

Assessment of market constraints to targeted watershed production and recommended policy reforms

October 2008

This document was produced for review by the United States Agency for International Development. It was prepared by Development Alternatives, Inc. under Haiti DEED. Contract No. EDH-I-00-05-00004-00 Task Order 12.

The report is submitted in compliance with Deliverable 2.3.1 “Market constraints in watershed assessment and production baselines”, and Deliverable 2.3.2 “Policy and systems constraints assessment”.

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1. INTRODUCTION

The DEED project is based on the idea, born out from the experience of previous USAID projects including the Productive Land Use Systems (PLUS) and Hillside Agriculture Program (HAP), that improved management of natural resources in vulnerable watersheds requires as a precondition that farmers in those watershed receive increased returns to agricultural production in order to justify investments in soil conservation or changes in harmful agricultural practices that contribute to soil erosion.

Rather than starting from a premise that is based on an external actor's judgments about "what the land needs," DEED's approach starts from the standpoint of the farmers in the two targeted watersheds by asking what do they require to raise their own agricultural incomes in way that will improve the management of soil resources.

Practically, this requires the introduction of new crops, infrastructure investments, training in new technical packages and the establishment of market linkages—all of which must be planned and tested with the participation of farmers to demonstrate that they will actually lead to increased revenues.

This report discusses the principal constraints facing farmers in the target watersheds in regard to improving natural resources management outcomes. Its companion piece addresses targeted agricultural production (TAP) packages that DEED will introduce during its first year at different levels of the two watersheds with Producer Groups (PGs).¹

2. CONSTRAINTS

The DEED baseline study conducted a complete inventory of constraints to improving different types of agricultural production, good natural resources management and biodiversity in the two targeted watersheds. Rather than repeating the approach of the baseline, which was designed to present a snapshot picture of all that is right and wrong in the watersheds, we present here a shorter more synthetic list of key constraints that have been identified by the DEED team as posing concrete challenges that need to be addressed in order for the project to achieve its objective of catalyzing perceptible landscape level improvements in resource management.

The principal constraints identified are listed below. Technical and institutional constraints are addressed first and physical and infrastructural constraints subsequently.

¹ See "Summary Market assessment report of promising opportunities, DEED Deliverable 2.2.1.

2.1 Technical and institutional constraints

2.1.1 *Constraint 1: Weak and often unrepresentative PGs.*

In general, although there are around 200 community based organizations in each of the zones, of which over 50% in each location have some sort of agricultural or natural resource related objective, only a very few of these groups have any real business vocation. The vast majority of agriculture-related groups act mainly as conduits between donor projects and local populations. They are used to implementing soil conservation programs where people are paid to construct conservation structures on public or private lands, as well as production input programs in which subsidized inputs are distributed through the group, often through project-financed *boutiques entrants*. In each watershed less than 40 percent of PGs maintain any type of accounting records and over 70 percent lack any member provided funding. Most importantly for DEED purposes, no groups in either zone are acting as important commercial vehicles for the collection and sale of crop production from members.¹ Rather, the role and expertise of PGs is, in a generalized manner, to be found on the side of democratic organization and representation of rural populations with external actors including NGOs, donors and even Haitian public sector actors.

During the initial start-up of the DEED project, staff have been canvassing the zones of the project in order to identify the strongest PGs which regroup actual producers.² With several exceptions, particularly for the aqua and apiculture groups that tend to be small and have demonstrated an ability to develop concrete commercially-focused activities, these groups are “umbrella” organizations—meaning that they may cover a wider area and often have some sort of tiered membership structure with subgroups electing representatives to a larger overall governing council. At the level that DEED will be working, with interventions on precise, spatially determined sites, it will often be these subgroups that will be the key project interlocutor rather than the overall governing body of most umbrella groups. Although these subgroups may often have more social cohesion than the umbrella body, the lack of business skills, the difficulty in matching business management objectives within the framework of a cooperative-type governance structure together with weak oversight capacity all pose serious obstacles to the active participation of PGs in agricultural production and marketing functions. DEED will need to develop strategies for strengthening their capacity in a gradual manner and not ‘overloading’ these organizations with roles that they are not prepared to handle. This will also require a labor intensive investment by DEED personnel in non formal training, accompaniment, and organizational development (“*animation*”) efforts even for higher functioning local producer groups in targeted watersheds. A large part of the market linkage strategy proposed by DEED describes the approach to dealing with this critical constraint.³

2.1.2 *Constraint 2: a lack of technical knowledge in the watersheds of DEED Targeted Agricultural Production packages.*

¹ This does not including aquaculture groups and apiculture groups where groups do provide some marketing functions.

