

Report on the Stakeholder Workshops in Limbé and Montrouis

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1. INTRODUCTION

The DEED project (Développement Economique pour un Environnement Durable), a project financed by USAID, started in Haiti in mid-February 2008. DEED aims to preserve the watershed zones of Limbé and Montrouis by working with local producer groups to reinforce and strengthen sustainable commercial agriculture in ways that protect the environment and improve the management of natural resources. The DEED project is implemented by Development Alternatives Incorporated (DAI).

One of the first tasks required of DEED was to identify the principal stakeholders working or having a significant interest in the two watershed areas. These stakeholders were then invited to a one-day workshop held in each of the watershed areas. The objectives of the workshops were to:

1. Bring the principal stakeholders together to discuss perceptions of the environmental and development issues in the watersheds;
2. Identify constraints and opportunities for sustainable development and improved management of natural resources;
3. Propose priority interventions that DEED will consider as activities to be undertaken in collaboration with local producer groups;
4. Introduce the proposal for a Watershed Management Committee;
5. Encourage a collaborative and consensual approach to the management of the watershed areas among the principal stakeholders.

The first workshop was held to discuss the situation in the Limbé watersheds and took place at the Hotel Roi Christophe in Cap-Haïtien on 6 May 2008. The second workshop focused on the Montrouis watersheds and was held at Xaragua Hotel in Montrouis one week later on 13 May 2008.

Over ninety people attended the Limbé workshop, and 84 people attended the Montrouis workshop. A full list of participants is given in Annex 1.

1.1 Stakeholder Groups

Five groups of principal stakeholders exist in relation to the two watershed areas. These are:

- The groups and associations of agricultural producers living and working in the watersheds;
- Local administration officials at the commune and section levels (mayors, asecs, casecs)¹
- Representatives of government ministries assigned to the communes in which the watersheds are located;
- Local private sector enterprises based in the region;
- Donor-funded projects working in the area in related sectors.

¹ The Limbé watershed area includes parts of the Communes of Limbé, Bas-Limbé, Marmalade, Plaisance, Port-Margot and Acul du Nord. The Montrouis watershed area includes parts of the Communes of St Marc, Arcahaie, Cabaret, and Verrettes

1.2 Methodology

In order that the workshop be as participatory as possible, participants worked in small groups to discuss problems, identify opportunities, and recommend interventions and activities that DEED will review, assess, and consider for inclusion in the program of activities proposed for the two watersheds.

The workshop programs consisted of five sessions:

Session 1. A presentation of the DEED project: its objectives, strategy, and approach. A summary of the results of the baseline surveys conducted in both watershed areas in April were also presented.

Session 2. Working in groups each focusing on a specific zone in the watersheds, participants discussed problems and possible solutions, and identified what they considered to be the main constraints and opportunities.

Session 3. Working in the same groups, participants were asked to analyze the opportunities previously identified and to outline interventions (activities) proposed for a specific area in the watersheds.

Session 4. The proposal for a Watershed Management Committee was introduced and discussed.

Session 5. The interventions and activities proposed by the work groups were summarized and presented in plenary session.

The programs for the two workshops are shown in Annex 2.

1.3 Terminology

During the first workshop in Limbé it became apparent that for many participants the term *bassin versant* ('watershed' in English) was not clearly understood. This was subsequently corrected in the Montrouis workshop—when a simple graphic was shown and explained to the participants. However, there is still some confusion in documents related to DEED over the question of whether the areas targeted by the project, i.e. Montrouis and Limbé, are each one watershed or several. For instance, it had to be clarified several times during the Montrouis workshop whether the term 'Montrouis watershed' meant the 600 km² target area of the project—running for approximately 60 km along the Arcadins coast and rising to the east to the Matheux ridge, or the true watershed of the Montrouis river—a much smaller geographic zone in the centre of the target area of the project.

Strictly speaking, the Montrouis watershed is the geographic zone along the axis of the Montrouis river bounded by the line of ridges that defines the area within which rainfall descends as runoff into the Montrouis river and its tributaries. Defined in this way, the Montrouis 600 km² project zone encompasses five principal watersheds—Roseau, Delugé, Montrouis, Matheux, and Courjolle. Within each of these watersheds there are generally several sub-watersheds—around smaller upstream water courses that are tributaries of the main river that flows into the sea along the Arcadins coast.

In this report therefore, the target zones of the project are referred to in the plural as the Montrouis watersheds and the Limbé watersheds—where it is understood that each of these zones encompasses several well-defined separate watersheds.

2. CONSTRAINTS AND OPPORTUNITIES

2.1 Constraints and opportunities in the Limbé watersheds

Four work groups were organized for the participants of the Limbé workshop. The groups were organized by zone and placement in the watershed.

Group	Zone
1	Marmelade
2	Camp Coq, Souffriere, Perrin
3	Limbé
4	Bas-Limbé

In the area of Marmelade, the principal constraints are identified as a lack of technical support and the absence of agricultural inputs and credit. This situation is said to have contributed to 'archaic' traditional ways of doing agriculture, leading to erosion and deforestation. On the other hand, there are opportunities for developing exports of yams, coffee, and pumpkins; and possible opportunities for supporting apiculture and aquaculture.

In the zone encompassing Camp-Coq, Souffriere, and Perrin, a long list of constraints includes the lack of infrastructure such as roads, irrigation systems, storage and processing facilities, health centers, electricity, and even latrines. Problems are cited with agricultural inputs, lack of credit and financial services, and institutional development. The groups saw opportunities to develop the natural resources in the region supported by a willing and able population.

In Limbé, again the lack of technical support was cited as a major constraint. Access by road is difficult, and transporting produce to markets is a major problem. Deforestation continues to be a serious concern. There are opportunities to reinforce agricultural production because the land is fertile and water resources are good. Ecotourism is seen as a possibility.

In Bas-Limbé, the lack of technical support, training, and investment is cited as the principal constraint. Flooding is a problem and like everywhere else in the area, deforestation is a major concern. There are opportunities for tourism in Bas-Limbé and potential for intensifying agriculture.

2.2 Constraints and opportunities in the Montrouis watersheds

Five work groups were organized for the participants at the Montrouis workshop. Each work group focused on the constraints and opportunities in a specific watershed as shown in the table below:

Work Group	Watershed	Sub-watersheds
1	Roseau	Pierre Payen, Bois Neuf, Ravine Seche
2	Delugé	Lanzac, Piatre
3	Montrouis	Fonds Baptiste, Ivoire, Carries, Kounol, Chinchiron
4	Matheux	Leger, Arcahaie, Ti Bois, Luly, Mitan, Barbancourt
5	Courjolle	Sous Rigolle

In the northern Roseau watershed, the principal constraint is identified as the lack of technical assistance. As a result, institutional capacity is weak and agricultural practice and soil management are inadequate. The opportunities for improvement are linked to good natural resources including natural springs that have not yet been capped.

