



# INNOVATIONS FOR SUCCESSFUL SOCIETIES

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## PEOPLE AND MACHINES—BUILDING OPERATIONAL EFFICIENCY: DOCUMENT PROCESSING IN JORDAN, 1996 - 2005

### SYNOPSIS

When Awni Yarvas took over as head of Jordan’s Civil Status and Passports Department in 1996, he was in an enviable position in many ways. His predecessor, Nasouh Muhieddin Marzouqa, had moved forcefully to deal with inconsistent and time-consuming service delivery that had angered citizens who depended on department documents important to their daily lives. However, despite Marzouqa’s achievements on several fronts, the department was still inefficient in many ways. The department’s training system had to address low levels of computer use in processes, while the performance-management system required extension and systematization. High levels of data-entry errors by employees continued to vex citizens. During his nine years as director general of the department, Yarvas, a former intelligence officer, significantly improved departmental efficiency, accuracy and public credibility by further simplifying processes, bolstering employee performance and capitalizing on technology. In both citizen and government circles, the department gained an even stronger reputation as a highly visible service delivery success by the end of Yarvas’ tenure.

*Deepa Iyer compiled this policy note based on interviews conducted in Amman, Jordan, in November 2010. A separate memo, “Creating a Citizen-Friendly Department,” covers Marzouqa’s efforts from 1991 to 1996.*

### INTRODUCTION

In the late 1980s and early 1990s, disarray at the Civil Status and Passports Department provoked repeated complaints from citizens on Jordanian radio, newspaper, and television. The department issued a variety of documents including passports, birth and death certificates, family books, and national identity cards. Long waits interrupted citizens’ lives by obstructing

access to government services, benefits, safety net programs and foreign travel.

From 1991 to 1996, reforms led by Director General Nasouh Muhieddin Marzouqa revitalized the CSPD. Several initiatives—restructuring the department, motivating employees, streamlining processes and enhancing training—improved service delivery and convenience for citizens. Still, when the

cabinet appointed Marzouqa to direct the Public Security Department in 1996, much work remained to be done.

Shuhaiber Hamdan, who worked at the CSPD for 40 years and directed its Department of Administrative Development, said, “Even after Marzouqa’s time, the department still had room for progress to achieve full efficiency and perfect service delivery. There was always room for progress.” Four key areas required attention. First, although the department had computers, it lacked trained staff to maximize their usefulness. Many employees frequently found manual ways to get things done, bypassing the computers and making processes unnecessarily labor intensive and more prone to corruption and error. Computer use in processes required standardization. Second, the training regime required restructuring to become an integrated and coherent system. Under Marzouqa’s training program, every employee could perform every process, but computer use was not part of the pedagogy. Third, performance management required a systematic policy framework. Although Marzouqa had promoted individuals based on qualifications rather than seniority and had linked bonuses to performance, his efforts were largely ad hoc. Fourth, data-entry errors remained a significant problem. Department employees estimated that at least 40% of the system’s data contained some sort of inaccuracy. Although Marzouqa had used Jordan’s national number to sharply reduce errors stemming from similar names, the problem of input errors by employees remained unaddressed.

In addition to correcting these internal deficiencies, Marzouqa’s successor had to sustain the department’s initial reforms. In April 1996, the Council of Ministers appointed Awni Yarvas, a former major general in the General Intelligence Department, as director general of the CSPD. According to Hamdan, Yarvas “had an eye for detail and the capacity to keep his eyes on everything happening in the department. I

think that this, and, of course, good performance in his previous position, led to his appointment.”

During his decade-long tenure as head of the CSPD, Yarvas built upon Marzouqa’s initial reforms by standardizing training and performance-management systems for the department’s nearly 1,000 employees, promoting the use of technology in production processes, and correcting the causes of data-entry errors. Salman Qudah, a department employee of 26 years, said, “Marzouqa’s era involved achieving manual efficiency, while Yarvas’ era involved achieving technical efficiency. Yarvas brought the department into the modern era.”

This case study demonstrates how a manager can boost efficiency and service delivery by using a predecessor’s achievements as a springboard. By 2005, efficiency at the CSPD reached a maintainable peak, as processing times for all documents were cut to 30–45 minutes without compromising quality. These changes earned the recognition of Jordanian political commentators, government officials, citizens and international documentation organizations. At the time of the interviews in late 2010, government officials and citizens alike rated the CSPD as Jordan’s most efficient and improved public-service department. Interviewees attributed the persistence of the department’s reforms to continuity of leadership, which contrasted with frequent top-level turnover in other Jordanian government operations.

