

(NOT FOR ATTRIBUTION; FOR DISCUSSION PURPOSES ONLY)

**A Case Study of Nabunturan, Compostela Valley
on the Rehabilitation of its Degraded Uplands
through Sustainable Management:
A Contribution to the Philippines
Country Environmental Analysis**

Draft for discussion
Do not quote

September 2008

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Summary

The municipality of Nabunturan in Compostela Valley province is one of the many upland municipalities in Southern Mindanao that is perennially plagued by poverty and declining economic productivity because of the continuous degradation of its upland areas from deforestation, soil erosion, slash and burn farming and poor farming techniques.

Nabunturan Mayor Macario T. Humol realised the need for a ‘wholistic but radical approach’ to protect the upland from further degradation because of its effect to farmer’s income and Nabunturan’s economic productivity. Nabunturan’s approach to sustainably develop the municipality’s 18 upland barangays was based on the sustainable upland development (SUD) model initiative by the EU-UDP project that sustained the resource base of the uplands and improved the living standards of people who derive most of their incomes from the uplands.

The components of this SUD model had six schemes, four of which are LGU driven with the other two in support and basically private sector driven. The four fundamental schemes are, as follows:

- land use based barangay development planning (LUBDP);
- upland agricultural extension through land Management, to help farmers switch from mostly corn mono-cropping to a diversified farming system (DFS);
- barangay Forest Protection and Management; and
- labour-based Barangay Routine Road Maintenance for vital barangay roads.

The land use-based barangay development planning (BDP) is the corner stone of all other schemes and development interventions in a barangay and served as the first step towards a sustainable upland development strategy. It stems from the principle of engaging all members of the community into an analysis and review of its development needs and directions based on the community’s appreciation of the existing natural, physical, economic, productive and bio-physical assets and uses of their locality and linking this with their future demands and vision for the future.

The BDP contained schemes to diversify crop production in the upland from mono-cropping to the introduction of cash crops and agro forestry and fruit trees production and the use of appropriate land management techniques that support soil and water conservation. In all of these schemes local organisations of community members called upland barangay associations (UBAs) or upland barangay cooperatives (UCOs) were established and served as implementation arms for barangay forest protection, labour-based barangay road maintenance, community agricultural extension services, upland village enterprises development and rural financial services. Local government officials and staff coordinated and partnered with the SUD village’s local UBAs/UCOs, barangay extension workers (BEWs), barangay forest protection teams, local road maintenance teams and farmer trainor’s groups in the implementation of the barangay’s SUD activities and plans.

By 2005, Nabunturan has expanded the number of covered barangays to three adjacent barangays of its pilot barangay as part of the LGU’s “radiating” strategy to stimulate a ‘domino effect’ on the success of the strategy to other barangays as well as within a common watershed and upland area. By 2006, Nabunturan was considered the fastest LGU adaptor of the SUD approach in the province. In 2007, Nabunturan has expanded anew the number of SUD barangays to a total of 6 out of the 18 upland barangays in the municipality. By 2010, the LGU has programmed to cover all 18 upland barangays under SUD including portions of the adjacent barangays of Nabunturan’s neighboring towns of New Corella in Davao del Norte and Mawab.

It has appropriated between PhP 250,000 – PhP 500,000 a year from 2003-2008 from its internal revenue allotment (IRA) to support the implementation of the SUD barangays with another PhP 300,000 supplemental support from the Province government. For its part the local barangay councils of the SUD barangays also allocated between PhP 25,000-100,000 of their meagre barangay budget to support the barangay extension workers and labour-based community road maintenance activities of the SUD projects.

The adoption of the SUD framework was facilitated by the strong local policy framework that complemented the SUD approach such as the passage of a Municipal Environment Code. At the barangay level, local barangay ordinances were passed identifying the protection of the local watersheds using their

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land-use based BDPs. These local watershed ordinances were strengthened by the local municipal council's adoption of these barangay watersheds as municipal watersheds.

