AGROECOLOGY

Reviving Indigenous Soil Restoration Practices among the Bedzang:

Linking Traditional Knowledge to Agroecology

ECODEV
Ecosystèmes et Développement

Land is Life

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Introduction

In the heart of Cameroon's Mbam and Kim Division, the Bedzang Indigenous communities of Ngambé-Tikar continue to embody a deep relationship with their land. Over generations, their survival and culture have depended on the land, the foundation of both livelihood and identity. However, increasing soil degradation, erratic rainfall, and the effects of unsustainable agricultural practices have weakened this foundation. Within the framework of the **Land is Life** supported project on agroecology, Écosystèmes et Développement (ECODEV) conducted a participatory analysis of **endogenous mechanisms of soil amendment and restoration** across three Bedzang settlements: Nyanka'a, Ngandié, and Ngoumé.

This mission was not only a technical exercise; it was a rediscovery of the Bedzang's ancient ecological intelligence and a dialogue between traditional wisdom and modern agroecological principles.

Rediscovering Indigenous soil management knowledge

Discussions with community members revealed a remarkable continuity of ancestral practices aimed at maintaining soil fertility. The elders recalled that in earlier times, the soils were naturally fertile and productive. Yet today, continuous cultivation, bushfires, and the use of chemical herbicides have led to declining yields. In response, the Bedzang have long relied on traditional strategies deeply aligned with ecological principles.

One of the most prominent techniques is **the practice of fallowing**. When the soil is considered "tired," farmers allow it to rest for four to five years before returning to cultivate it again. This technique mirrors the **agroecological principle of maintaining soil health and regeneration**, ensuring the ecosystem's natural capacity to renew itself.

Another important traditional approach is **the intercropping**

system, where maize is grown alongside groundnuts or sometimes egusi (melon). This method increases soil fertility through crop diversity and organic matter recycling, resonating with the **agroecological principle of diversity**, which enhances resilience and productivity while reducing pest outbreaks.

The mission also uncovered a fascinating indigenous bio-fertilization technique involving the use of **"*ndôoh*" (wild onion)**. Farmers cut the leaves of this plant and mix them with maize seeds before sowing. This traditional technique, although not widely documented, reflects the Bedzang's experimental approach to improving soil fertility and germination rates using locally available resources, a perfect example of **recycling and input substitution**, both pillars of agroecology.

In some cases, communities also use **ash** as a natural means to repel caterpillars and other pests attacking maize. Though not entirely effective, it demonstrates a local attempt to control pests without relying on synthetic chemicals, again in line with the **agroecological principle of minimizing external inputs**.

From Tradition to Agroecology: Convergence of wisdom and science

The participatory analysis revealed that many Bedzang soil management practices already embody the principles promoted by agroecology. Agroecology, as defined by FAO, rests on key principles such as recycling, diversity, synergy, efficiency, resilience, and co-creation of knowledge. In the Bedzang context, these principles are not new, they are lived realities that have sustained communities for centuries.

For instance, the use of ***Tithonia diversifolia*** **(Mexican sunflower)** as a biofertilizer introduced by the project fits naturally into this traditional framework. Communities quickly recognized its value and even compared it to their ancestral methods. They observed improved germination rates (up to 95%), stronger maize stalks, and greener, healthier plants. However, they also highlighted the **need for collective work systems**, as preparing and incorporating Tithonia into the soil requires significant labor.

Reviving **the old "ngangi" mutual aid groups**, community-based rotating farm labor groups, was proposed as a sustainable solution. These groups once enabled communal work and solidarity but have declined due to social mistrust and local tensions. Reintroducing them would not only enhance labor efficiency but also rebuild social cohesion: an essential **social dimension of agroecology**.

Challenges and the way forward

The mission identified several challenges. Physical access to some sites was difficult due to poor road conditions worsened by heavy rains. Agricultural equipment remains scarce, making it difficult for farmers to implement improved soil restoration practices on a larger scale. Pest infestations, especially caterpillars destroying maize, continue to threaten productivity, and the use of ash as a traditional remedy has shown limited effectiveness.

Despite these challenges, the mission demonstrated the strong willingness of Bedzang farmers to embrace innovation while preserving their cultural identity.

Perspectives for scaling and sustainability

Building on the results achieved in the three settlements, the next step aims to **replicate and scale up the project in the four remaining Bedzang settlements**. This will allow for the consolidation of community-led learning processes through the establishment of **“learning fallow fields” (jachères écoles)**, where indigenous and scientific knowledge will be continuously exchanged and tested.

The project also envisions **developing Bedzang agroecological champions**, community leaders capable of training others in sustainable soil management. Strengthening local capacity will ensure long-term sustainability beyond project timelines.

Moreover, deeper collaboration with research institutions and local governance structures will help integrate indigenous knowledge into official land and agricultural policies, ensuring the recognition of the Bedzang’s ecological contribution to sustainable development.

Conclusion

The Bedzang agroecological experience, supported by **Land is Life**, stands as a testimony that true innovation often lies in rediscovering what already exists. By valuing indigenous wisdom and linking it to modern agroecological science, the project not only improves soil fertility and food security but also restores dignity and autonomy to an Indigenous people long marginalized in development policies.

As the Bedzang wisely say, ***"The soil is like a human being, it needs care and nourishment. When strengthened naturally, it thrives without harm, unlike when chemicals are used."*** In these words, lies the very spirit of agroecology: a call for respect, patience, and harmony between people and the earth.

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