In Delugé, the lack of technical assistance is again a serious constraint. Roads are also a problem – particularly the poor condition of the road to Piatre. Erosion is serious and aggravated by deforestation. The catch from fishing continues to decrease. Opportunities are linked to the abundance of water and the potential for tourism.

In the Montrouis watershed, once again the lack of technical assistance is cited as a major constraint. The need for a shop selling agricultural inputs was identified. Bad roads are again an issue. Like its neighbouring watersheds of Roseau and Delugé, Montrouis has abundant water and looks to tourism as an opportunity for development.

The participants from Matheux cite a long list of constraints. Technical assistance is again considered inadequate, as is the unavailability of credit. Deforestation and environmental degradation are a concern. The coastal zone is overexploited and mangroves are being destroyed. Local organizations are seen as unstructured. Abundant water resources present an opportunity for intensified and sustainable agriculture. Local markets are accessible.

In the most southern watershed of Courjolle, deforestation and unsustainable agricultural practice are cited as constraints. Free range livestock is a problem. Coral is being removed from the inshore reefs. The rehabilitation and improved management of irrigation systems is an opportunity for improved agricultural production.

Annex 3 provides a verbatim translation of the flipchart notes produced by each work group.

3. PRIORITY INTERVENTIONS

Working in the same groups as in Session 2, the participants were asked to propose priority interventions (i.e. activities) linked to the opportunities each work group had previously identified. The proposed interventions are outlined below.

3.1 Limbé watersheds

In Marmelade, priorities are seen as :

- The treatment of gullies and ravines
- Reforestation and tree planting of woodlots and fruit trees
- Improving the roads
- Developing fish-farming systems by building water retention basins
- Promoting enclosed grazing areas for livestock
- Improving technical assistance and agricultural inputs in general

In the Camp-Coq, Souffriere, and Perrin areas, the priorities were listed as follows:

- Irrigation – in Bas Souffriere, Denard, and Bas-Limbé
- Drainage – Canal Malord
- Reforestation in the entire watershed
- Treatment of ravines
- Protection of riverbanks
- Improvement of rural roads
- Construction of latrines

Other needed activities included

- A shop for agricultural inputs
- Community nurseries
- Training in the processing of manioc, fruit, and maize
- Credit for commerce and agricultural inputs
- Potable water

The rehabilitation of the FAO Watershed Training Center was also cited as a priority.

In the Limbé watershed, priorities were identified as being :

- Improving irrigation and drainage systems in the 3rd Section
- Reforestation and treatment of ravines in the 6th Section
- Protection of riverbanks and rivers in the 6th, 7th, and 8th Sections
- Improvement of roads in the 4th, 6th, 7th and 8th Sections
- Hillside water retention basins in the 3rd, 4th, and 7th Sections

Other needed interventions include :

- Agro-industrial and artisanal development
- Improving the structure of cooperatives and associations
- Protection of the Limbé river (with gabions)
- Cleaning the Malord canal
- Access to credit
- Promotion of soil conservation techniques
- Aquaculture ‘lac collinaire’

In the Bas-Limbé watershed area, priorities were seen as :

- Drainage and treatment of ravines in Letiro, Corail, and Ti Ginen
- Rehabilitation of irrigation systems in Bolier, Bori, Blen, Koray, Rivo, and Tifon

Planting of fruit trees and the restoration of mangroves in the 2nd Section were also cited as important interventions.

3.2 Montrouis watersheds

The priority interventions proposed by each group are as summarised below. In the Roseau watershed, three priority interventions are proposed.

- Soil conservation (dry walls, terraces, tree planting) in Morne Gade, Foban, Bwanyel, Doko, La Rochel, Maya
- Capping the Mirliton spring and reforestation around springs
- Technical assistance regarding post-harvest storage and agricultural inputs

In Delugé, priorities are identified as:

- Irrigation infrastructure, improved vegetable production for the hotels in St Marc
- Mini hydro-electric installation
- Drinking water
- Protection of springs in Piatre
- Organization for commercialization of produce

In Montrouis, three interventions are proposed:

- Market gardening and fruit produced for hotels (Fonds Baptiste, Cadnette, Ivoire)
- Capping springs at Colins, Cadnette, Bois d’Orme, Carries, Grand Matin
- Enclosed livestock rearing

The Matheux work group identified five priority interventions:

- Tree planting with Jatropha, fruit trees, fuelwood species, Vetiver, coffee (Ti Bois, Leger, Couyo, 3rd section DesVases)
- Broaden vegetable production in Ti Bois, Leger, Couyo, and 3rd section Des Vases
- Shop for agricultural inputs in Leger, Couyo, Des Vases
- Centre for pre-processing and livestock rearing at Digue Matheux

- Training for farmer-fishers

And finally the Courjolle group proposed three interventions:

- Soil conservation at Sous Rigolle, Jean Dumas, Barreau Michel, Conoyer, Digue Bobby
- Shop for agricultural inputs in Barreau Michel, Jean Dumas
- Enclosed livestock rearing: chickens (Digue Bobby); goats (Jean Dumas, Barrea Michel); pigs (Conoyer, Jean Dumas, Digue Bobby, Barreau Michel)

Annex 4 presents a verbatim translation of the flipchart notes produced by each work group.

4. REVIEW AND ANALYSIS

4.1 Limbe

There is clear support from all four work groups for increasing assistance to the agricultural sector. Suggested interventions include technical assistance for production; provision of agricultural inputs; marketing and training/organizational development for producer groups; access to agricultural credit and improvement of rural roads. These potential interventions all fit under the DEED mandate to provide support to productive sectors while at the same time assuring strong links between producers and service providers.

Reforestation was also seen as an important activity by all four groups. The use of fruit trees was specifically mentioned in several groups. The creation of wood lots for charcoal production was mentioned in the Marmelade group.

The effects of deforestation are also evident in the groups' outputs. Treatment of ravines resulting from serious erosion and protection of riverbanks during periods of flooding are also listed as priority activities.

Support to women and women's groups was mentioned in Marmelade, Camp Coq/Souffrierre/Perrin and Limbé groups. Given the important role that women play in the marketing of agricultural production in Haiti, it is not surprising that this arises as a priority activity.

Access to potable water was listed as a priority in the Marmelade, Camp Coq/Souffrierre/Perrin and Limbé groups. It is important to note that although not on the priority list in Bas-Limbé, this is a serious problem that they are facing, having to purchase and transport water from Limbé.

The Marmelade and Limbé groups identified the use of hillside water catchment basins ("lac collinaires") for aquaculture as a priority activity. These basins can serve a dual purpose – 1) as soil conservation structures which promote water retention as well as 2) a source of revenue in the form of fish production requiring little capital investment. Aquaculture may promote the planting of leguminous tree varieties well suited for use in the composting necessary to promote the growth of plankton which is in turn eaten by the fish.