Partnership and participation of other stakeholders were critical ingredients to Nabunturan's SUD programme. A municipal convergence team from other national government and local agencies, academic institutions, NGOs and private sector groups were organised and mobilised by the LGU to provide technical assistance and resource support group to SUD barangays at the different stages of its implementation from barangay development planning process to the road maintenance and marketing and enterprise development activities. At the village level, the municipal government also deployed full-time agricultural technicians in each SUD barangays to provide day-to-day technical guidance and assistance to the local UBAs/UCOs and barangay extension workers.

By its second year of implementation, local community members have reported 60-80% improvement in production with dramatic increases in average yield per hectare for all crops in SUD barangays in 2007 compared to its average production before the implementation of the programme in 2003. This is attributed to improvement in farm production and slope management techniques by SUD farmers. In many cases, farmers also reported around 30% reduction in farm production cost as result of conversion to use of organic fertilizers that they produce themselves.

With the improvements in the upland farmers' income and productivity local economic increased along with the LGU's local tax collections. A year after the SUD's implementation in 2003 average tax collection increase by an average of 36% in the SUD barangays and by 2007 almost a 100% increase in collection in the SUD barangays with two SUD ranked among the highest collection efficiency rating in all of the municipality's 28 barangays.

Another major benefit of Nabunturan's SUD experience was the strengthening of community organisations. Because of their role in the community's development process, most UBAs/UCOs have been included as members of the barangay development councils (BDCs) and individual members were elected as barangay officials or council members.

By the end of 2007, the total beneficiaries in the six SUD barangays numbered around 453 households. In barangay San Isidro, the pioneer SUD-adopter barangay in 2003, almost 62% or 133 households out of the 216 households in the barangay have benefitted from the SUD programme whilst a growing number of recipients and households are seen in the other SUD barangays.

Finally, Nabunturan's SUD model gave upland community members the opportunity to directly be part of their own development and "have triggered a more dynamic barangay local governance system". Through the land-use barangay development planning process, poor upland farmers and their families were able to identify projects that directly addressed their needs as well as participate in its implementation. With their BDPs, SUD barangays were able to appropriate funds from the barangay's IRA and mobilised funds from other sources such as the municipal LGU and province. SUD-initiatives and activities in the SUD barangays land-use based development plans became the basis for the long term development plans of the municipality.

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A. Overview:

Nabunturan is a 1st class municipality² in the province of Compostela Valley³, Philippines. It is the capital municipality of Compostela Valley. According to the 2007 census, it has a population of 67,365 people in 13,400 households. Nabunturan was once a barangay of the municipality of Compostela. The name is a derivative from the word “bungtod.” The *lumads* indigenous peoples in the area, mostly from the Mankaya tribe, called it such due to its elevated terrain compared to other areas within the valley. Indeed, almost two-thirds of Nabunturan’s 28 barangays are either totally upland communities have a large portion of its areas in the uplands.

In fact, out of its total land area of 245 square kilometers or 24,500 hectares, the town’s up is less than 5% of the total. More than 70% or 16,700 hectares of Nabunturan’s total land area agricultural lands and around 20% or 4,600 hectares are agroforestry lands (See Table 1.0). of its 28 barangays, only one barangay – the town center or *poblacion* is classified as urban.



Source:

www.wikipedia.com, 26 August 2008.

Table 1.0 Land Use Distribution in Nabunturan

Land Use	Coverage Area	% of Total Land Area
Agricultural Land	16,722	70.7%
Agroforestry	4,628	19.6%
Built-up Area	866	3.7%
National Parks	1,381	5.8%
Riverbed	34	0.1%
Total	24,120	100.0%

Source: National Statistics Office.

