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Billy Goat Radio: MRE in Sahrawi Refugee Camps

by [Luisa Scapolla](#) and [Emanuela Elisa Cepolina](#) [[Snail Aid – Technology for Development](#)]

Billy Goat Radio, a mine-risk education tool, enables local operators to easily write and produce short educational serial dramas, which can be radio broadcast and performed live for mine-affected communities. A pilot project using Billy Goat Radio was fielded in Sahrawi refugee camps in southwest Algeria in late 2013.

Mine or unexploded ordnance (UXO)-affected areas are often isolated, remote regions where mine-risk education (MRE) teams cannot stay for long periods of time, and project budgets rarely allow expensive television campaigns. Billy Goat Radio aims to offer isolated and at-risk communities necessary, cost-efficient MRE messages through less-expensive options, including radio, live shows and group discussions. This methodology is based on the concept of edutainment, a blending of education and entertainment. It uses radio as the main communication source because of its widespread availability. Snail Aid – Technology for Development created Billy Goat Radio within the TIRAMISU framework, an EU co-funded project aimed at developing a comprehensive toolbox for humanitarian demining.¹ The tools in development are divided into three main categories:



The Sahrawi refugee camp of Dakhla.
All photos courtesy of Snail Aid - Technology for Development.

1. Demining planning tools, which will help to locate landmines and UXOs, and define contaminated areas.
2. Detection and disposal tools, which will neutralise mines and UXOs and safeguard the lives of operators.
3. Training and Mine Risk education tools.

These tools will be tested and validated in mine-affected countries and will also be enhanced by state-of-the-art technologies (robots, UAVs, etc.).

MRE Through Serial Radio Dramas

Radio broadcasts can effectively spread information to isolated communities.² Radio transmissions are highly accessible, radio programs are cheap to produce, and radios themselves are available and easy to use. Moreover, access to an electrical grid is not essential, as battery-powered devices can use chemical, solar or mechanical energy.

For these reasons, radio has often been the preferred method of broadcasting educational serial dramas in order to entertain and educate receivers about health and family-planning issues. However, within the MRE field, radio's educational power has been largely underestimated; MRE actors have primarily used radio broadcasts to spread information through discussions, interviews and debates.

Serial dramas, generally called soap operas or novelas, provide an opportunity to implement edutainment strategies. As the plot develops over multiple episodes, popular characters gain the public's attention, and audiences identify with the fictional characters and their problems. By appealing emotionally and cognitively, serial dramas with educational content allow audiences to learn through identification (listeners recognize themselves in the narrative's characters); comprehension (listeners observe the consequences of characters' decisions); and imitation (listeners analyze characters and begin to imitate their behavior). Miguel Sabido, former vice president for research at Televisa, the biggest Mexican commercial television network, developed this special entertainment-education strategy using serial dramas based on the audience's daily lives between the 1970s and 1990s, and it was adopted in more than 70 countries.



An actor helps translate a questionnaire during the group discussion session in the Sahrawi refugee camp of Smara.

Billy Goat Radio applies Sabido's theories of edutainment, enabling operators to create dramas through modular kits, which use an adaptability system that consists of several completed scripts. Scripts can be adjusted to local contexts as well as several corresponding sets of cards. The first set consists of dramatic cards that allow operators to adjust the narrative based on local customs and nuances of daily life. Two other sets of cards depicting explosives (one for landmines, one for UXO) let operators choose different MRE messages according to three variables: conflict stage, type of threat and target audience—the latter varying between unaware, uniformed, reckless and intentional audiences. With this system, operators can quickly develop a narrative that includes MRE messages that appeal specifically to local communities.

Billy Goat Radio: Sahrawi Refugee Camps

In September 2013, Snail Aid collaborated with Brimatech Services GmbH, another TIRAMISU partner, to carry out a pilot campaign using the Billy Goat Radio system in the Sahrawi refugee camps near Tindouf in southwest Algeria. The mission lasted from 13 September to 5 October 2013. The small team included two persons from Snail Aid and one from the Austrian company Brimatech.