4.2 Montrouis

Water is a predominant theme in the northern part of the Montrouis zone. Capping and protecting springs is a priority for all three of the northern watersheds: Roseau, Delugé and Montrouis. This is interesting because it might have been expected that the repair and rehabilitation of irrigation systems would have been the first priority. Only in Delugé is irrigation infrastructure cited as a priority intervention. On the other hand, capping a spring is of little consequence unless one does something useful with the water now harnessed. It may be that the participants from these areas assume that once capped, spring water is then available for drinking water and for irrigation.

The necessity for the protection and reforestation of the land around springs is well understood—being cited by both the Roseau and Delugé groups as a priority.

In Delugé the installation of a mini hydro-electric plant is proposed. While an intervention of this scale is likely to be beyond the resources of DEED, it once again underscores the fact that water resources in the northern part of the watershed area are substantial.

The Roseau group cited in first position their interest in traditional soil conservation measures: dry walls, terraces, and tree planting. Experience in Haiti shows that these measures are only successful when their benefit exceeds installation cost and they directly serve to increase revenues. Dry walls and terraces are intended for steeply sloped land where agriculture is not recommended. Farmers in vegetable growing areas of Fermathe and Ft. Jacques have proved willing to invest heavily in such structures when they facilitate the production of high value cash crops that require expensive inputs such as fertilizer and when terracing serves to conserve the fertilizer for high value vegetable crops with an assured market nearby.

Tree planting generally has little impact unless the mature tree is worth more alive than dead, i.e. its value lies in its annual harvest of fruit rather than its value for charcoal, or when woodlots are planted and managed for sustainable production of wood products including charcoal. In Matheux, it is clear that the group understands that trees are only protected when they are valuable. The group recommends planting *Jatropha*, fruit trees, Vetiver, and coffee. There are good reasons to promote *Jatropha*, especially in drier zones; however, *Jatropha* oil has not yet proven to have a reliable market in Haiti. Fuelwood species are also viable if the plantation is sustainably managed—as has been demonstrated successfully in some areas of Haiti such as Fond des Blancs and Bombardopolis where fast growing tree gardens are managed sustainably for charcoal and other wood products.

In the southern watersheds of Matheux and Courjolle, the lack of a shop where agricultural inputs can be obtained is cited as a priority intervention. DEED will examine how the project might be able to help to remedy this situation.

Finally, the need to enclose livestock is cited by the groups of Montrouis, Matheux, and Courjolle. This is encouraging—as free range livestock rearing causes serious problems for vegetable production, young trees, and other forms of commercial agriculture.

5. COORDINATION AND CONFLICT RESOLUTION

5.1 Conflict management

There is always the possibility of conflict among stakeholders in the management of natural resources. The watershed areas of Limbé and Montrouis are rich in natural resources, particularly water, and several thousand people—from poor subsistence farmers on the upper slopes to wealthy landowners on the coast—benefit from the ‘ecological services’ provided by the two watershed areas. As irrigation infrastructure is rehabilitated and extended, and as the coastal zones develop and water consumption grows, the potential for conflict—particularly over water—is evident.

The types of conflict that could arise among stakeholders in watershed areas include the following:

- Conflicts over the use of resources, particularly water and land;
- Between groups and associations of producers over access to DEED’s resources;
- Between urban and rural stakeholders—each having different priorities;
- Between stakeholder groups in the upper and lower parts of the watersheds—where actions by groups in the upper part of the watershed can cause problems for stakeholders lower down;
- Among representatives of the Ministry of Agriculture and the Ministry of Environment—each Ministry having a different approach to watershed management;
- Conflicts created by donor agencies having different approaches to sustainable development in the region;
- Rivalries among asecs, casecs, and producer groups;
- Conflicts caused by opposing views concerning the responsibility for applying the law relating to the management of natural resources;
- Administrative and inter-jurisdictional issues among communes and communal sections whose borders are not defined by the geographic limits of targeted watersheds that cut across several jurisdictional boundaries;
- Longstanding political rivalries related to political parties and competing candidates for public office, and localities closely identified with high office holders in the central government.

By way of illustration, baseline studies¹ and other field interviews¹ in targeted watersheds have identified a history of acute land conflict in upland zones of Montrouis area watersheds particularly in Piatre, Fond

¹ Frisner Pierre et al (April 2008), Etude de base de pré-évaluation du bassin versant de Limbé, Etude de base de pré-évaluation du bassin versant de Montrouis (DAI-DEED).

Baptiste/Dimeran et Couyo. Field interviews also identified upland blocks of state land actively exploited for agriculture and timber harvest in both watershed zones. These lands are classified as *domaine privé de l'état* and are occupied in principle by state leaseholders under the authority of the Direction-Générale des Impôts (DGI). Both project areas also contain public resources and sites exploited unsustainably as commons (“tragedy of the commons”), e.g., mangroves, fishing grounds, springs, and larger scale ravines and watercourses. Project areas are marked by local conflicts over free range grazing and the use of fire to clear land for agricultural use. In the Montrouis area, there is potential conflict between resort owners and fishers over fish harvest and the exploitation of reefs. There is also controversy over the mining of gravel and rocks from streambeds and its impact on the flow of water and risk of flooding.

Collaborative management of natural resources by stakeholder groups is generally recognized as an effective approach to managing areas of ecological importance. For this approach to be successful, stakeholders must be willing to meet, discuss issues and problems, and agree on solutions that require flexibility, compromise, and goodwill. The workshops held in Cap Haitien and Montrouis brought together for the first time stakeholders that up until now have had very little to do with each other—even though they may live in the same area, rely on the same water table, suffer equally when natural disasters occur, and whose livelihoods depend to very large extent on the watersheds being managed sustainably.

A plenary session during the programs in Limbé and Montrouis included a presentation by Glenn Smucker² on the need to create a Watershed Management Committee (WMC) for each zone. The creation and support for the effective operation of these committees is a requirement of the DEED project. Apart from the importance of this committee as a forum for stakeholders to work together on a collaborative approach to managing the area (q.v. section 1.3), this initiative is consistent with stated policy of the Ministry of Agriculture (the MARNDR³) as presented in its 1999 report: *Politique du MARNDR pour la gestion des bassins versants*. This policy document proposes a ‘Community Management Unit’ with responsibility to develop a management plan for a ‘bassin versant élémentaire’. This hydrographic spatial concept is not defined—but is clearly described as being smaller than the ‘Section Communale’—the smallest administrative unit of the Republic⁴. The plans at this local level are then integrated into a coherent plan at the Section, Commune, and finally the Department levels of government.

