SPARC
Supporting Pastoralism and Agriculture in Recurrent and Protracted Crises

June 2025

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HOW TO CREATE PERSON-CENTERED, MULTI-HAZARD EARLY WARNING SYSTEMS IN CONFLICTS AND RECURRENT CRISES

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Please note that this text is unedited. The discussion paper is designed to share emerging thinking quickly, even before polishing its presentation!

This discussion paper draws on five years of research through the Supporting Pastoralism and Agriculture in Recurrent and Protracted Crises (SPARC) Programme, which has aimed to inform policies, practices and investments to better support the resilience of dryland communities in Africa and the Middle East.

It represents our emerging thoughts on the subject, not our final analysis. It is written to encourage the wider contributions of others into our thinking as a stepping stone to our more developed analysis.

Introduction

This draft discussion document does not begin by making the case for person-centred, multi-hazard early warning systems (PC-MH-EWS). We assume that the need for them is generally accepted, at least by those likely to be reading this paper.

This paper explores two further questions: what does it mean for an early warning system (EWS) to be 'person-centred'?; and how far is it realistic to create them in countries suffering conflicts, state fragility and/or recurrent crises?

What does it mean for EWS to be 'person-centred'?

If being person centred is important, then it must be because the "person-centredness" is about its function, what it does and whom it serves. A PCEWS is not simply designed around its users, because current users of EW information may be a very restricted group. A PCEWS is designed to serve everybody in a society. The premise is that everyone in society needs and has a right to the best possible information about what is likely to happen so they can make the best informed decisions for themselves, as individuals, families, communities, businesses or governments. A PCEWS is designed to maximise the chances that the greatest possible number of people will receive the information that they require. We would add a further moral dimension: a just PCEWS will prioritise the interests of those who need EW information most, because they

are the most exposed and vulnerable to the hazards about which warnings can be given. We discuss, below, some of the implications of different dimensions of vulnerability for an EWS select pro-vulnerable mandate.

An EWS is not person centred because of how it works. Person centredness cannot, then, be linked to being 'locally led' or 'community-based': a PC-EWS may or may not be community-based, and a community-based EWS may or may not be person-centred, as we understand it. Community engagement with early warning information is indeed important, and will be discussed further below, but being person centred does not mean putting the obligation for the management of the system, or for data collection, on the people whose interests the system is designed to serve.

Starting the design of PCEWS with an emphasis on being community-based is therefore, in our view, a red herring. Being person-centred means starting the design by understanding people's information needs (the demand-side), rather than starting the design with information generation (the supply-side). The PCEWS must identify what different information needs people in different circumstances may have, but must go further. It is not enough for people to be given access to accurate scientific information. To serve its purpose, a PCEWS must maximise the chances that people will actually receive, understand, trust and act on the information that they need. It must understand how people access information, what and where they seek out information, what makes them trust and share information, what makes them act on information and what constraints they may face in doing so.

A knowledge system approach to EWS

The current paradigm for PC-MH-EWS often appears to be an all-inclusive, multi-hazard, multi-stakeholder institution capable of creating and disseminating messages that are understandable and useful to everyone. It is obvious, though, that no institution, such as a national meteorological office, can ever meet this paradigm, because it is impossible to fulfil all the needs described in the previous paragraph. This is true even before we take on the challenge of providing early warning information for a whole range of hazards at the same time, let alone the further challenge of supporting PC-MH-EWS in situations of conflict and recurrent crises, where institutional capacities are often low or degraded. However, this will only dishearten us if we are thinking of an EWS as being a system which is managed and operated by one or two organisations. It is better to put the focus on the EW system, thinking of it as a society-wide knowledge system. Very roughly, the knowledge system is the whole network of channels in the society through which knowledge, beliefs and information is generated, shared and adapted. We can create simplified models of our complicated world which focus on how particular kinds of information are generated and shared. An EWS is one such example.

Taking a knowledge system perspective helps us to look more widely. Everyone who passes on a weather forecast to their neighbours, every social media group to which people share both warnings and their own reactions to warnings, every radio station where weather forecasts are discussed are as much part of the early warning system as the national or international meteorological offices that provide scientific weather forecasts. If we think about an EWS as this societal wide knowledge system, then the task of ensuring that different individuals across the country receive the information that they need, in forms that they can understand and trust, becomes less overwhelming. It also fundamentally changes what it means to create an EWS. We cannot think simply of designing an EWS, meaning designing the ways in which scientific institutions collect data, analyse it, create forecasts and disseminate them. That task is still critical, but it's only part of the work of developing the knowledge system required. The full EW knowledge system cannot be designed, but it can be shaped and developed. Work can be undertaken by a wide variety of actors to improve the ways in which knowledge spreads, to create more spaces for knowledge to be discussed and analysed

and to enhance people's ability to understand information and to make better judgements about what to trust. All of this is an integral part of the work of developing a PC-EWS. We discuss this further below.