While Snail Aid implemented the campaign, Brimatech evaluated the impact of the Billy Goat Radio system on the target audience. The mission was supported logistically and technically by the *Asociación Saharawi de Víctimas de Minas* (Association of Sahrawi Victims of Mines or ASAVIM), and benefited from collaboration with the Ministry of Information of *Republica Araba Sahrawi Democratica* (RASD), *Radio Nacional de la RASD* (Radio RASD) and the Ministry of Culture of RASD.³

As a result of the war and subsequent fighting between the Moroccan government and the Polisario (Popular Front for the Liberation of Saguía el Hamra and Río de Oro)—the national Sahrawi liberation movement—Morocco built a defensive 2,700-km (1,678-mi) long earthen wall known as the Berm. The wall separates Polisario-controlled sections to the east from the rest of the Sahrawi population, who still live in Morocco-controlled coastal territories.

A 5-km (3.1-mi) wide area east of the Berm is neither fenced nor marked, yet it is heavily mined and cannot be cleared due to political reasons.⁴ While areas around the Berm are the most seriously affected, mines were also laid around settlements and were reported in and around waterholes and well-used roads and paths.⁵

According to the U.N. High Commissioner for Refugees (UNHCR), as of January 2013, an estimated 116,578 Sahrawi refugees live in the camps near Tindouf, Algeria, at the border between the liberated territories. In 2013 alone, 40 victims and 116,452 refugees were recorded.⁶

A data assessment made available by ASAVIM, the local partner that supported the mission to the camps, and survey outputs conducted by Action on Armed Violence (AOAV) in 2008 show two groups among survivors most at risk from explosive remnants of war. People over 60 years of age who live in the camps and travel to the liberated territories are most at risk from anti-tank mine incidents. People under 60 years of age in the Polisario-controlled territories who engage in livelihood activities typical of nomadic lifestyles, such as grazing and collecting wood and food, face threats from anti-personnel mines and cluster bombs.⁷



The actors during the live performance of the first episode of "Billy Goat: The story of Mariam and Yahdi."

Billy Goat Radio Tools

The Billy Goat Radio system tested in the Sahrawi refugee camp had four essential components: technical equipment, radio broadcast serial drama, itinerant live shows and group discussions.

Technical equipment. As a popular mass medium in developing and industrialized countries, radios and radio stations are present in almost every area of the world. Testing of the Billy Goat Radio tool in the Sahrawi refugee camps was conducted in collaboration with Radio RASD, which is available in the camps, Polisario-controlled territories, Mauritania, Algeria and in several southern European countries.⁸

The equipment necessary to record and edit the audio episodes is cost-efficient, easy to transport and includes several elements: an amplifying system, an audio-acquisition device, a laptop with a library of sound effects, a set of microphones and software for audio post-production.

The pilot program's cost was received from ASAVIM for EU€2,000 (US\$2,547 as of 29 October 2014) for support, transportation *in loci*, the actors, the organization with the radio and the script's translation. It took EU€2,000 to purchase all recording equipment including laptop, software, microphones, mixer, memory sticks and stationary; however, the radio station did not have to pay to broadcast the episodes and was given the materials after it was used for the local work. The trip and accommodations for those who took part in the mission was €3,000 (US\$3,821).

Radio broadcast serial drama. The radio broadcast serial drama consists of a short story divided into six episodes. The story created for the first pilot-evaluation campaign is called "Billy Goat: The Story of Mariam and Yahdi." The Snail Aid team recorded, edited and produced the serial drama performed by actors, which was delivered in digital form to Radio RASD. The episodes were preceded by an advertisement and broadcast roughly every three days around 7 p.m. West Africa time.

The plot was based on common cultural themes: love, dignity, friendship, good and evil. It was altered to the local context using the adaptability system both to suit the local scenario in terms of local customs and MRE messages. While the set of dramatic cards was used to adjust the general plot to the particular nuances of daily life of Sahrawi people, the set of explosive cards was used to choose the MRE messages most suitable to the local context.

	Episode 1	Episode 2	Episode 3	Episode 4	Episode 5	Episode 6
Victim Assistance	X	X	X	X		
Where and when accidents can occur		X	X	X		X
How accidents can occur		X	X	X		X
Safe behaviors		X	X	X	X	X
Actual demining actions						X
Indicators which can make you think you are in a contaminated area						X

Table 1. Distribution of MRE messages used in the Sahrawi refugee camps in Algeria. Table courtesy of Snail Aid - Technology for Development.

Table 1 shows distribution of MRE messages by theme and episode used for the first in-field evaluation of the tool in the Sahrawi refugee camps in Algeria.