In addition to the Ministry of Agriculture policy on watersheds, the recent *Décret-Cadre sur la Gestion de l'Environnement* (October 12, 2005) provides for the creation of special collaborative structures to manage the environment including joint participation of central and local bodies of government together with local communities. Haiti’s National Environmental Action Plan (PAE) also calls for watershed management plans and participatory management of watersheds at decentralized levels of government (Ministry of Environment, June 1999, *Plan d'action pour l'environnement*). The *Décret-cadre sur la Décentralisation* (February 2006) provides for inter-communal conventions and commune management of natural resources and the environment. In short, there are ample policy and legal grounds for

¹ Project gender specialist Vernande Joseph and anthropologist Glenn Smucker carried out field interviews with stakeholders in targeted watersheds during the period immediately preceding and following the stakeholder workshops in May 2008.

² An international consultant working for DAI on a short term contract.

³ Ministère de l'Agriculture, des Ressources Naturelles, et du Développement Rural

⁴ The *Plans de gestion communautaires* are integrated into a *Plan de gestion des ressources de la section communale*, which in turn is integrated at the level of the commune into a *Plan communal de gestion des ressources naturelles*. These plans are synthesized at the Department level into a *Programme Intégré de Développement Départemental* under which there is a *Plan Départemental de l'Agriculture* within which one finds a synthesis of the *Plans communaux de gestion des ressources naturelles*.

public/private and inter-communal collaboration around watershed management and for the establishment of watershed management committees using a participatory and decentralized approach.

The functions of the Watershed Management Committee are as follows

- To develop management plans for the watersheds in the Montrouis and Limbé areas;
- To exchange information among stakeholders;
- To prioritize and coordinate activities underway in the watersheds;
- To approve infrastructure proposed for the protection of the watersheds.

The stakeholders represented on the WMC would normally include:

- Local government : mairies, casecs, and assemblies;
- Central government representation including the *délégation* and the Ministries of Agriculture and Environment, especially for technical advice, norms and standards;
- Community organizations : women's groups, producer associations, etc.;
- Private sector – both formal and informal;
- Representatives from both urban and rural areas;
- Representatives from both the coastal and upper zones of the watershed.

The mission of the Watershed Management Committees is defined as the Preservation of the watershed areas through sustainable economic growth.

The two stakeholder workshops organized by DEED are therefore the first steps in a collaborative approach to the management of the Limbé and Montrouis watershed areas. Many more meetings of stakeholders will be required over the next three years. While establishing Watershed Management Committees is a key activity, it will not be able to resolve all the potential conflicts among stakeholders. Meetings between smaller groups of stakeholders will certainly be necessary from time to time in response to specific conflicts as they arise.

5.2 Action Plan

The management of conflict among stakeholders will be achieved by the following:

- Utilizing a participatory approach and assuring adequate representation of a range of pertinent stakeholders in DEED's program of activities, including functional watershedmanagement committees;
- Regular consultations on an individual basis between DEED managers and individual key stakeholders, including representatives of other projects or donors such as the FAO in Marmelade;
- Effective sharing of information concerning activities initiated and supported by DEED in the watershed zones, including the sharing of pertinent reports and information with mayors and local and regional representatives of the ministries of Agriculture and Environment;

- The preparation of maps and participatory management plans for micro-catchment areas, sub-watersheds and watersheds that are developed and approved by key stakeholders.
- The project will assess the potential for conflict and also the measures proposed for dealing with prospective conflicts in its review of all proposals for project assistance;
- Addressing the potential for conflict will be a requirement in the preparation of local watershed management plans, including proposal of specific measures to alleviate prospective conflicts identified;
- All other things being equal, the project will assign priority to sites with a low risk of active land tenure conflicts that threaten project objectives and goals of sustainability.
- The Project will assess high value “commons” and blocks of state land, including social and conflict assessment of direct users and other stakeholders.
- Conflict mediation skills will be incorporated into training for capacity building of producer groups;
- Program outreach will bridge gaps and bring disparate stakeholders together around practical shared concerns and concrete vested interests, including the opportunity to reduce risk and increase revenues.
- Program assistance will be provided on a strictly non-partisan basis (political neutrality).

To ensure a participatory and collaborative approach to watershed management, DEED will develop a close partnership with the Casecs in each of the Sections in which a micro-catchment area is located. Under the leadership of the Casecs, a participatory planning process will be established and each Section will develop a number of *Plans de gestion des sous bassins versants* (PGSBV) for the targeted micro-catchment and sub-watershed areas of the zone in which DEED is operating.

DEED will work with the Casecs to establish watershed management committees at the Section level (WMC-S). A Section may include several micro-catchment areas and sub-watersheds, so the WMC-S may be required to produce several plans. Alternatively, a sub-watershed may be located in more than one Section—in which case more than one Casec will be involved in the planning process. When the WMC-S are operational, steps will be taken to bring the WMC-S together and to establish a Watershed Management Committee at the Commune level (WMC-C) under the aegis of the President of the Commune, i.e. the Maire.

Schedule of tasks

	Action	Deadline
1	Map the sub watershed areas including any irrigation systems and identifying all water resources	Q2
2	Identify the Sections in which the sub-watershed areas are located	Q2
3	Meet with the Maires and BACs and explain DEED's approach	Q3
4	Contact the Casecs individually and explain DEED's approach	Q3
5	Hold a meeting of participating Casecs, Asecs, PGs, and other local stakeholders to develop a participatory approach and to agree on the planning process	Q3
6	Convene the first meetings of the WMC-S in the DEED target areas (Montrouis and Limbé), discuss issues, resolve conflicts, prioritize action, agree on planning	Q3
7	The WMC-S will issue their first report and action plan for the sub-watershed	Q4
8	Convene the first meeting of the WMC at the Commune level (WMC-C) under the aegis of the Maire.	Q4

One of the most important outcomes of the workshops has been a reaffirmation that rural people must be free to make their own decisions about the types of activities they tackle in order to improve their livelihoods. Without this high degree of independence at the planning stage, motivation and commitment soon wane in the face of the inevitable challenges that arise during project implementation. A business approach to poverty reduction whereby rural people are active agents engaged in productive activities is the most likely to achieve bankable results that contribute to unlocking economic growth. DEED will help people make informed decisions that generate benefits from better management of natural resources.

DEED will use a tried and tested tool – Integrated Spatial Planning – to provide an affordable, innovative, and flexible framework for addressing complex integrated conservation and development challenges in a holistic manner that helps unlock economic growth through the sound management of natural assets.

DEED will continue to convene forums and bring together representatives of communities and local governments who will negotiate potential cross-catchment collaboration and trade-offs. This approach has been used successfully elsewhere when the fine detail of resource distribution (whether wildlife, trees, or water) is “masked” by issues of government jurisdiction, land tenure or access to markets. As such, spatial planning can be used to inform zoning decisions based on information that might not be available on existing maps. In Limbe and Montrouis, DEED will be able to explain the rationale for prioritizing specific areas for conservation rather than allowing them to be converted to open-field agriculture and for targeting outreach activities in places where they are most needed.

6. RECOMMENDATIONS

The priority activities proposed by the participants at the stakeholder workshops were subsequently reviewed by the DEED technical team and reviewed and analyzed in the context of:

- The priorities for action identified in the baseline studies;
- The priorities identified during the SONDEO rapid assessment of the two watershed area. This work resulted in 5 illustrative activities for each watershed zone being submitted to USAID in April 2008.