The challenge of conflict and recurrent crises

People living in the countries most suffering from conflicts and recurrent crises (often called 'fragile and conflict affected states', or 'FCAS') do not usually suffer from single hazard events. They often experience several shocks at the same time. For example, between 2019 and 2022, people in Somalia experienced plagues of locusts, COVID-19, the economic shock of the closure of livestock exports to Saudi Arabia, floods droughts. These were all experienced on a base of conflict, insecurity and mass displacement, and compounded by a hierarchical society where many are highly marginalised and discriminated against because of their (clan) identity. If this challenge were not enough for a multi-hazard EWS, any warning information has to consider not only each hazard and is potential impacts individually, but must take into account the ways in which multiple hazards interact with each other. A drought may be considered as a problem: but in fragile situations where a drought when insecurity prevents household members from migrating to town to find temporary employment during periods of drought, this may become a crisis. Disasters are not 'natural' or neutral: a natural hazard, such as the flood or drought, may become a disaster when it 'impacts a community that is not adequately protected, and whose population is vulnerable as a result of poverty, exclusion' or social-disadvantage'. For instance, even apparently natural disasters may not be caused entirely from natural events. Devastating floods in Pakistan in 2016 were caused not only by the severity of rainfall, but also by politics, as some powerful people deliberately opened dikes to flood other people's land in order to reduce the risk of flooding on their own. An EWS based only on scientific data would struggle to make sense of these patterns as it would only be sharing information on the hazard and not on people's vulnerability or exposure to it.

If an EWS is to be person centred, then the challenge of multiple shocks is compounded many times over. A person centred EWS can't only think about what a drought or flood will (probably) look like, it must focus on what people will experience in the event of that drought or flood. This requires combining forecasts about shocks with analysis of people's exposure to the hazard and their underlying situations. These are incredibly diverse, varying by geography and different kinds of livelihoods (e.g. pastoralists, fishing people and farmers living in the same area may be affected in very different ways by the same extreme weather event).

No scenario prediction is possible without combining this with a good analysis of people's underlying vulnerabilities. This is where it becomes impossible to escape politics. Vulnerabilities depend upon many kinds of factor. Governments and other agencies often prefer to focus on less political kinds of vulnerability, such as those caused by age or disability. Vulnerability is mainly about unequal power relations (including due to gender), which leave some people with greater exposure to shocks and with less access to resources and support. A PCEWS has to identify the information needs of the most vulnerable, who are usually the most marginalised and discriminated against (often including women). This raises the challenge for all those wanting support a PCEWS in countries where there are conflicts and marginalised communities: how is it possible to develop an information system that serves the needs of the most marginalised, if that information system is managed by those with most power?

State fragility, insecurity and recurrent crises are not simply hazards or factors which exacerbate natural hazards. They are the context within which risk management must take place. Such countries are diverse in many ways and should not be stereotyped, but common features of many include the following, all of which make it more difficult to support risk management and a PCEWS:

- High degrees of volatility in many domains including economics, markets, security.
- Insufficient resources for state functions, degraded institutional capacity in the state and private sectors, and difficulty in finding and retaining high quality technical expertise (partly because of competition from the international aid sector).
- Contested governance; a significant trust deficit between the state and its citizens and often between different population groups.
- A weak rule of law, leading to high levels of corruption and low levels of accountability.
- Lack of good data on demographics, socioeconomics, etc. Conclusions and conventional wisdom are often based on far too few studies and may well miss the perspectives and priorities of the most marginalised.

The implications of such problems are that you can never build a forecast system which can predict everything. Crises may come from unexpected directions, and they will never be the system capacity to keep an eye on everything at once. This means that it is necessary both to make the forecast system as good as possible, but also not to rely on it entirely. Crises cannot only be followed by looking at the data dashboard: they must also be seen by keeping an eye what is happening 'outside the window'.

