

Self-monitoring for self-protection

Pesticides used on cotton are particularly toxic, and in Senegalese communities, where they are used in unsafe ways and without understanding of their hazards, serious adverse health effects are common. Training communities to monitor use and health impacts in the cotton-growing zone of Velingara in Senegal is starting to improve practices. Dr Alassane Sarr and Mourtada Thiam from PAN Africa report.

The problem of pesticide health effects in cotton growing systems in Senegal is widely acknowledged, but few data exist to document their extent and little headway has been made in modifying farmer practices to reduce them. The community monitoring approach is an effective way to monitor and report the health impacts of pesticides observed at local levels. It also explicitly aims to empower local communities to address their situation themselves and get actively involved in solving their problems. The approach used is based on

Community Pesticide Action Monitoring (CPAM), originally developed in Asia but now adapted by PAN groups and used worldwide^{1,2,3,4}. CPAM is a tool to document and create awareness of pesticide impacts on human health and the environment, based on Participatory Action Research (PAR). It involves the community members who undertake the research and discuss in their own language their experience of pesticide use.

PAN Africa and PAN UK have undertaken a community based monitoring (CBM)

continued from page 9

guarantee of reliability'. There is no further explanation or argument. However for independent literature, pages of text are used by EFSA to discuss relevance and reliability. Many restrictions are proposed to enable independent literature to be disqualified. Industry is allowed to disregard independent literature if it uses a different test animal, route of exposure, or specific test design (pp15-16). Industry can even cynically disregard literature if the purity/impurity of a chemical is not stated, while many pesticides are allowed on the market in Europe with unknown impurities and/or on the basis of industry tests performed for pesticide approval with unspecified purity of chemicals.

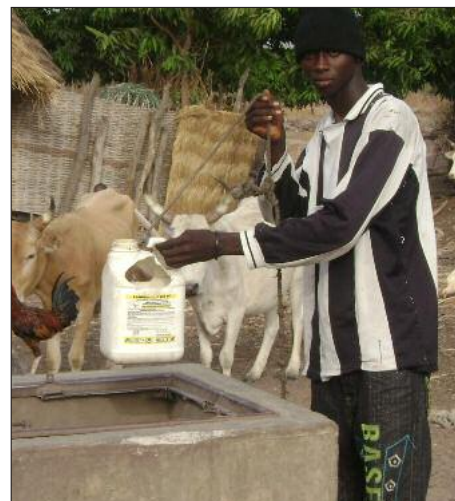
Furthermore, industry is allowed to disregard independent studies if it defines them as not reliable. Reliability assessment can be based on industry studies like that of Klimisch¹⁰, a study by BASF employees published in an industry journal, which says that industry/GLP studies are the highest ranking and independent studies only reliable with restrictions or even unreliable. Criteria for an assessment are derived from another (non peer-reviewed) industry paper¹¹, which will result in even more disqualifications for independent science and keep science at a distance, just as in the past.

EFSA here shows its true colours by choosing the side of big industry.

Hans Muilerman is Chemicals Officer for PAN Europe; hans@pan-europe.info

References

1. <http://www.efsa.europa.eu/en/efsajournal/pub/2092.htm>
2. Myers JP, vom Saal FS, Akingbemi BT, Arizono K, Belcher S, Colborn T, et al. Why public health agencies cannot depend on Good Laboratory Practices as a criterion for selecting data: the case of bisphenol A. *Environmental Health Perspectives*, 2009, 117:309-315.
3. Myers et al, op cit 2.
4. Lesser LI, et al. *PLoS Med*, 4(1): e5
5. Wise J, *British Medical Journal*, 1998, 318: 1553.
6. Bekelman JE, Yan Li and Gross CP, *Scope and impact of financial conflicts of interest in biomedical research JAMA*, 2003, 289(4):454-465.
7. Swaen GM and Meijers JM, Sept1988 'Influence of design characteristics on the outcome of retrospective cohort studies' *Br J Ind Med* 45(9):624-9.
8. Fagin D, and Lavelle M, 1999 'Toxic Deception: How the Chemical Industry Manipulates Science, Bends the Law and Endangers Your Health'. *Common Courage Press, 2nd Ed., Monroe, ME, USA*.
9. vom Saal FS and Hughes C, *An Extensive New Literature Concerning Low-Dose Effects of Bisphenol A Shows the Need for a New Risk Assessment*, *Environmental Health Perspectives*, 2005, 113:926-933.
10. Klimisch H-J, Andreae M and Tillmann U, *A Systematic Approach for Evaluating the Quality of Experimental Toxicological and Ecotoxicological Data*, *Regulatory Toxicology and Pharmacology* 25, 1-5, 1997.
11. Becker RA *American Chemistry Council, Janus ER Crop Life America, White RD American Petroleum Institute, Kruszewski FH Soap and Detergent Association, Brackett RE, Grocery Manufacturers Association, Good Laboratory Practices and Safety Assessments, Environmental Health Perspectives*, 2009. 117(11).