In comparing the three sets of proposed priority activities, several activities were noted as being consistently identified as priorities; and certain watersheds came to the fore as being areas where priority activities were to be located

In the case of the Limbé zone a number of priority activities were cited on a recurring basis.

- In the upper-watershed in the Marmelade where erosion and loss of topsoil are acute problems, reforestation was listed as an important activity. Reforestation can complement both aquaculture and apiculture by providing nectar and composting material, respectively.
- Production of vegetables in market gardens; yams, bananas, other field crops and cacao were also listed as important potential initiatives in Camp Coq, Limbé and Bas-Limbé.
- Protection of the existing Mangrove stands was listed as an important activity in Bas-Limbé.

The next step towards supporting any of the identified activities in the Limbé watershed is to identify those producer groups with the interest and capacity to undertake the activities.

In the case of the Montrouis zone, the majority of priority activities are proposed for the adjacent watersheds of Montrouis and Matheux.

The activities identified as priorities are :

- Reinforcement and extension of commercial vegetable production in irrigated areas (including as necessary the repair of irrigation infrastructure);
- Enclosed livestock raising;
- Reforestation involving the planting of fruit trees and other high value species;
- Introduction of *Jatropha*—involving seedling nurseries and demonstration plots;
- Reinforcement of commercial apiculture.

The detailed design of DEED's interventions in the Montrouis and Matheux watersheds will be completed after the selection of the Producer Groups that will work with the project.

ANNEX 1 List of participants**Limbé Workshop participants****Hotel Roi Christophe, Cap-Haitien, 6 May 2008**

Name		Institution	Telephone
Abraham	Leonel	Bas-Limbe	38-51-13-13
Altidor	Locius		38-04-52-92
Antoine	Paul	KEKAM	36-14-63-50
Aston	Tim	DEED	37-01-6903
Augustin	Odule	Village planete	34-33-15-24
Augustin	Accene	Makouti	38-64-69-10
Basil	Yvonise	APWOLFA	36-14-64-12
Bush	Martin	DEED	38-48-25-93
Cadet	J. Henry Claude	CFAIM	34-32-78-48
Celicourt	Monpremier	Marie Limbe	34-76-89-09
Charlot	Victor	C.C.I.L	36-62-25-30
Christophe	Patrick	Radio Mirvana	37-79-34-89
Dagobert	Hillaire	APADEB	37-65-33-13
Dalencourt	Fluerente	AAPL	34-49-71-29
Delmour	Gary	Maire Bas limbe	37-84-20-71
Delmour	Angena	UDEB	37-70-94-53
Docteur	Renaud		38-14-08-88
Dolce	Pierre Michel	CCIPN	37-17-73-47
Dortilus	Pierre Richard	FACN	37-89-35-99
Dorvil	Frantzy	MARDDR	37-52-03-37
Estimable	Jean Augustin	CD Platon	37-97-09-59
Etienne	Eddy Jean	UCNH	37-30-52-68
Etienne	Alande	CASEC	37-90-17-91
Etienne	Vermont	ACREBAL	36-79-90-17
Exantus	Roger	ACREBAL	37-49-64-73
Fabien	Jean Edner	BAC Marmelade	36-11-84-25
Gedeon	William	LICOTE	34-76-81-94
Geffrard	Willis	CHF	
Gerard	Ambroise	KOREPA	
Gilot	Murat	Rescare/KATA	37-35-66-17

Gue	Jean	ORDESO	34-68-57-28
Innocent	Severe		
Jean	Joseph I.	A.R.D./Lokal	37-67-89-55
Jean Baptiste	Gerald	IREL	37-67-92-61
Jean Charles	L.N. Cantave	Maire Marmelade	36-46-08-54
Jean R.	Listha	Sogesol	37-01-04-16
Joseph	Vernande	DEED	
Joseph	Tirico	BAC Limbe	37-24-94-63
Joseph	Augustin	APABL	38-49-70-48
Josias	Madeus	Micro-credit	36-19-63-66
Jules	Reginald	Fonkoze	37-26-63-70
Laguerre	Valery	OXFAM GB	37-61-16-33
Lange	Usner	ACREBAL	36-88-88-94
Lawson	Michael	UCNH	36-40-47-49
Lima	Aude	CASEC	36-93-70-25
Mathieu	Guy	MARDDR	34-48-51-31
Maximin	Wilchert	Camp coq	38-56-92-25
Mondelus	Dejeune	Mairie Bas limbe	36-73-56-08
Nicolas`	Eberle Edene	DDAA	34-48-69-81
Obas	Moclaire	CI/OPB	36-12-24-37
Obas	Jean Claude	CASEC	37-72-46-13
Osirus	Paulin	BAC Limbe	34-63-16-33
Paul	Junior	DEED	37-63-4595
Pierre	Bruner	CASEC	37-53-49-40
Pierre	Aristaine	JEPROC	37-53-31-73
Pierre	Sameson	Mairie limbe	34-76-89-50
Pierre	Emmanuel	Invite special	37-61-25-87
Pierre	Geordany	CAL/OPROJDEN	39-18-28-81
Pierre	Frisner	DEED	38-72-4597
Provost	Julien	AFDI	34-63-58-26
Robert	Brunet	UCNH	34-53-14-87
Rony	Daceus		38-04-52-93
Rosier R.	Moise	Chambre d'Agriculture	37-88-11-14
Rycx	Ysabeau	OXFAM GB	39-02-44-63
Siegel	Louis	ARD/LOKAL	
Smucker	Glenn	DEED	
St Surin	Lagneau	O.F.	37-53-38-69
Stenor	Harry	ADDH/AFDI	36-85-27-25

Telemaque	Patrick	DEED	37-54-8740
Telfort	Martha	Groupe fanm	
Termessant	Claudius	I.R.F.O.K	38-60-28-58
Theard	Jean Eddy	Whh/AAA	37-67-96-35
Valbrun	Abacus	UJPAL	36-70-78-82
Vitius	Saint Hillaire	PG/Souffriere	38-35-26-16
Woolley	James	USAID	22-29-83-47
Zephir	Daniel	Entreprise Novela	34-31-36-96
Zephirin	Jean Olson	Maire Adjoint	36-14-60-10

Montrouis Workshop participants

Hotel Xaragua - 13 May 2008.