Scenario prediction for countries with conflict and recurrent crises, with more types of threat, require more data than for richer and more stable countries, and yet they are the places where data is hardest to collect and hardest to manage. The more data, the slower the system; the more bureaucratic the institutional culture, the harder it will be to provide timely and appropriate information. This warning too is not intended to demoralize. If we try and build something too sophisticated, it won't work. Other ways have to be found, decentralising knowledge management and looking to make gradual progress.

Ten things to consider in supporting PC EWS in conflicts and recurrent crises

The following conclusions are not presented as an exhaustive list of how to think about PCEWS. They are the lessons that have emerged from specific research projects conducted by SPARC over the past five years. They are not offered as a set of rules to end a debate, but as SPARC's contribution to a debate that will hopefully continue to advance over many years.

1. Think about EWS as a system and not as a mechanism. The generation of good forecasts is important, but so too is encouragement for the wider knowledge system. Improving a knowledge system means supporting information flows between hundreds of independent institutions which interact with each other.
2. There are reasons why marginalised people remain marginalised. A constant effort is needed at every stage, and in supporting every dimension of the EW knowledge system to ensure that the most vulnerable are receiving the information which they need. Who understands what this is (for all the different populations who are vulnerable)? What is constraining information flows from reaching them?
3. The generation of good forecasts should also be the outcome of a system, a network of different institutions. One mechanism cannot cover every hazard type. Different actors can bring in different sources of information and can disseminate it in different ways to different people. A desire to centralise

control will be the enemy of the good EWS. Such desires to control may be found within governments and also within international agencies.

4. **There will never be enough resources in such countries to build an optimal EWS, so don't make that the goal.** Try and help something emerge that is better than what was there before, and which will still be there tomorrow. Tomorrow, try to make it a little bit better …

5. **There is no point in investing in delivering warnings which are not trusted.** It is just as important to invest in building trust as it is important to invest in or improve forecast models. Trust building takes time and cannot be achieved with one single set of actions. It must be done on many fronts, with many different population groups and in many different ways.

6. **No one can ever have perfect knowledge of the situations of all those who are threatened by hazards.** It's highly likely that the situations of the most vulnerable will be those that are least understood. That is not a barrier to providing them with good information, but it means that we need to think differently about what we are trying to achieve. The success of a PC EWS does not lie in everyone complying with advice being offered, but in a diverse population group all taking very different actions, in accordance with their own priorities and situations, and their personal levels of risk tolerance. It will result in a wide diversity of decisions being made, all informed by the best possible information about likely hazards, whether or not we approve of or would recommend them. Ultimately it is not up to us to decide how people should act.

7. **Helping people to analyse likely risks and to think about different options is a part of the function of the wider EW knowledge system.** This can be achieved simply by giving people information. The more that people discuss it and are exposed to different perspectives and opinions about it, the better informed they will be and the more they will trust as a result. Trust is built up over the long-term by being very explicit about the uncertainty inherent in every forecast, because nothing destroys trust more than certainty which proves to be false. In the same way, debates and disagreement about what is best to do in the light of a particular forecast do not undermine EW by creating uncertainty: they support it, by creating a more three-dimensional understanding. This enhances trust. That means that, for example, encouraging radio phone-ins where people express different opinions about EW advice and about how to respond to warnings of an imminent drought is as much part of supporting PCEWS as is designing weather forecast bulletins.

8. **And EW knowledge system should be improved, but it cannot be "created", because in every place, one already exists.** People already have their sources of information. A PCEWS has to engage with those local or indigenous knowledge systems. Whether or not the forecasts need to incorporate the specific forecasts that are generated by these systems is a contentious question, and it depends at least in part by the nature of local forecasting. Whatever people's views on that question, it is essential to engage with those systems and to move out of the 'formal' EWS world. Wherever people are sharing information about future hazards and shocks is a place that can be networked into a PCEWS.

9. **A wide diversity of skills and capacities is needed in developing a good person-centred early warning knowledge system.** Ensuring that people have the information they need about future weather events is far too important to leave entirely to meteorologists or climate scientists. Designing a technical system for disseminating data or information, is an essential and creative task, requiring scientific expertise. But the overall task is far more a social task, requiring political, institutional and knowledge management skills, creative is a technical task, requiring scientific expertise.

10. **Be ready for the unexpected.** The next shock may not be of a kind that the early warning system was designed to pick up. That can partly be done by DRR. The better people can prepare for, cope with and respond to a hazard, the better able people will be to cope if EWS is imperfect.

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This material has been funded by UK aid from the UK government; however the views expressed do not necessarily reflect the UK government's official policies

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