

Technologies growing in the furrows: notes from a digital rural africa

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A report from the World Bank has been released. Technical title: *Digital Climate Information and Agriculture Advisory Delivery Mechanisms in West Africa*. Content: the analysis of ten pilot projects in five countries—Burkina Faso, Ghana, Mali, Niger, Togo—where forms of agriculture connected to digital climate data, automated cultivation advice, and information platforms for small producers are being tested. The acronym used is *agromet services*.

At first glance, it looks like the usual technical document on what Africa must do to become “resilient” to climate change. But reading closely reveals something different. Beneath the lexical apparatus of multilateral institutions emerges a dynamic that goes beyond the donor-beneficiary framework. The documented cases not only show the impact of digital

technologies in rural contexts of West Africa, but also—and above all—the existence of models of relationships between knowledge, data, communities, and territory that deeply question the West.

Agromet services, a weather app for farmers?

What is happening in these agricultural contexts is not simply an outdated system catching up. It is a practice of knowledge that, if carefully observed, becomes a concrete critique of the colonial logic of data as private, centralized, monetizable property.

The so-called *agromet services* are not just “weather apps for farmers,” as they might be superficially described. They are complex systems combining meteorological data from satellites and ground stations, seasonal forecasts, climate models, local historical data, and agronomic recommendations. They are designed to support everyday farming decisions—when to sow, irrigate, treat—as well as facilitate access to financial tools like climate-indexed microinsurance. In some cases, data is transmitted via SMS, IVR (interactive voice response), or even community radio, precisely to overcome the literacy and connectivity barriers that many farmers still face.

The document shows that these tools make sense only if rooted in local territories. In Ghanaian villages, for example, groups of elder farmers take part in building forecasts, combining ancestral meteorological signs with digital data. This approach is known in literature as *co-production of climate services*—a process in which data is not merely transmitted but generated together with those who will use it. It is a form of collective intelligence that requires listening, time, and relationships—not just technology (Vincent et al., 2018).

In Mali, simple climate insurance models are being tested, designed also for illiterate farmers. In Niger, weather information is broadcast in local languages via radio, paying attention not only to content but to the form of communication. Here, innovation is not measured in terms of “scalability”—the obsessive concept of the tech industry—but in terms of relevance: how much a service resonates with the material, symbolic, and relational life of those who farm.

Data alone is not enough

The numbers are impressive: 33 million African farmers are currently registered with digital agroclimatic services. According to projections, this will reach 200 million by 2030. Yet, as evidence shows, providing raw weather data alone is not enough. Only when the service combines forecasts with agronomic advice, access to inputs, or markets does the impact on yields and agricultural resilience multiply (World Bank, 2023). It is in this shift—from “weather news” to agronomic guidance—that data stops being information and becomes relationship.

Another key element is the local validation of data. Climate information, if it remains an abstract product generated by models, risks being misaligned with reality. Some projects—such as Sandji in Mali or FarmerSupport in Ghana—have included networks of community sensors, along with human observers, to verify the accuracy of digital forecasts. Results improve not only technically, but also in user trust (Hansen et al., 2022).

Perhaps the most interesting aspect of this report is that, although written in institutional language, it reverses the classic poles of the development discourse. It does not show an Africa to be taught, but a set of African practices to be studied. And if you look closely, those practices challenge the very foundations of the way the West has so far conceived technology: as standardization, extraction, verticality.

Here, technology is something else: dialogue, adaptation, distribution. It does not create “end users” but co-creator interlocutors. It does not impose platforms but builds local connections. Data is not extracted but safeguarded, mediated, translated. It is a non-predatory form of knowledge—an ecology of knowledge that has much to say to those in high-tech countries questioning the meaning of digitalization.

A reverse colonization?

Some might call it “reverse colonization.” But it is something different: a reciprocal, non-extractive relationship. A subtle pedagogy that does not impose itself but offers itself. And it invites us to radically rethink what we mean by innovation, resilience, sustainability.

In a time when climate change redraws every boundary, the boundaries of knowledge are the first to be crossed. Here, digitalization does not replace knowledge—it listens, translates, and accompanies it. It does not create clients; it creates interlocutors.

This type of innovation is not a footnote in agricultural development. It is another idea of technology. And for those living in Western societies, increasingly fragmented between hyperconnection and loss of meaning, this idea has much to teach.

The logic of “scalability”—the mantra of startups and tech research centers—here gives way to the notion of relevance. A digital service is not valuable because it can be replicated everywhere, but if it can resonate in the human and ecological landscape where it is embedded. Co-creation is not a facade exercise but the condition for technology’s very existence. Data is not extracted but safeguarded. Voice regains a role: spoken, shared, heard. Not algorithmic.

In these African examples, one can glimpse a form of digital decolonization. And, at the same time, a reverse movement that we might call reverse colonization—not as domination, but as echo. As if from the margins of the world system came a radical proposal: not that everything must be digital, but that if it is, it must start from the contexts, not be imposed upon them. It must be deliberate, not delegated; symbiotic, not predatory.

Who controls climate, agricultural, and environmental data today? Who decides the format, language, and access thresholds? Who owns the algorithm that “advises” what to sow, when to irrigate, how much to fertilize? These are questions that concern not only farmers in the Sahel, but any territory trying to reorient itself in the face of ecological instability and technical opacity. Not “what can technology do for Africa?” but “which African practices can illuminate another way of understanding technology?” Not a one-way transfer, but a relationship. Not a race to catch up, but an invitation to rediscover.

If there is a sustainable future for agriculture today, it likely passes through forms of relational intelligence in which digital data does not replace the land but intertwines with its rhythms. Where technical knowledge does not erase ancestral knowledge, but allows itself to be changed by it. Where innovation is not a product to export, but a quality of the connections we know how to build—and safeguard.

Article link

- [*Digital Climate Information and Agriculture Advisory Delivery Mechanisms in West Africa*](#)
- [*\(Vincent et al., 2018\).*](#)
- [*World Bank 2023*](#)
- [*\(Hansen et al., 2022\)*](#)

Fonte: <https://www.ruralhack.org/en/digital-farming-africa-climate-data-co-creation/>