As a largely upland area, it is not surprising that the major development problem confronted by the municipality and its people is the rapid degradation of its farmlands that are mostly located in the uplands. This is brought about by massive soil erosion and siltation and frequent landslides and flash flooding in the lowland barangays and *poblacion* or town center. The LGU has identified that the causes of the conditions in the upland were due to *kaingin* or ‘slash and burn’ farming system, mono-cropping (i.e. corn) and deforestation. This is further aggravated by the massive influx of settlers and displaced people in the upland areas arising from long-standing conflict between communist-led rebels and government forces in the area. Most of the communities in Nabunturan’s upland areas are considered as part of the ‘poorest of the poor’. More than 80% of the town’s population is dependent on agriculture for its livelihood.

² Income Classification based on Department of Finance Department Order No.20-05 Effective July 29, 2005. Under the 1991 Local Government Code or RA 7160, Municipalities are divided into income classes according to their average annual income during the last three calendar years: 1st class – PhP 50 million or more; 2nd class – PhP40.0 million but not less than PhP 50million; 3rd class – PhP 30 million or more but less than PhP 40.0 million; 4th class – PhP 20 million or more but less than PhP 30 million; 5th class – PhP 10 million or more but less than PhP 20 million; and, 6th class – below PhP 10 million.

³ Compostela Valley is one of the newest provinces created in the Philippines. It was created by Republic Act No. 8470 n January 30, 1998 which wits ratified through a plebiscite held on March 7, 1998. This new province was carved out from the mother province of Davao del Norte. It is classified as a first class province comprised of 11 Municipalities, namely - Monkayo, Montevista, Maragusan, New Bataan, Compostela, Laak, Mawab, Nabunturan, Maco, Mabini and Pantukan. The Municipality of Nabunturan was named capital town of the province

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The degradation of Nabunturan's upland areas is a typical example of the conditions of land degradation in the country. Out of the estimated 12 million hectares of land that are considered as upland areas, more 5.2 million hectares are considered degraded. Likewise, around 25 million poor Filipinos live in 4.2 million hectares of the country's 12 million hectares of upland areas. The average poverty incidence in Compostela Valley province has been increasing from 2003 to 2006 compared to the whole region. In 2003, poverty incidence in Compostela Valley was around 34.4% compared to the region's 28.5% and grew higher in 2006 to 39.8% compared to 30.6% regional average. This is despite the fact that the annual rural poverty threshold per capita of PHP 13,812 or US\$ 307 per household in the province in 2006 was higher than the region's PHP 13,812 or US\$300 and the country's PHP 13,659 or US\$303(at US\$1=PHP 45).

B. Sustainable Upland Development: Nabunturan's Land Rehabilitation and Management Strategy

1.0 *"Save the uplands, save our lives"*

In 2003, the Municipality of Nabunturan decided to address their problems in the upland and worked on solutions that beset not only a good number of its people but also its long-term development future. Nabunturan Mayor Macario T. Humol realised as early as 2001 the need to protect the upland from further degradation because of its effect to farmer's income and Nabunturan's economic productivity.

A former municipal agricultural officer before he was elected the town's local chief executive in 2001, Mayor Humol had intimate understanding and knowledge of the problems confronted by his upland constituencies because he has worked with them for more than 10 years. When the idea of adopting a sustainable upland development strategy was being introduced in the province by the Department of Agriculture's (DA) Sustainable Upland Development Programme (SUD) that was funded by the European Union, Nabunturan Mayor Humol was one of the mayors who earnestly wanted to have it implemented in his municipality at any cost.

Nabunturan's Mayor Humol explained that the reason for his LGU's full commitment and support to the adoption of the SUD model ahead of other LGUs in the province was based on his personal belief that the only way to address the degradation and poverty in the municipality's upland barangays was to have a 'wholistic but radical' change in pursuing the government's local development approach. He contended that existing approaches of developing agriculture and livelihood that was being promoted and applied in his locality and in Mindanao focused on 'squeezing out' the most benefit from the island's resources without regard to its ecological and biophysical consequences.

