information Officer	Assistant Chief Information Officer
Trevor Forrest	MSET	
Trevor McCurdy	Ministry of National Security	Projects Manager
Verona Lemonius	Firearms Licensing Authority	IT Manager
Walt Brown	E-GovJa	Analyst
Wayne Chang	Private Security Regulatory Authority	IT Consultant
Dr Grace Ann Cornwall	Ministry of National Security	Director Research and Evaluation Unit
Michelle Lemmon	Ministry of National Security	Policy Unit
DSP Hunt	JCF Half Way Tree Police Station	Station Supt
SSP Robinson	JCF Half Way Tree Police Station	Divisional Commander