## THE CHALLENGE

When he joined the CSPD in 1996, Yarvas said, he spent his early weeks closely studying the department’s inner workings to learn “the daily procedures, processes, people—the nature of the job itself.” He knew that processes could always use simplification to maximize efficiency and eliminate delays and bottlenecks. Khaled Taha, a long-time department employee who in December 2010 was assistant director of

administrative development, agreed that process evaluation was crucial: “This department is all about processes. Every single thing is a process, or a sub-process, or a process within a process.” Within a month, Yarvas had identified key interrelated focal points for promoting progress.

The department’s technical inefficiencies affected citizens in different ways. Because citizens’ civil files were kept only at their local branch offices, residents of Zarqa, for instance, could get their documents only at the Zarqa branch. If they moved to Aqaba, they had to return to Zarqa for all document-related transactions because their files remained in their former hometown. Although Marzouqa had connected some branches’ computer servers to the department’s main Amman server that employees in different locations accessed to run programs, the process was incomplete, leaving branches unconnected. The department had to make it possible for any citizen to receive any service at any of the 74 branches throughout the country.

CSPD also made inefficient use of its computer resources. Marzouqa had revised manual processes and trained employees in all types of document issuance and renewal procedures so that employees could handle many different tasks. Although many workers gradually began to use computers for data entry, computer skills varied greatly among employees, processes and branches. Yarvas said, “Marzouqa had made the department partially rely on computers in processes and had enforced this, but it needed to be maintained and extended.” Recognizing what he called the “link between the machines and the people who work them,” Yarvas knew he had to ensure that employee capacity kept pace with technological gains. Doing so required the creation of a comprehensive training system, because no in-house training program existed for all department employees, and especially for new ones.

Data-entry error posed an additional problem. Qudah said, “There was little assurance of quality. I would estimate that around 40% of the data previously entered was incorrect somehow, possibly even more.” To address errors stemming from similar names and inconsistent spelling, Marzouqa had begun using national numbers, unique identification numbers held by every citizen. However, he had not instituted a system for verifying the entered data. Such mistakes were costly for both the department and citizens, causing document duplication and requiring court cases to verify documents.

Finally, Yarvas wanted to strengthen incentives for employee performance. Marzouqa had created a Central Inspection Office that attempted to monitor individual employee performance in several ways, including the number of applications handled, the quality of interaction with citizens and colleagues, accuracy and the completion of assigned tasks. He had allocated bonuses based on these criteria, a move that helped to improve the quantity of documents processed. Yarvas wanted to build on this system by standardizing its use across all branches and employees and adding additional criteria for setting bonuses.

## FRAMING A RESPONSE

Yarvas quickly realized that pre-reform capacity building was critical prior to undertaking any large-scale changes in production methods, training or performance management. Working with a team of senior employees, he charted the department’s potential for technical and personnel development, collecting information to identify opportunities for improvement.

Yarvas knew that the successful implementation of technical changes in processes and data entry hinged on the skills of his staff. “First, I needed to know who was qualified, because machines can’t do the job on their own,” he said. “They need qualified people

working behind them.” He formed a human-resources committee composed of senior Central Inspection Office staff to survey the department’s 978 employees. The survey asked department employees about attendance at computer training courses at private institutions, degree qualifications in programming or computer administration, and use of computers in daily work.

The study found that many employees still did not use computers, mainly because of a low level of training. Results indicated that only 30% of department employees had attended training courses. A related problem was that many department employees who did have computer training often were in positions that required mainly manual functions. “They had the qualifications but still operated manually because the entire department was more comfortable with manual when it came to producing documents,” Yarvas said. “We identified two linked steps on how to proceed: exploiting the machines by integrating technology into production processes, and training people to handle this change.”

Because computers were used and distributed unevenly across employees and processes, Yarvas believed that standardizing their use across all processes and employees would improve speed, accuracy and, ultimately, service delivery. Upgrading and repairing the CSPD’s aging information-technology equipment was imperative. Yarvas continued the advisory partnership with the Royal Scientific Society that had been initiated by Marzouqa. Consultants from the society, working with the department’s technology unit, assessed the capacity of the main server in Amman and added crucial memory to the system. The group also had the Ministry of Communication organize telephone and Internet cables, built special office storage for

technical equipment, and installed generators to maintain power during electrical outages.