Using an empty pesticide container to draw water is a common practice and causes numerous incidents Photo: PAN Africa

survey in the main cotton growing zone in Senegal. This initiative aims to document the health impacts of pesticides at community level, with a focus on conditions of use. The project is implemented in the arrondissement of Saré Coly Sallé in the department of Velingara, which is the largest of the cotton-growing regions of Senegal, located 570 km from the capital Dakar. The project includes awareness on pesticides hazards and safe management, training on community-based monitoring for cotton farmers, and conducting the monitoring survey itself.

Baseline study

A preliminary study conducted by PAN Africa in 2009 in the area showed that hazardous pesticides are routinely used in unsafe conditions⁵. The pesticides users are often illiterate and don't wear adequate protective personal equipment (PPE) when spraying pesticides. The cotton farmers are often untrained and unaware of health and environmental impacts of pesticides. They often store pesticides within their homes and re-use the empty pesticide containers as water vessels. 95% of those interviewed did not use PPE, while more producers spray against the wind (74%) than with the wind. The farmers report a number of health symptoms after spraying pesticides, most commonly headaches (61%), blurred vision (59%), excessive sweating (57%) and nausea and vomiting (23%).

Awareness-raising of local farming communities

Six Awareness sessions were organised on pesticides hazards and safe management for four villages and two schools, which attracted 214 cotton farmers and 200 school students. The meetings with cotton farmers took place in the village square and comprised cotton farmers and their family members (women and children). The discussions highlighted the urgent need for cotton farmers to have key information on pesticides hazards, to strengthen the capacities on safe pesticides handling and to encourage the use of alterna-

tive pest control methods. A number of awareness materials (such as posters, video, leaflet) developed with the support of Africa Stockpiles Program (ASP) were given to the cotton farmers and school students.

'When SODEFITEX gives me my allocation of pesticides, I keep them where I think they'll be safest – in my bedroom'.

Training of cotton farmers

PAN Africa organised a three day CPAM session to train cotton farmers to carry out interviews with pesticides users and other community members. The workshop was attended by 25 participants from four rural communities in Saré Coly Salé. Participants were trained in the use of community-based monitoring tools and interviewing techniques to encourage self-monitoring of use and health impacts of pesticides.

Self monitoring by cotton farmer household members

Following the training sessions, trained monitors conducted a monitoring survey in their own communities. The objective of the survey is to assess current pesticide use and effects on the community members who extensively use the cotton pesticides. This study aimed to generate a community-specific monitoring framework by documenting pesticides use and their effects. Specifically, the survey focused on:

- highlighting the problem pesticides under actual conditions of use
- documenting specific pesticides incidents
- collecting information about the use of pesticides alternatives and empty containers management

The community monitoring survey took place between February and May 2011, and was conducted by 12 monitors from local cotton farming communities. In total 1183 farm-



PAN Africa team meets the cotton farmers and their family members in square of Ngoumbou Coly village
Photo: PAN Africa

ers were interviewed in 174 villages for the survey. Data were gathered through face-to-face interviews using a structured questionnaire. The questionnaires covered personal detail of respondents (such as identity, background, sex, age, ethnicity, marital status), household environment, pesticides use and identity, product identity, understanding of pesticides hazards and alternatives, purchasing and storage of pesticides, containers disposal and adverse effects of pesticides. The data gathered is in the process of being analysed, and will be reported in detail.

'We know that pesticides are bad for our health – but they are the only way we have to fight pests. It's as if you offered a knife to someone who was drowning – they'd have to seize it with their hand'

Conclusion

The participants at the awareness raising sessions recognised the serious health issues associated with cotton pesticides, and the need to take preventive measures to reduce risks. They confirmed that the sessions had been useful in learning about both risks and safer practices, and stressed the importance of sharing this knowledge among their families and others.

The students at the schools committed themselves to inform their family members about what they had learnt, and help them take necessary steps towards better pesticide management. The teachers also valued the sessions, with one teacher in Saré Coly Sallé explaining that it was useful to learn what specific health risks exist (cancer, sterility, etc), rather than simply being aware that 'pesticides are dangerous'.

Those who were trained in the community monitoring methodologies aim to establish permanent monitoring activities with support from PAN Africa and other stakeholders in the zone. They called on the government, SODEFITEX (the cotton board) and other actors in the supply chain to address the problems cotton pesticides pose and prevent more people becoming victims of their effects.

References

1. PAN Mali, 2009. *Monitoring communautaire de l'impact des pesticides sur la santé et l'environnement à Sikasso au Mali. Rapport final.*
2. PAN Africa, 2010. *Monitoring des pesticides au niveau de la base. Rapport régional Afrique.* 53 p.
3. PAN AP 2010. *Communities in Peril: Asian regional report on community monitoring of highly hazardous pesticide use.*
4. PAN, 2010. *Communities in Peril. Global report on health impacts of pesticide use in agriculture.*
5. PAN, *op cit* 4.

Alassane Sarr is Program Officer for the obsolete pesticides programme (alassane-sarr@pan-afrique.org), and Mourtada Thiam is Project Officer for field projects (mourtadat@pan-afrique.org), both at PAN Africa.



Participants at the CPAM training session

Photo: PAN Africa