² DEED regional staff have learned the hard way that identifying producer groups is not easy, as many purported “PGs” are actually dominated by people who have little to do with agricultural production and who will organize an underlying membership structure to match the objectives of donor programs that agree to work through them.

³ See the report “DEED targeted agricultural production: market linkages and constraints assessments”, Tom Lenaghan, DEED 2008.

The agronomic, dairy/livestock, aquaculture and apiculture packages that are at the core of DEED's Targeted Agricultural Production (TAP) activities all represent technical innovations that are not now mastered in any larger sense by small farmers in the two watersheds. Implementing these packages so as to promote landscape level changes will require significant in-the-field training, technical follow-up, and dissemination/extension efforts. However, DEED technical staff are limited to three person teams in each regions supported by three high-level traveling technical component leaders from Port-au-Prince. This in itself will not be sufficient to ensure that a critical mass of farmers has adopted the desired packages by the end of the project. DEED will need to develop local relays either within PGs or in independent MSMEs to ensure that technical support is available to sustain the technical packages that are introduced. In addition, DEED will need to access technical expertise from potential local suppliers within the watersheds and associated market sheds through grants, PPAs, or straight purchase orders funded by DEED.

2.1.3 Constraint 3: a lack of local input supply sources for new types of agricultural production.

The crop-based packages proposed by DEED all require that farmers purchase such inputs as fertilizer, pesticides and seeds/cuttings. These packages are all based on the regular purchase of improved inputs which, in itself represents a new behavior for farmers. Furthermore, many of the inputs (particularly seeds and pesticides) for these specific crops are not available as regularly carried stock in local agricultural supply stores. Although all the required inputs are available in Haiti, many of them require special orders which must be placed in advance.

Germplasm represents another major difficulty as many vegetable and tree crops will need to be produced as seedlings in specialized nurseries for transplant into production beds. This requires the creation of nurseries following good plant hygiene and productive practices which are scarce or non-existent in the watersheds.

2.1.4 Constraint 4: a lack of credit

The need for improved inputs will also create a need for production credit, which is virtually unavailable in either zone. While DAI's experience with mounting high value vegetable and banana production programs under the Hurricane Jeanne Reconstruction Program (HJRP) shows that farmers on flat plains have little difficulty paying for inputs on a cash-up-front basis after the first production cycle, it is less certain that will be the case for farmers in the Limbé and Montrouis watersheds who are located on hillsides.

Even if they are willing and capable of paying cash up-front after the first harvest, this first cycle will still need financing either through subsidies or through credit. Crops such as yams, which have very high seed to harvested product price ratios and longer production cycles will also pose special financing problems. This will be a major issue for packages that place a heavy emphasis on increasing revenues in yam-based permaculture systems.

Credit for marketing campaigns is less of a problem for most of the crops chosen here since vegetables and fruit are generally fairly perishable and will need to be sold soon after harvest

into local markets that offer a relatively rapid payback (rarely more than one-week) if sold on credit rather than on a cash basis--often a common practice in markets with strong local Madame Sarah players. The exception to this arrangement is washed coffee produced in Marmelade (Limbe) and the upper areas of the Montrouis watershed which is marketed by PGs and requires significant seasonal credit infusions in order to compete with traders buying from farmers on a cash basis.¹

2.2 Physical infrastructural constraints

2.2.1 *Constraint 5: highly deteriorated secondary and tertiary roads in the Montrouis watershed*

The upper reaches of virtually all the zones in the four targeted sub-basins of the Montrouis watershed are virtually unreachable by commercial motorized transport. Farmers in Fond Baptiste, for instance, must make a 5 to 6 hour trek by foot with head-loads to take their produce to the nearest regional market hub in Montrouis that is linked to the national trade network with good road connections to the major wholesale market in Port au Prince (Croix de Bossales).