## GETTING DOWN TO WORK

Yarvas started by focusing on short-term staffing requirements. Working with the Royal Scientific Society, a nonprofit technical advisory body, senior employees of the Central Inspection analyzed staffing needs. Establishing goals for different processes and sub-processes, they listed the baseline degrees and qualifications required for each task. They estimated and tallied the numbers of different types of employees required for different functions, matched this to the department’s existing capacity, and worked on closing the short-term capacity gap via training. Based on this initial needs analysis, Yarvas had employees within each category take external training courses to kick-start initial changes. For instance, 50 employees might be trained in data entry, or 20 might be trained in programming, according to department demand for these skills. Relying largely on promises of higher annual bonuses to encourage cooperation, the department in October 1996 began to roll out orchestrated reforms.

### *Extending training*

During his tenure, Marzouqa had sent assistant managers to training programs at institutions such as the Royal Scientific Society and the Jordan Institute of Public Administration, the civil service’s training body. He occasionally had brought their specialists to CSPD offices to conduct training. Veteran employees sometimes had trained new ones, but that decision often had been left to individual discretion. Yarvas continued Marzouqa’s policy of training all employees in all procedures, creating a “comprehensive” employee who could switch tasks easily to meet seasonal shifts in

document demand. Additionally, under Yarvas, the department started training employees systematically to deal with increased computer use in processes. Yarvas chose the experienced Hamdan to develop and manage a cohesive in-house training program for all employees.

Hamdan set a high bar for his trainees. Under his system, all new employees underwent an intensive, month-long course in Amman on computer use, processes and the laws that applied to the department. The workers met in a classroom specially cleared out for the purpose at the main Amman branch. At the end of the course, employees took two written tests: one on computer use and one on laws. To pass the training, employees had to score at least 90% on the computer-use test and at least 80% on the legal one. Failing to do so meant they had to retake the training and examinations. “We set the baseline score so high to make it clear that our employees had to know everything about their jobs,” Hamdan said. To ensure consistence in staff capacity, veteran employees had to pass the same written tests, although they did not necessarily have to take the same one-month training course. “Even if they had 20 to 25 years of experience within the department, they were still tested,” Hamdan asserted.

#### *Systematizing performance management*

New employees had an incentive to perform well in the training because their exam grades at the end of the course determined their qualifications and placed them on distinct career paths. Although exam grades determined the positions assigned to new employees, subsequent promotions depended on additional criteria from the employee-performance reports compiled by the Central Inspection Office.

Yarvas, like Marzouqa, linked bonuses to performance, but with some important changes that formalized the award system and added criteria for setting bonus amounts. The department distributed annual bonuses from a

pool specially allocated by the Ministry of Finance. Previously, application output had been the main factor used to calculate bonuses, but Yarvas added variables such as the number of applications an employee’s branch received, volume of workflow, population density served by the branch, and the type of employee. “Quite a few employees, upon noticing these financial incentives, willingly expressed their desire to attend training and improve their skills,” recounted Yarvas. Because rigid civil service constraints applied mainly to hiring and firing, Yarvas had the latitude to change procedures and requirements involving employee training and performance.

#### *Technical changes*

While creating a training regimen that would facilitate technical change, Yarvas focused on expanding computer use in data entry and retrieval, and integrating technologies more deeply into all document-production processes.

Yarvas finished linking all branches to the main Amman server and to one another. This effort required the creation of a central data repository in Amman that was then made available to all branches. When the department had operated manually, citizens had two files at the department archives: one for passports and one for civil status. Employees had to crosscheck both against information that was submitted on applications, a tedious and time-consuming process. Linking branches to the main server meant that any citizen’s files were electronically available at any branch. Employees could simply enter the citizen’s national number to access all of the citizen’s personal information on any department computer.

Importantly, connecting branch computers to the main server allowed Yarvas to get a faster, more accurate picture of application volumes and outputs across branches and processes. Marzouqa had collected this kind of information

from daily reports that had to be compiled by branch managers. The changes improved the flow of information and saved managers' time.

Increased digitization of production processes officially began in October 1996 with birth certificates. This process was the simplest and most affordable, as it required only data entry, data verification and printing onto a single sheet of paper. Employees entered data into the computer system by using the national numbers of the newborn's parents, verified the information electronically and automatically printed the document.