Name		Institution	Telephone
Alix	Antoine	O.F.A.L	39-06-57-91
Augustin	Arture	Xaragua	25-10-95-59
Benjamin	Miguel	AJTAPP	37-09-29-78
Buteau	Jean .M	JMBSA	37-01-40-50
Caceus	Fabien	ASEC	36-39-08-59
Calixte	Benoit	Porte voix du peuple	36-25-23-42
Cine	Jean Joseph	RACADAMA	38-35-67-11
Daniel	Henry Dunel	MARNDR	37-89-32-32
Deprez	Alex	USAID	22-29-30-00
Derilus	Pierre Montas	ASEK	
Desinat	Jean Robert	Cheche lavi	
Dorleyant	Elider	CASEC	37-68-30-03
Dorsainvil	Herve	TNH	37-11-16-97
Dorvil	Castra	TK Comite Ges	26-43-57-25
Dorvilus	Lyonel	VOPMA	39-12-97-07
Ducasse	Joel	HSSA	38-16-76-75
Edouard	Murat Joseph	CASEC	36-26-42-19
Eglaus	Fabienne	CASEC	37-27-30-38
Eloi	Mie Elamousse	PEFKA	25-17-59-35
Elvilus	Odette	GFSC	
Emile	Wilhem	ATAIB	37-23-31-59
Estiverne	Louis jeune		22-78-01-28
Exime	Dormeus	Cheche lavi	38-02-66-43
Fenelus	Duchene	ASEC	36-08-76-48
Fleurisca	Labeny	OPAR	37-39-31-09
Frisner	Pierre	DEED	38-72-45-97

Hilaire	Emmanuel	APWOMOPA	35-03-73-93
Hobgood	Nicolas	DEED	37-01-38-01
Innocent	Jean Monax	COLUC	37-89-19-56
Israel	Enfant Dieu	A.J.T.A.P.P	37-07-75-67
Jaboram	Pierre Laurent	APEMI	36-61-30-72
Jean Frameon	Westn	Moun AB	36-42-63-66
Jean Francois	Pierre Supreme	CODEP	35-29-95-86
Jean Louis	Margarette	BAC-Arcahaie	34-05-51-42
Jean Louis	Sony	FEPA	35-49-79-38
Jeanty	Julienne	Cheche lavi	38-20-49-05
Josene	Judith	FEFKA	37-68-32-52
Joseph	Alius	KUPEC	34-25-10-47
Joseph	Marie Dina	MARCH/Xaragua	37-68-22-79
Joseph	Vernande	DEED	
Lamaniere	Jean Carina	ASEC	37-17-51-32
Leahy	Nancy	USAID	
Lexidort	Marie Rachelle	CHF	
Liberius	Elrood	DEED	37-20-86-86
Louis	Laurent	CHF	36-11-20-83
Louis-Jeune	Jean Ricot	Bac Saint-Marc	37-43-19-23
Lowenhar	Ira	ARD/Lokal	34-90-33-67
Maccormack	Jennifer	OIM	37-02-10-04
Manasse	Voltaire	AIPP	37-90-82-34
Marius	Jean Robert	CASEC	36-01-31-81
Martin	Bush	DEED	38-48-25-93
Monaco	Ferdinand	CODEP	37-42-00-19
Moristhile	Jean Robert	OPAR	38-54-07-47
Noel	Figaro	DEED	35-56-59-76
Pascal	Lony	APEBB	35-56-45-04
Pasteur Quene	Morlevon	Mission Chretienne	37-96-69-38
Paul	Junior	DEED	37-63-45-95
Pierre	Dieusel	CASEC	36-08-76-17
Pierre	Jean Huguens	ASEC	38-60-53-43
Pierre	Jeanvilus	MTTPA	
Pierre	Patricia	DELUGE	37-95-57-70
Polynice	Pierre	AJCC	36-09-12-83
Renold	Louis	AIPDP	
Robinson	Ramp	USAID	38-16-60-12
Rodleus	Pierre Elisthene	ASEC	37-42-39-66
Roland	Fevrier	AJPDP	35-49-34-82
Romulus	P. Andre	CASEC	36-38-29-06
Saieh	Gregory	OIM	34-07-02-28
Saint-Cyr	Rene	APEL	36-27-87-85
Smucker	Glenn	DEED	34-02-58-94
Stiven	Pierre Orestil	OPD-8	34-81-62-85
Sully	Jean Lefabre	MOPAV	36-21-26-00
Taverne	P. Lamour	IDEJEN	36-14-25-07

Telemaque	Patrick	DEED	37-54-87-40
Terrien	Regis	CHF	37-01-50-96
Tertulien	Mean	AIPM	37-26-93-91
Tim	Aston	DEED	37-01-69-03
Torrilus	Jean Wilbert	CASEC	37-13-97-66
Torrilus	Jean Wilbert	AJDSL/VOPMA	37-93-27-96
Toussaint	Fresnel	TNH	37-21-96-92
Tout-Puissant	Jean-Eddy	DEED	
Vilcius	Thery	ASEC	39-07-64-30
Woolley	James	USAID	22-22-98-34

ANNEX 2 Workshop programs

ATELIER DE TRAVAIL SUR LE BASSIN VERSANT DE LIMBE**PROGRAMME DU JOUR**

Heure / durée	Sujet	Méthodologie
8:30 am Ouverture	Introduction Présentation du programme	<ul style="list-style-type: none"> Facilitateur
9.00 – 9:45 am	1. <u>Présentation du DEED</u> <ul style="list-style-type: none"> Vue générale Stratégie (Méthodologie, prestataires de service, PPAs, etc.) Etude de base - Limbe principaux résultats. 	<ul style="list-style-type: none"> présentations Power point Tim Aston, Nick Hobgood, Frisner Pierre
9:45 – 10:00 am	Questions et discussion	<ul style="list-style-type: none"> Facilitateur
10:00 – 10:15 am	Pause café	
10:15 – 11.30 pm	2. Contraintes, Opportunités, Liste des <u>interventions possible dans le Bassin Versant</u>	<ul style="list-style-type: none"> Travaux en ateliers (6 groupes de travail & rapporteurs) Chaque groupe de travail propose 5 contraintes, 3 opportunités, 5 interventions <u>techniques</u> possibles.
11.30 – 12.00 pm	Restitution et discussion	<ul style="list-style-type: none"> Facilitateur
12.00 – 1.00 pm	Diner	
1.00 – 2.00 pm	3. Détail sur les interventions prioritaires et priorisation des zones des interventions.	<ul style="list-style-type: none"> Travaux en ateliers (6 groupes de travail & rapporteurs) Les groupes répartissent les interventions ciblées dans au moins 3 sous-bassins prioritaires

2.00 – 3.20 pm	Restitution et discussion	<ul style="list-style-type: none">• Facilitateur• 5 flipcharts sont établis (1 pour chaque sous Bassin Versant) et les priorités de chaque sous Bassin Versant sont affichées sur le flipchart correspondant.• 10 minutes sont données à chaque groupe.• 20 minutes pour la décision finale
3.20 – 3.50 pm	Préliminaires à la mise en place du conseil de gestion du Bassin Versant	Présentation (Facilitateur) Discussion et décision/planification pour la prochaine rencontre.
3.50 – 4.15 pm	Réviser et Résumer les résultats des ateliers	<ul style="list-style-type: none">• Facilitateur• Facilitateur présente un résumé des résultats• Interventions techniques prioritaires (activités)• Les sous-Bassins Versants prioritaires
4.15 pm		<ul style="list-style-type: none">• Clôture