No commercial trucks or pick-ups carrying *madanm sara* traders currently serve the upper reaches of any of these sub-basins. As a consequence, local markets in these zones mainly serve as places of exchange for products between neighboring households and as distribution points for products "imported" from Port-au-Prince, Saint Marc and Montrouis at high mark-ups.

The importance of these bad road connections cannot be overemphasized. The entire rationale of DEED interventions in these zones is based on the idea that by cultivating higher value produce, farmers can be encouraged to take better care of their soil and other natural resources. But if the production of these high value crops cannot be economically evacuated from the targeted zones, they will remain unlinked to national markets and farmers will have little incentive to continue with most of the technical packages proposed by DEED.

It is currently impossible to market such perishable crops as lettuce and tomatoes in the upper regions of the Montrouis watershed because they are too fragile to be feasibly evacuated by head. This means that virtually all packages included in this report have little chance of yielding any results in these areas until the access roads that link them to the main coastal highway are rehabilitated. Since DEED does not have the resources in its budget, other sources of funding will need to be mobilized to begin this work as early as possible.

The specific road segments that need urgent attention are:

1. Montrouis to Fond Baptiste and Williamson
2. Montrouis to Piatre
3. Pierre-Payen to Roseau
4. Arcahaie to Leger

¹ The Marmelade region's coffee campaign financing needs are, however, largely covered by FACN and Taiwanese project financing.

2.2.2 Constraint 6: unexploited or underexploited water resources

Water is the key resource that determines the overall viability of the type of agricultural activities on any parcel of land. In the two zones, there are serious constraints related to the lack of water retention and distribution structures. These involve two types of needs: (1) rehabilitation of larger irrigated perimeters that are well beyond the budgetary means of the DEED project and which will require outside financing and engineering work; (2) smaller-scale engineering works on gravity-fed micro-catchment basins in targeted-zones that are necessary to the implementation of DEED activities.

While some of these may be of a scale such that it will be necessary to access external funding, in principle, interventions at this level of intensity could be envisioned within the framework of DEED grants to local PGs. More details on the first category of interventions can be found in the DEED baseline studies.¹

3. POLICY LINKAGES

This section of the report reviews the constraints identified above and discusses whether government policy (or the lack of) may have an influence on their degree of severity.

3.1 Producer Group Organization

The baseline studies conducted by DEED in April 2008 clearly show that the majority of Producer Groups are not well organized, and lack even the most basic management and accounting skills. For instance:

- Over one third of the groups have no statutes, and over two thirds are not legally recognized;
- Two thirds have no form of accounting procedures, and roughly a third hold no archives;
- Three-quarters of the PGs have no bank account—perhaps explained by the fact that 70 percent of them state that they have no money!
- Not surprisingly, the number of PGs that have been granted access to credit is low: 14% in Montrouis and 18% in Limbe.²

Given this level of informal organization and lack of accountability, at least at the present time it is clear that the majority of the Producer Groups in the two watersheds are incapable of delivering agricultural produce on schedule and in agreed quantities. Although the Producer Groups working with DEED have been selected precisely because they *do* satisfy a minimum of

¹ See the baseline studies for Montrouis and Limbé

² See : Diagnostic des organisations des bassins versants de Limbé et de Montrouis, Annexes techniques. DEED 2008

organizational and management criteria, they are clearly in a minority. The weakness of the farmer organizations engaged in agriculture in the two watershed zones is therefore a serious constraint to the development of highly productive, commercial agriculture in the region.

Some PGs have registered with communal authorities or the Ministry of Social Affairs; however, most do not have legal status enabling them to establish bank accounts, borrow money, or ensure recourse to the courts. No economic incentives are provided to PGs that might encourage better organization and tighter accountability. No fiscal mechanisms are available that might promote investment and financial viability.