By December 1996, the department had expanded automation to other civil status documents, including death and divorce certificates. By May 1997, national identification cards were computerized, and by 1999, production of all documents, including passports, had fully incorporated computerization. Expanded training programs and performance-management systems facilitated the staff's adjustment to revised processes.

#### *Data accuracy*

According to long-time department employees Qudah, Hamdan, and others, 40% or more of the information entered into the computers was incorrect in some way at the start of Yarvas' tenure. Data-entry errors that resulted in duplicate documents were a significant problem because citizens had to go to the courts to get their documents fixed.

Yarvas launched an accuracy drive, stressing to department employees that quality of data entry was critical. "It was not optional. It had to be 100% correct," he said. Validating the system required correcting existing errors as well as preventing future mistakes. To correct erroneous data in the system, employees were assigned to double-check applications that came in for issuance or renewals with the department's records and with the citizens who presented the

applications. Citizens who had mistakes in their documentation due to data-entry errors received free renewals and corrections at the department.

To prevent future mistakes, Yarvas changed the system. Previously, each employee assigned to data entry had to enter 200 families daily into the computer. Because this approach emphasized quantity over quality, employees often made mistakes as they rushed to finish their daily assignments. Shifting the emphasis to quality rather than quantity, Yarvas began fining employees who made data-entry mistakes.

When a mistake was discovered—often by an inconvenienced citizen—supervisors traced it back to the responsible employee, who would be fined through a pay deduction. In cases of repeated mistakes, where fining did not work as a form of prevention, Yarvas instructed managers to bring employees responsible for the errors face to face with the citizens affected by the mistakes. If mistakes still continued, the employee received an administrative punishment—a fine divided among his colleagues within his subunit, and a lower annual bonus. These measures worked to prevent mistakes, and data-entry errors became rare. If an employee still continued to make errors, supervisors transferred the person to manual functions, as civil service regulations all but precluded firings.

#### *Improving processes*

Yarvas constantly searched for ways to improve processes. For example, he decided to issue all department documents in both Arabic and English to simplify international use of documents for students studying abroad and traveling citizens. Previously, the department had issued documents only in Arabic. To allow for consistent translations from Arabic into English, Yarvas had a committee within the department compile a dictionary of common Arabic names with standardized English translations. He then contacted the Ministry of

Education, which kept an English database of the names of all students taking secondary-school examinations. The CSPD used the database to link Arabic names to standardized English spellings.

Yarvas also relieved a bottleneck caused by work requirements on branch accountants, the employees who collected and recorded fees. By law, accountants had to fill out three separate sheets of paper containing the name of each citizen, the citizen's national number, application input information, and his or her application fee. The accountant kept one copy in his receipt book, gave one to the applicant, and kept a third in the citizen's archival files.

Yarvas was unable to hire more accountants due to stringent civil service regulations and budget limitations. With the Finance Ministry's approval, he instituted a program under which accountants each morning received books of tickets that indicated the fees required for all types of documents. Each citizen who came to pay a fee received a ticket. When the citizen paid the amount indicated on the ticket, the accountant simply attached a second ticket copy to the citizen's application file. Then the ticket number was entered into the computer and added to the citizen's electronic files. Instead of writing detailed receipt and application information down, accountants merely issued tickets and entered ticket numbers into the computer. "Now, instead of having crowds waiting or an accountant who had to fill out three copies, you had a ticket mentioning the fee," Yarvas said.

The ticket system also worked to emphasize accountability and reduce corruption. Because each book held a specific number of tickets and each document had a specific fee, employees had no excuse if the total sum of money in their registers did not match the simple arithmetic of multiplying the number of tickets issued by their

respective fees. "It worked to lower corruption because the documentation was shortened," Yarvas said. "The employee just wrote down that they issued 200 tickets, which generates a set amount of money, and the Ministry of Finance could easily verify these in the accounts." The ticket system also saved the department money, as ticket books cost 1,200 Jordanian dinars (about US\$1,700) a year, a small fraction of the three-copy system's annual cost of 14,000 dinars.

## OVERCOMING OBSTACLES

Yarvas ran into the same obstacle that his predecessor, Marzouqa, had encountered: workers who were comfortable with the status quo. "Employees naturally were afraid of new changes," said Yarvas of the major hurdle he had to overcome. "For any person, it's a human trait: If anything new approaches, you're afraid of it." Many employees were unwilling or unable to adapt to the technological changes within the department, engendering resentment between older employees and their younger, more tech-savvy counterparts.

