DEMOBILIZATION REINTEGRATION PEACE & SECURITY
News & Noteworthy

Biometrics in the bush

In remote areas of the Democratic Republic of Congo, where roads and running water are scarce or simply non existent, a sophisticated technology is being used to identify ex-combatants.

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Launched in 2004, the *Programme national de désarmement, démobilisation, et* réinsertion (PNDDR) in DRC is supporting the return to civilian life of combatants who fought during Africa's so-called first "world war" in the late 1990s and early 2000s. The largest program supported by the MDRP in the Great Lakes region, with a total cost of $270 million, the PNDDR has so far overseen the demobilization and reintegration of more than 102,100 combatants. Moreover 29,000 former child soldiers have also been released from armed groups.

"One of the key elements of demobilization programs is the reliable identification and documentation of former fighters from rebel groups or armed forces" says Roisin de Burca, Senior Social Development Specialist and project manager for the DRC program. She adds: "After being disarmed, combatants have the choice of joining the new army or reintegrating civilian life. For those who choose demobilization, general information such as name, age, area of origin, area of reintegration and socio-economic profile, is recorded, and each ex-combatant is issued an identification card. These cards enable ex-combatants to receive further assistance within the project and to limit duplication and fraud."

Cash payments to former combatants

Under the PNDDR, each eligible ex-combatant is entitled to reinsertion payments of $410, paid in installments, to assist him and his family return to their place of origin (or another place of choice) and to reestablish their household. During this transition phase, the ex-combatant registers to receive further reintegration support (skills training, literacy, agriculture, etc).

To ensure that reinsertion payments are handled effectively and that no fraud is possible, the identification of each

beneficiary and the tracking of the benefits he or she may receive are essential. Indeed, without such a system in place, ex-combatants may be able to be processed through the program more than once, thus receiving program benefits numerous times.

The issue of secure identification was particularly acute in DRC, where there is a total lack of birth registration or national identification. Since the PNDDR targeted 150,000 ex-combatants, it was imperative that the selected identification process be not only simple and quick, but also very dependable.

What is biometrics?

The national institution for the implementation of the project chose to contract BioID Technologies, a Swiss firm specializing in biometrics identification.

Generally speaking, biometrics is the science of measuring biological data. In information technology, biometrics refers to technologies used to authenticate a person based on a physiological or behavioral characteristic. Physiological (static) characteristics are based directly on parts of the human body (for example the face or fingerprints), while behavioral (dynamic) characteristics are based on an action taken by a person (for example voice and lip movement while speaking).

One of the most common forms of biometrics is the use of fingerprints, ubiquitous in the criminal justice system. In DRC though, the project team selected the use of a different physical attribute: the iris.

"Eyes watch but cannot take" ***Bahaya proverb***

Iris scanning technology fit the project demands perfectly. The iris is actually more accurate for identification than fingerprints, and the technology used in this system of identification is surprisingly simple. All that is required is a specialized camera and a computer.

The uniqueness of eyes, even between the left and right eye of the same person, makes iris scanning very powerful for identification purposes. The likelihood of a false positive is extremely low and its relative speed and ease of use made it the right tool for the PNDDR.

In DRC, demobilization teams were able to reach the most remote areas of the country with laptops configured with specialized cameras and satellite transmitters providing internet access. All information was then sent through this connection to a central database in the capital, Kinshasa.

Iris Scanning:
a recent technology

The idea of using iris patterns for personal identification was originally proposed in 1936 by ophthalmologist Frank Burch. By the 1980's the idea had appeared in James Bond films, but it still remained science fiction and conjecture. In 1987 two other ophthalmologists, Aran Safir and Leonard Flom, patented this idea, and in 1989 they asked John Daugman (then teaching at Harvard University) to try to create actual algorithms for iris recognition. These algorithms, which Daugman patented in 1994 and are owned by Iridian Technologies, are the basis for all current iris recognition systems and products.

How does it work?

A scan of the iris analyzes the features that exist in the colored tissue surrounding the pupil which has more than 200 points that can be used for comparison, including rings, furrows and freckles. The scans use a regular video camera and can be done on subjects wearing glasses.

The user places himself so that he can see his own eye's reflection in the device. The user may be able to do this from up to 2 feet away or may need to be as close as a couple of inches depending on the device. Verification time is generally less than 5 seconds, though the user will only need to look into the device for a couple moments.

The database created with the BioID team was used to produce other listings that allowed the project team to closely follow up the particular benefits owed to and received by each of the ex-combatants targeted by the program.

The technology therefore proved invaluable to reassure the government of DRC and project partners that there is little chance of duplication of payments or receipt of benefits to the ex-combatants.

“What we do in Congo is amazing”, says Benjamin Burckhart, Managament Information System Specialist, who works on the PNDDR implementation since 2006. “We’re using a really sophisticated technology that is also simple enough to be used in hard to reach areas. And it is very reliable. Very few fraud attempts have been recorded since we started using this system”.

Since the first contract with BioID was established back in 2004, the iris scan technology has improved. Smaller cameras are now available, which makes the system easier to transport. The project will use BioID again in the next demobilization phase of about 30,000 ex-combatants from the DRC army.

For more information on MDRP, please visit www.mdrp.org or contact Chantal Rigaud Communications Officer, MDRP Secretariat, World Bank at info@mdrp.org.