



**- International Fund for Agricultural Development –
- Scouting and Sharing Innovation in Western and Central Africa –**

- Innovation summary Note – IFDC-NRMP

I- Background :

1. Name of innovation:

Innovation in nutrient Management

2. Country - Region:

Many pilot sites in West Africa

3. Organization:

An International Centre for Soil Fertility and Agricultural Development (IFDC)

4. Who is the innovator?

IFDC and its partners and farmers

5. Actors involved:

IFDC, rural development projects, national research organizations, extension organizations and NGOs, farmers and their associations, and private sector (fertilizer dealer associations, credit organizations, ...).

6. Implementation date:

- Since 2003

7. Type of innovation: (technological, institutional, policy or knowledge sharing)

Technological innovation and institutional development to support innovation processes

II- Key issues :

8. Summary:

In order to develop site-specific fertilizer recommendations and facilitate the uptake of the recommendations in various sites in West Africa, IFDC and its various partners jointly worked with farmers' groups (about 20 in each pilot village) in a platform to bring a set of innovations aiming at improved soil productivity. Farmers installed 'nutrient-omission plots' (omitting application of N, P or K, but applying the other two major nutrients) in part of their fields. Fields and farmers are selected to cover major soil type and management background to get in each soil condition farmers that use organic resources and some that do not. This allows the farmers and other stakeholders to discover the most limiting nutrients, the contribution of organic resources and the soil stocks in N, P and K to their crop production. Regular observations and interaction allows farmers to learn and understand principles. Input dealers are informed on which nutrients to market. With the use of simulation models and the facilitation of inter-active discussions of the trials results among all actors, the facilitation team comes up with 'a la carte' recommendation of ISFM options (2 to 3 options) tailored to meet farmer financial capacity/production goals, the availability or not of organic input and to the soil conditions. The alternatives options are validated by the farmer groups' prior dissemination. Alternative soil management options depending on the wealth of the farmers are thus presented in tabular forms using a collectively agreed code. At this stage, the facilitation teams (known as innovation platforms) facilitate various linkages and arrangements between the various participating actors using site-specific and collectively agreed models for the facilitation of the technology uptake through improved access to credits, right input and markets. Furthermore, with the platforms, the capacity building needs of each actor are addressed.

9. What issue does the innovation address?

The innovations address jointly a set of constraints to fertilizer use: they address the lack of incentives to use fertilizer caused by the failure of pan territorial recommendations to address the diverse and changing socio-economic and ecological settings of farmers and that produce poor returns to investments and increased farmer's risks. The innovations allow the development of site-specific options and the empowerment of farmers. They also address the constraints of accessibility /unavailability of quality input through the development of "a la carte" recommendations, various linkages and facilitate knowledge dissemination through networks.

10. Key success factors for replication:

The innovations provided flexible options with a lot of room for adaptations and therefore allowed a larger range of farmers to afford them. Another key factor to success is that the farmers were empowered with knowledge of principles allowing them to adapt when needed. Interviewed, a farmer, member of the learning group in southern Togo commented that: "*several years ago, an organization came to work with farmers in the area (Afagnan, Tabligbo, Vogan, Tsévié). They provided means (mucuna, fertilizers, etc.) for demonstrations with farmers. But when they left everything stopped because we did not understand the principles behind their practices. Actually we learned to conduct experimentations, we questioned our soils and found out what were missing and responded accordingly*". A key factor for replication was that the innovations were based on the existing farmer practice in each pilot zone. Furthermore, the collective action promoted a rapid dissemination of the new information and its use/account by the various actors in their activities and allows joint and systematic resolutions of the constraints.

11. Accessibility: (Poor, gender, youth, migrants...)

The 'à la carte' nature of the innovations allows a wider range of stakeholders to have access to the innovations. Furthermore, the joint implementation of the technology development and socioeconomic measure is creating enabling conditions for many actors.

12. Difficulties encountered:

Major constraints are often of policy nature. Often the policies in place do not facilitate the quick implementation of innovative ideas. For example in Southern Togo, key innovations originated from the key findings of farmers that when they use legume, the main limitation to their crop (cassava) is potassium. However, only NPK (15-15-15) that is not an economical source of potassium for cassava is imported by the state-owned company that has the fertilizer monopoly.

Furthermore a major challenge is that it takes time to trigger mindset changes of actors to allow a collective action and mutual learning.

13. Financial aspects:

The innovations are financially affordable for smallholder farmers in the various areas, mainly because of the joint implementation of technology and enabling measures.

III- Technical Summary :

14. Blanket recommendation of fertilizer regardless of farmer's conditions is cited as major technical cause of poor adoption of fertilizer technology, while accessibility is cited a major socio-economic factor used in SSA. IFDC and partners organised a platform comprising scientists, extension workers and the private sector to jointly address the above constraints through action and learning for innovation, capacity building, information management/sharing and input/output market access. The technologies development component to get specific but flexible options combined with participatory methods and systems thinking (modelling of socio-economic and bio-physical processes) and accounts for: (1) regional and seasonal differences in yield potential, (2) indigenous soil nutrient supplying capacity and its spatial variability, (3) synergies derived from simultaneous use of organic amendments and mineral fertilizers, (4) local financial and risk considerations (prices of inputs, such as labour and fertilizer prices and prices of produce; farmer purchasing power) and (5) production system (crop rotations, associations). Dissemination component was made through facilitation of various linkages and arrangements between the various participating actors using site-specific and collectively defined models.

IV- Follow up :

15. Key contacts:

Name	Organization	Email
Dr. Abdoulaye Mando	IFDC	amando@ifdc.org

16. Useful web link:

- www.ifdc.org

17. Key documents: (Name of the document + Link or Contact or Co ordinates)

IFDC & TSBF-CIAT 2005 Development and dissemination of sustainable integrated soil fertility management practices for smallholder farms in Sub-Saharan Africa. Technical Bulletin IFDC T-7. 1Muscle Shoals: IFDC.

Wopereis, W.S. and Mando, A., 2006. Towards a comprehensive framework for Integrated Soil Fertility Management (ISFM) in farming systems in sub-Saharan Africa. IFDC, Lomé.