3.2 Lack of knowledge of TAP packages

DEED will work on an approach aimed at developing market linkages that will ensure the sustainability of the TAP packages. The objective is to create geographic concentrations of improved agricultural practices at critical locations in the two watersheds. This will require not only investment from DEED grant or PPA funds and from private sector partners, and technical assistance, but also the creation of new market linkages to ensure that innovations introduced by DEED will be sustainable.

At present, there are no functioning value chains in the two watersheds for most of the targeted agricultural production crops—with the exception of export tree crops such as cacao, *françisque* mango, and coffee.

In principle technical assistance to producer groups is not readily available from the MARNDR although the ministry assigns agronomists to some communal agricultural offices. DEED strategy relies on private-sector service providers to be engaged directly by producer groups on specific elements of training and capacity development; however, as noted above, most producer groups have no experience and little capability or financial means to contract with individuals or private-sector firms to provide specific forms of technical assistance. It will be DEED's task to help build PG capacity to access necessary agricultural services through private facilitator and service providers.

3.3 Unavailability of agricultural inputs

The MARNDR itself acknowledges that this is a serious problem. An estimated 160,000 ha of available arable land is not cultivated because of a lack of agricultural inputs and water.¹

3.4 Lack of credit

Again, the MARNDR recognizes this problem. Minister Joanas Gue is proposing to establish an investment fund aimed at reducing the effects of usurious loans to low-income families and to facilitate their access to essential agricultural inputs and materials.²

¹ See the Discours d'installation du ministre de l'Agriculture, La Nouvelliste, 8 September 2008

² La Nouvelliste, op. cit.

3.5 Poor access roads

The poor condition of access roads in the two watersheds, particularly in Montrouis, is a problem that directly threatens the success of the DEED project. At the time of writing, immediately after the passage over Haiti of three tropical storms in quick succession: Gustav, Hanna, and Ike, many of the roads to upper reaches of the Montrouis watershed are blocked by rockfalls, gulleys, fissures, and collapsed bridges.

There is a policy issue here. The government appears to prioritize the repair and improvement of main roads that link major towns. In the case where no roads previously existed this policy is justifiable. But where a road already exists—the RN1 between Port au Prince and St Marc for instance, spending large sums of money on widening the road and resurfacing it, when just filling in and resurfacing the potholes would have largely sufficed, is a debatable policy given the urgent necessity and clear economic justification for rehabilitating the smaller access roads to the upper areas of the Montrouis watershed that have the potential to greatly increase agricultural production in the region. The fact that the funding for these road improvements is provided by international donor agencies does not excuse the Government from engaging in intelligent planning and programming investment that targets support for the major national objective of increasing food production.

3.6 Water resources

The repair and rehabilitation of irrigation systems in the Montrouis watershed is clearly a high priority objective—both for the Government and for the international donor agencies, one of which—the Agence Francaise de Développement—has provided funds to the MARNDR for the repair of six irrigation systems in the Montrouis zone.¹

However, only the primary canals will be repaired. The secondary canals are expected to be repaired by the communities. More importantly, the community-based management of irrigation systems is often inadequate and this is an area of expertise where the assistance of extension agents from the MARNDR is urgently required.

The production constraints related to problems with the management of irrigations systems are linked to the larger question of the management of natural resources in the watersheds. Irrigation systems are easily damaged by flash floods, mudslides, and rockfalls, and so the greater the probability of these occurrences in a watershed, the greater the risk that irrigation systems will be damaged and blocked. These events also impact production directly by destroying plantations, killing livestock, blocking access roads, and generally disrupting agricultural production for weeks if not months at a time.

The sustainable management of watersheds is therefore essential if irrigation systems are to operate dependably over the longer term. In this regard, Government policy is unclear if not confused. The management of natural resources in watersheds has been transferred to the

¹ The Projet sectoriel d'irrigation CHT 3005, will repair the irrigation systems at Lanzac, Pierre Payen, Dupin, Bois Neuf 1 and 2, and Deluge.