Again, Yarvas' response was systematic. He observed that, in confronting changes, his employees could be divided into three groups. Those who already had computer qualifications and who were performing tasks unrelated to their degrees were largely enthusiastic about their transfers to relevant departments, and did not pose a problem. A second group that lacked qualifications initially resisted change, but these workers later became enthusiastic when they learned that they would be trained.

The third group was the key problem: employees who resented all changes and did not take to training. Some of these employees could be enticed by annual bonuses that now depended on their performance. Because firing was not an option under labor regulations, employees who

could not or would not accept changes and training were transferred to manual functions such as filing archives.

Another key obstacle faced by Yarvas related to the budgetary constraints of acquiring updated equipment. Updated or new equipment for processes—whether computers or printers—required money. Additionally, with new technologies constantly emerging, machines often became obsolescent quickly. Given a limited budget, at the start of his tenure Yarvas had consultants from the Royal Scientific Society initially map the lifespan of all department machinery, allotting money to machines that required immediate updating for processes to continue at a steady pace.

For the long-term investment of acquiring new machines, Yarvas and the Royal Scientific Society conducted detailed analyses of processes and procedures, keeping a close eye on which machines were obsolete. These machines were replaced subject to the department's budget, with Yarvas frequently requesting extra funding from the Ministry of Finance. "Budget was initially a problem," he said, "but I marketed these things to the budgeting department in the Ministry of Finance. We convinced the decision makers of their importance." Yarvas' team also applied for and received grants from the United Nations Development Programme to further develop technical elements such as electronic archiving and backup disaster-recovery systems.

## ASSESSING RESULTS

Yarvas' multi-pronged efforts bore fruit. By 2005, at the end of his tenure, the time required to issue and renew all documents fell to 15-45 minutes from approximately two hours at the end of Marzouqa's tenure. The department maintained that performance level into 2010, as processing times became consistent across all

citizens and all documents. Reduced processing times corresponded to streamlined processes and increased employee productivity during the 1990s and early 2000s.

Accuracy also improved vastly during Yarvas' tenure. According to Hamdan and other department employees, the department corrected all previously existing errors in the electronic system and archives. At the same time, practices instituted for preventing further mistakes—improved training, cohesive performance management, and employee fines—proved effective.

The CSPD's successes drew recognition. King Abdullah, visiting the department in disguise towards the end of Yarvas' tenure, noted the department's ease of operation and positive interactions with citizens. International conferences (held by the U.N. and the International Civil Aviation Organization) hosted panel sessions on the department's efficiency and effectiveness. Citizens' blogs cited interactions with the department as positive government transactions, while citizens offered ready praise to the department in radio talk shows and through letters. In 2005, the Council of Ministers recognized Yarvas' achievements at CSPD by appointing him to head the Interior Ministry.

## REFLECTIONS

Interviewees attributed the Civil Status and Passports Department's successes in improving service delivery to sustained leadership, something of a novelty in Jordanian politics, where frequent cabinet and director turnover (typically every 1-2 years) often stymied reform attempts. Department veteran Shuhaiber Hamdan said, "This was very unusual in Jordan. CSPD is, perhaps, the only department where one leader was humble enough to build off

another's work while instituting his own reforms as well. You did not have a dismantling of prior reforms. This is why it worked so well."

Awni Yarvas, who served as director general from 1996 to 2005, agreed that his strategy was to expand and bolster the reforms of his predecessor, Nasouh Muhieddin Marzouqa, rather than to tear down and start over: "When you start at a department, you don't start from zero," Yarvas said. "You build off your predecessors."

Importantly, reforms placed a premium on increasing convenience for citizens, who had

better things to do than stand in line for government documents. Yarvas expressed confidence that the Jordanian public was pleased with his work. "The citizen felt the impact of this reform," he said. "Ask any citizen in the street."

Raghda Butros, a prominent citizen activist, wrote enthusiastically on her blog in September 2010, "Whoever is behind the process at CSPD and other departments that perform this well—be it the person or people who develop the system or the people who run and execute it—deserve recognition, praise and gratitude."<sup>1</sup>

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#### Notes:

<sup>1</sup> Butros, Raghda. "A Positive Government Transaction." 19 September 2010. <<http://www.7iber.com/2010/09/positive-government-transaction/>>.

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