ATELIER DE TRAVAIL SUR LE BASSIN VERSANT DE MONTROUIS

PROGRAMME DU JOUR

Heure / durée	Sujet	Méthodologie
8:30 am Ouverture par l'USAID	Introductions Présentation du programme	<ul style="list-style-type: none"> Facilitateur
9:00 – 9:45 am	1. <u>Présentation du DEED</u> <ul style="list-style-type: none"> Vue générale Stratégie (Méthodologie, prestataires de service, PPAs, etc.) Etude de base – Montrouis principaux résultats. 	<ul style="list-style-type: none"> Présentations par : <ul style="list-style-type: none"> Tim Aston, Chief of Party (COP) Martin Bush, Coordinateur Regional Frisner Pierre, Deputy COP
9:45 – 10:00 am	Questions et discussion	<ul style="list-style-type: none"> Facilitateur
10:00 – 10:15 am	Pause café	
10:15 – 11:30 pm	2. Contraintes et opportunités dans le bassin Bassin Versant	<ul style="list-style-type: none"> Travaux en groupes (un groupe pour chaque sous bassin versant) Chaque groupe de travail identifie 5 contraintes et 5 opportunités
11:30 – 12:00 pm	Restitution et discussion	<ul style="list-style-type: none"> Facilitateur
12:00 – 1:00 pm	Diner	
1:00 – 2:00 pm	3. Détail sur les interventions prioritaires et priorisation des zones des interventions.	<ul style="list-style-type: none"> Travaux en ateliers (5 groupes de travail & rapporteurs) Chaque groupe propose 3 interventions prioritaires basées sur les opportunités déjà identifiées. Les propositions doivent être localisées dans le SBV
2:00 – 3:20 pm	Restitution et discussion	<ul style="list-style-type: none"> Facilitateur 10 minutes sont données à chaque groupe. 20 minutes pour la discussion finale

3.20 – 3.50 pm	Préliminaires à la mise en place du conseil de gestion du Bassin Versant	Présentation (Facilitateur) Discussion et décision/planification pour la prochaine rencontre.
3.50 – 4.15 pm	Réviser et résumer les résultats de l'atelier	<ul style="list-style-type: none">• Facilitateur• Facilitateur présente un résumé des résultats• Interventions techniques prioritaires (activités)
4.15 pm		<ul style="list-style-type: none">• Clôture

ANNEX 3 Workgroup results - Constraints and opportunities

1. LIMBE

Marmelade

Constraints

- Archaic methods used for preparing fields
- Lack of technical support structures
- Inexistent agricultural credit
- Lack of agricultural inputs
- Free range animal production
- Erosion
- Lack of responsibility taken by local actors
- Uncontrolled deforestation
- Lack of potable water

Opportunities

- Existence of structures organizations
- Existence of technical support structures
- Existence of economically viable export crops (yams, coffee, pumpkins)
- Possibility for apiculture
- Aquaculture

Camp-Coq, Souffriere, Perrin

Constraints

- Erosion
- Deforestation
- The drying of springs
- Lack of agriculture roads
- No storage facilities
- Need for product transformation
- Few health centers
- Lack of latrines
- Need for irrigation (Bas-Souffrière)

Agricultural problems

- Limited access to inputs (seed, pesticides, tools)
- Diseases (banana, beans, yams, animals)
- Little technical training
- No agricultural credit
- Marketing is poor

Opportunities

- Human resources (quantity and quality)
- Rock quarry
- Gold mine
- An abundance of water
- Diversity of production
- Proximity to main road (Route National No. 1 for Camp-Coq)

Credit and business

- Financial services are few
- Support to NGOs is limited
- Support services to businesses
- Limited electricity
- No internet

Organizational and Institutional Problems

- Lack of training
- Institutional weaknesses
- Lack of technical and financial support
- Institutions are not networked

Limbé**Constraints**

- Discouraged agriculturalists
- Chaotic and continuous deforestation
- Difficult road access
- Drainage problems
- Lack of technical training and support for farmers
- Little marketing and few outlets for products
- Lack of a feeling of civic duty at the citizen's level

Opportunities

- Rainfall patterns
- Production capacity
- Fertile land (perennial crops)
- Road network
- Ecotourism development
- Water resources

Bas-Limbé**Constraints**

- Deforestation
- Flooding
- Lack of education and training
- Absence and lack of responsibility on the part of local authorities
- Insufficient investment

Opportunities

- Available natural resources (river, ocean, agricultural potential)
- Tourism
- Road access

2. MONTROUIS

Roseau Watershed

Constraints

- Degraded soils and erosion
- Poor soil management and inappropriate agriculture
- Absence of technical assistance
- Uncapped springs (e.g. Mirliton)
- Institutional weaknesses in producer organizations

Opportunities

- Availability of resources (rock, sand, Vetiver, labor)
- Presence of a few agricultural agents
- Willingness and awareness of farmers
- Organizations already existent

Delugé Watershed

Constraints

- Lack of technical assistance
- Deforestation of springs
- Erosive agriculture and reduction in fishing catch
- Pollution of the coast
- Bad road to Piatre
- Lack of a community storage facility
- Lack of communication between farmers

Opportunities

- School in the future
- Abundance of water (river and springs)
- Hotels and tourism
- Electricity
- Proximity to the main coast road

Montrouis Watershed

Constraints

- No secondary roads
- Lack of technical assistance
- Poor market facilities
- Degradation of the environment
- No shop for agricultural inputs

Opportunités

- Availability of water resources (river, sea, uncapped springs)
- Young people available
- Ecotourism
- Agricultural production available
- Construction of a silo for conservation of agricultural produce

Matheux WatershedConstraints**AGRICULTURE**

- Free livestock
- Technical assistance (tools, machinery)
- Agricultural credit
- Processing and commercialization of production
- Transport of goods
- Repair of infrastructure (canal)

ENVIRONNEMENT

- Degradation
- No management of plastic waste
- Uncontrolled cutting
- Poor management of quarry
- Uncapped springs and lack of water basins

COASTAL

- Over exploitation of the continental plateau
 - Uncontrolled construction and destruction of mangroves.
-
- Organisations are unstructured

Opportunities

- Proximity to local market
- Availability of technical assistance
- Abundant water resources
- Jatropha production and processing of fruit

Courjolle WatershedConstraints

- Deforestation and burning
- Free range livestock
- Blocked irrigation systems
- Theft of rocks (coral?)
- Lack of drinking water

Opportunities

- Reforestation and soil conservation
- Canal routing
- Controlled livestock rearing
- Awareness raising