Ministry of Environment--including all water resources *except* irrigation systems. These are the responsibility of the Ministry of Agriculture. A coherent policy and agreed operational procedures for the sustainable management of hillside land above springs that provide water to irrigation systems are lacking. In principle, local elected officials and land use management plans promoted by DEED could help to address this issue on a site specific basis.

3.7 Marine resources

Although not included in the plan for targeted agricultural production, the sustainable management of marine resources within the coastal zones of Limbé and Montrouis is a priority for DEED. In both zones, fish stocks are dwindling and the livelihoods of fishers and their families are increasingly threatened. This is a ‘tragedy of the commons’ scenario that only collaborative management backed by clear Government policy and enforcement of management plans for the two coastal zones can remedy. Once again, which ministry is responsible for the management of coastal and marine resources is unclear. The Ministry of Environment is responsible for the sustainable management of coastal and marine zones, but the Fisheries Service in the Ministry of Agriculture is responsible for fishing. In reality, neither Ministry has enough personnel or material resources to ensure even the most basic oversight of the marine and coastal areas around Haiti.

4. RECOMMENDATIONS

4.1 Ministry of Agriculture

4.1.1 Agricultural extension

- The DEED project promotes the intervention of private-sector service providers that offer technical assistance on a fee-paying basis to producer groups and associations engaged in commercial agriculture. The Ministry should support and facilitate this approach, and examine ways in which this approach could be rolled out nationally. The Ministry should not try to establish its own parallel extension service, since this would be both costly and ineffective as is the case in most developing countries.

4.1.2 Agricultural inputs

- DEED’s view is that the provision of agricultural inputs can be more effectively delivered and more efficiently managed by the private sector. The MARNDR has an important role to play in ensuring that adequate quantities of good-quality agricultural inputs are available at the right time and at a reasonable price.
- Specifically on the question of credit, the cost for small farmers of borrowing money is exorbitant. Producer groups and associations are often judged by financial institutions to be insufficiently credit-worthy. The MARNDR should work with financial institutions and international donors to agree on and to

introduce mechanisms that facilitate the provision of financial services to PGs and associations engaged in commercial agriculture.

4.1.3 Irrigation system management

- Technical support and assistance to producer groups to manage irrigation systems is best provided by the private sector on a fee-for-service basis. The MARNDR has a role to play in the maintenance and upkeep of primary canals and the larger civil works installed at the water source, but the down-stream infrastructure including the secondary and tertiary canals should be managed by the communities and water user associations. In Montrouis, MARNDR is contracting out the rehabilitation of several primary irrigation systems – a very appropriate and constructive role for the ministry if things are managed efficiently.
- The MARNDR and the MdE should agree on government policy related to the management of watersheds, including the management of erosion-prone hillside zones above natural springs that are the source for gravity-fed irrigation systems. The ministries should issue a joint policy document setting out the government's position.

4.2 Ministry of Environment

4.2.1 Watershed management

- As recommended in 4.1.3 above, the MARNDR and the MdE should agree on a common approach to the management of watersheds and should issue a joint policy document setting out the government's position.
- Recent flooding in Haiti has highlighted once again the vulnerability of communities living in towns in the foothills of major watersheds. Regulations promulgated by the MARNDR prohibiting erosive agriculture on steep hillsides have never been enforced. The MdE, the MARNDR, and local government actors should agree again on the appropriate regulations and how to vigorously enforce them.

4.2.2 Coastal zone management

- The MdE should agree with the MARNDR on coastal zone management policy including the sustainable management of fishing grounds. A joint policy document should be issued that sets out clear guidelines for sustainability including the mechanisms to be employed for the enforcement of regulations.
- The Ministry should aim to establish the first marine protected area on the Arcadins coast by mid 2009. This MPA should serve as a model for future MPAs to be developed on Haiti's coasts.

4.3 Ministry of Public Works

4.3.1 Road improvement policy

- The MTPTC should review its policy with respect to the improvement of Haiti's roads. In particular, the Ministry should employ a more rigorous form of analysis in the approval of investments of government and donor agency funds in road improvement taking into account the cost and the benefits of each road improvement proposal.
- The rehabilitation of rural access roads into agricultural areas should be specifically included in MTPTC planning and programming.