Itinerant live shows and group discussions. Local actors performed itinerant shows live for various audiences in three different refugee camps. Snail Aid, Brimatech and ASAVIM staff accompanied the actors, providing technical support and management for the equipment, which included an amplifier, cables, camera, laptop, microphones and

video camera.

In the Sahrawi refugee camps, live shows consisted of storytelling instead of theater, as storytelling is more similar to the local custom. Actors sat in a line before the audience to perform their roles while gesturing among each other. After the performances, group discussions were held with the audience.

The itinerant shows promote the radio serial drama and provide a venue for group discussion, during which educational themes are presented. Group discussions are principally intended to foster community interaction, reinforce MRE messages and evaluate the impact of the educational drama on the audience. To effectively involve the audience and ensure its members speak openly about their needs, knowledge and experiences with ERW, the group-discussion process employs a variety of participatory techniques such as small group exchanges of experiences and MRE games.

Conclusions

Through a series of questionnaires, Brimatech evaluated this methodology in the field before and during its implementation, revealing that the audience thought the story felt "really Sahrawi." The level of audience participation during live performances and group discussions was considerably high. Participants indicated that the delivery format of the MRE messages was appropriate. All respondents (100 percent) said they enjoyed listening to the play, and 88 percent of respondents said it was easy to follow, while 12 percent said it was not.

The radio staff believed the serial drama was well received by the public and were satisfied with the project's results. Following the last episode's broadcast of "Billy Goat: The Story of Mariam and Yahdi," Radio RASD requested permission to rebroadcast the entire serial drama. A second iteration of the evaluation is projected to take place in 2015. It will target people traveling through or living in the Polisario-controlled territories.

As expected, Sahrawi people living in the camps are generally well informed of the risks ERW pose due to past MRE campaigns. While the evaluation did not isolate the impact achieved by Billy Goat Radio from results achieved by previous campaigns, it highlighted the fact that previous MRE campaigns were not specifically aimed toward people most at risk.

The Sahrawis in the Polisario-controlled territories are physically difficult to reach; their nomadic lifestyle and logistical complications posed by the desert inhibit the spread of MRE messages. Billy Goat Radio has the potential to reach the Sahrawis living in the Polisario-controlled territories and the elderly who are more likely to travel to areas where Radio RASD is the only means of contact.

Snail Aid researchers mainly implemented the program. However, future work will be achieved by local operators, who will lower costs by avoiding the need for translation and interpretation in the field, travel and accommodation for international staff, and time for local context analysis conducted remotely.

All episodes are available on the Snail Aid website: <http://bit.ly/1qmrPhp>. 

A new pilot project aimed at testing and evaluating the system for adapting the serial dramas to the local context was successfully completed in Cambodia in October 2014. The European Community's Seventh Framework Programme (FP7/2007–2013) under grant agreement n° 284747 funded this research. Apart from the invaluable support from ASAVIM, the mission benefited from collaboration with AOA, the Sahrawi Campaign to Ban Landmines, Norwegian People's Aid, the Sahrawi Mine Action Coordination Office, and the Cheid Cherif Landmine and War Victims Center. In particular, the authors would like to thank Brimatech for the collaboration in field, Marie Frison of the association Amis du People du Sahara Occidental for her remote support and Jef, the Italian band who created the theme song.

Biographies



Luisa Scapolla has been a consultant with Snail Aid since 2012. She works extensively on the Billy Goat Radio project, developing screenplays and the adaptability system. She has a master's degree in architecture from the University of Genova (Italy).



Emanuela Elisa Cepolina has conducted research into sustainable and appropriate technologies for humanitarian demining over the past 10 years. She is president of Snail Aid, a not-for-profit social enterprise. She holds a doctorate and a master's degree in mechanical engineering from the University of Genova (Italy), and a bachelor's degree from the Dublin Institute of Technology (Ireland).

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An audience member listens during the performance of the third episode, in the Sahrawi camp of Dakhla.



The mainly female audience during the live show in the Sahrawi camp of Smara.

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8. National Radio RASD emissions can be picked regularly in frequency of 1.550 kHz medium wave and in the shortwave band, 41 m—equivalent to 7.460 kHz. For more information on the story and the programming of Radio RASD, see <http://bit.ly/1tMdkZP>.

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