ANNEX 4 Workgroup results – priority interventions**1. LIMBE****Marmelade**

- Training (farmers, organizations, extension agents)
- Soil conservation
- Enclosed grazing areas
- Agricultural credit
- Promotion of hillside water retention barrages “lacs collinaires”
- Establishment of shops for agricultural inputs
- Promotion of women’s participation in all activities envisaged (planning, decisions)
- Bamboo forests
- Cistern construction for potable water

Urgent and important interventions

Activities	Zones
Treatment of gullies and ravines	Paparelle, Mon Marengwen, Mon Bale, Rigoyak, Congolo, Petite place
Wood lot and fruit tree production	Charet, Kongo, Jera, Minyen, Tenak
Reforestation (fruit and wood production)	Kapet, Laforesterie, Dado, Kamaten
Road access	Bourg Marmelade→Paparelle Medizan→Satier Bile→Kandya Bile→Platon
Hillside water retention barrages (Aquaculture)	Deche, Medizan, Bile, Tenacle, Menyen, Kay maten, Paparelle

Socio-Economic Interventions

Interventions	Types	Zones
Agriculture services	Shops for agricultural inputs	2eme Section
Financing	• Women’s credit	1ere et 2eme Section

	<ul style="list-style-type: none"> • Agricultural credit • Animal production 	
Technical training	<ul style="list-style-type: none"> • Accounting • Management • Institutional development 	KKKPM (Komite kominal Konsetasyon ak Planifikasyon Mamelad)
Access to potable water	Capping of springs	Testa, Dado, Congolo, Konkonb

Camp-Coq, Souffriere, Perrin

Interventions

Problems	Solutions
Erosion	Treatment of slopes and ravines, training.
Infrastructure	<ul style="list-style-type: none"> • Construction of secondary roads linking “sections communales” • Storage center and transportation
Sanitation	Household latrines. Water spring capping protection and distribution.
Agriculture	<ul style="list-style-type: none"> • Access to inputs • Technical assistance • Job creation linked to agricultural production
Credit	<ul style="list-style-type: none"> • Business credit for women • Credit for producers
Institutions and organizations	Institutional and local governance support.

Priority Activities

Activities	Zones
Irrigation	Bas Souffrière/ Denard, Bas-Limbe
Drainage	Canal Malord
Reforestation	The entire watershed

Treatment of ravines	<ul style="list-style-type: none"> • 8eme Section ; Ravines Brunettes, Mondjon, Garde Champêtre, Garaud, Bottier, Boucan Djenn • 6eme Section ; Perin, Cadichon, Desravines, Dalles, St Jean, Boucan, Malasse, Malade • 5eme Section ; Ravine Bernandean, nan Couronne, Gruvé, Marianne, Magride, Louis, Catalogne, Marbonne, Nan rat masse
Protection of riverbanks.	Rivières Limbe, Souffrière, Camp coq, Garde Cognac
Rural roads	<ul style="list-style-type: none"> • Camp coq—Ilet à corne • Souffrière—Limbé en passant par agrégat vers Durici—Dlo David • Nan fort en passant par gravé—Rte nle #1 • Garde Cognac—Boucan Djenn • Nan Jean—Michel
Household latrines	<ul style="list-style-type: none"> • In the whole watershed
<p>Agriculture in the entire watershed:</p> <ul style="list-style-type: none"> • Yams, beans, manioc, bananas, maize, cacao, citrus, mangos, pineapple, avocado • Poultry • Access to the international market • Shop for agricultural inputs • Community nurseries • Training in the processing of manioc, fruits and maize. • Credit for commerce and agricultural inputs with central outlet in Limbé 	
Potable water	Bendoret—Boucan, Djenn, Denard, Magride, Moreau
Technical training : Agribusiness and microenterprise	
Rehabilitation of the Watershed Training Center (FAO)	
Support to organizations in entrepreneurship, leadership, management, organizational management, creation of networks, conflict mitigation	

Limbé***Activities***

- Prioritize agro-industrial and artisanal development (marketing assistance)
- Structure cooperatives (other organizations on the ground)
- Gabion protection of the Limbé river and cleaning for the Malord canal
- Access to credit
- Promotion of soil conservation techniques
- Aquaculture / « lac collinaire »
- Continued presence of the DEED office

Urgent and important interventions

Interventions	Zones
Irrigation/Drainage	3eme Section
Reforestation	6eme Section Communale
Treatment of watershed and ravines	6eme Section de Limbé
Protection of riverbanks and rivers	6eme, 8eme, 7eme Section
Rural roads	8eme, 4eme, 6eme, 7eme
Hillside water retention barrages (“Lacs Collinaires”)	4eme, 7eme, 3eme Section

Socio-economic interventions

Agriculture	Perennial crops, intensive animal production
Financing	Agricultural credit/ Storage
Technical training	Production techniques
Organizational development	Training of women’s and farmers’ groups
Economic activities	Coffee, cacao, yams, rice, post harvest storage

Bas-Limbé

Interventions and priority zones

- Drainage and ravine reduction → 1ere Section ; Letiro, Corail, ti Ginen
- Irrigation → 2eme Section ; Bolier, Bori, Blen, Koray, Rivo, Tifon etc.

Socio-economic interventions**Financing:**

- Credit
- Grants
- Private investment

Agriculture:

- Market gardens (1ere/2eme Section)
- Bananas
- Rice, corn
- Sugar cane

Reforestation (fruit trees)**Mangrove restoration (2eme Section)**

2. MONTROUIS

Roseau

- Soil conservation (dry walls, terraces, tree planting) in Morne Gade, Foban, Bwanyel, Doko, La Rochel, Maya
- Capping the Mirliton spring and reforestation around springs
- Technical assistance regarding post-harvest storage and agricultural inputs

Delugé

- Irrigation infrastructure, improved vegetable production to produce for the hotels in St Marc
- Mini hydro-electric installation
- Drinking water
- Protection of springs in Piatre
- Organization for commercialization of produce

Montrouis

- Market gardening and fruit produced for hotels (Fonds Baptiste, Cadnette, Ivoire)
- Capping springs at Colins, Cadnette, Bois d'orme, Carries, Grand Matin
- Enclosed livestock rearing

Matheux

- Tree planting with Jatropha, fruit trees, fuelwood species, Vetiver, coffee (Ti Bois, Leger, Couyo, 3rd section Des Vases)
- Broaden vegetable production in Ti Bois, Leger, Couyo, and 3rd section Des Vases
- Shop for agricultural inputs in Leger, Couyo, Des Vases
- Centre for pre-processing and livestock rearing at Digue Matheux
- Training for farmer-fishers

Courjolle

- Soil conservation at Sous Rigolle, Jean Dumas, Barreau Michel, Conoyer, Digue Bobby
- Shop for agricultural inputs in Barreau Michel, Jean Dumas
- Enclosed livestock rearing: chickens (Digue Bobby); goats (Jean Dumas, Barrea Michel); pigs (Conoyer, Jean Dumas, Digue Bobby, Barreau Michel)