As a former agriculturist, he saw first hand the speed by which Nabunturan's natural resources were completely depleted and how it lost its fertility as a result of wanton exploitation of the uplands and clearing up of forestlands in order to maximise farmlands and production even in lands with 40 degrees slope. Mayor Humol believed that this has got to stop. "We cannot achieve sustainability of our farmlands if we cannot save the uplands from the threats of siltation and erosion. We need to address (the problem of) our uplands and environment to protect the lowlands and save our lives"

2.0 *Nabunturan's sustainable upland development (SUD) approach*

Nabunturan's approach to sustainably develop the municipality's 18 upland barangays was based on the approach promoted by the EU-UDP project⁴ aimed at sustaining the resource base of the uplands and improve the living standards of people who derive most of their incomes from the uplands. Its objective was to develop a sustainable upland development model that aside from providing environmental and economic security would have the following fundamental characteristics such as : i) participatory in approach, ii)

⁴ In Compostela Valley, 6 municipalities were beneficiaries of the EU-UDP Project. The EU-UDP in Southern Mindanao was a seven-year rural development programme implemented from January 1999 to January 2006 aimed at protecting and conserving the upland areas and at the same time increasing production and generating more income for upland farmers. . It was implemented in 144 barangays in 38 municipalities of five provinces in Southern Mindanao, namely Davao Oriental, Davao del Sur, Davao del Norte, Sarangani and Compostela Valley. It is supported by € 17.3 million (about PHP 1.1 billion) in grant funds from the European Commission. The EU-UDP project was completed in July 2007 after a one-year extension period aimed at further fine-tuning and pilot-testing the replicable models developed by UDP.

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supportive legal framework, good local governance; iii) emphasis on capacity building; iv) practical demonstration, v) sustainability and, vi) replicability.

The components of this SUD model had six schemes, four of which are LGU driven with the other two in support and basically private sector driven. The four fundamental schemes are, as follows:

- land use based barangay development planning (LUBDP);
- upland agricultural extension through land Management, to help farmers switch from mostly corn mono-cropping to a diversified farming system (DFS);
- barangay Forest Protection and Management; and
- labour-based Barangay Routine Road Maintenance for vital barangay roads.

The land use-based barangay development planning is the corner stone of all other schemes and development interventions in a barangay and hence served as the first step towards a sustainable upland development strategy (See Figure 1.0). It stems from the principle of engaging all members of the community into an analysis and review of its development needs and directions based on the community's appreciation of the existing natural, physical, economic, productive and bio-physical assets and uses of their locality and linking this with their future demands and vision for the future.

Using a land-use allocation and planning process that was communally determined but technically assisted by local agriculture staff from the LGUs and experts from the EU-UDP project and local academe, the barangay was able to develop a barangay development plan (BDP) that mirrored a well-thought out, participatory and science-based community plan. The land-use based BDP was then submitted to the municipality and adopted and integrated into Nabunturan's municipal development plan.

The BDP contained schemes to diversify crop production in the upland from mono-cropping, i.e. corn to introduction of cash crops and agro forestry and fruit trees production and the use of appropriate land management techniques that support soil and water conservation. This includes the introduction of soil and water conservation methods such as the use of natural vegetative strips (NVS) and contour farming as well as sloping agriculture farming methods. In all of these schemes organisations of community members called upland barangay associations (UBAs) or upland barangay cooperatives (UCOs) were established to serve as implementation arms of the various schemes contained in the land-use based BDP.

The BDP also contained community watershed plans (CWP) that identified the protection and management of local forest areas and watersheds as well as the demarcation of forest lines. Barangay Watershed Management Teams (BWMTs) were formed in each barangay composed of representatives from all *sitios* in the barangay. The BWMTs were tasked in the formulation and preparation of the CWPs and community mapping and identification of protection and production forests in the community. The completed CWPs were submitted for approval by the barangay councils and then submitted to the Municipal Watershed Management TWG for integration into the Municipal Development Plan (MDP).

Subsequently, two supportive schemes complimented the SUD fundamental schemes - rural financial services; and upland village enterprise development served as the platform for expanding the production base market reach of the project and mobilisation of local funds and capital.

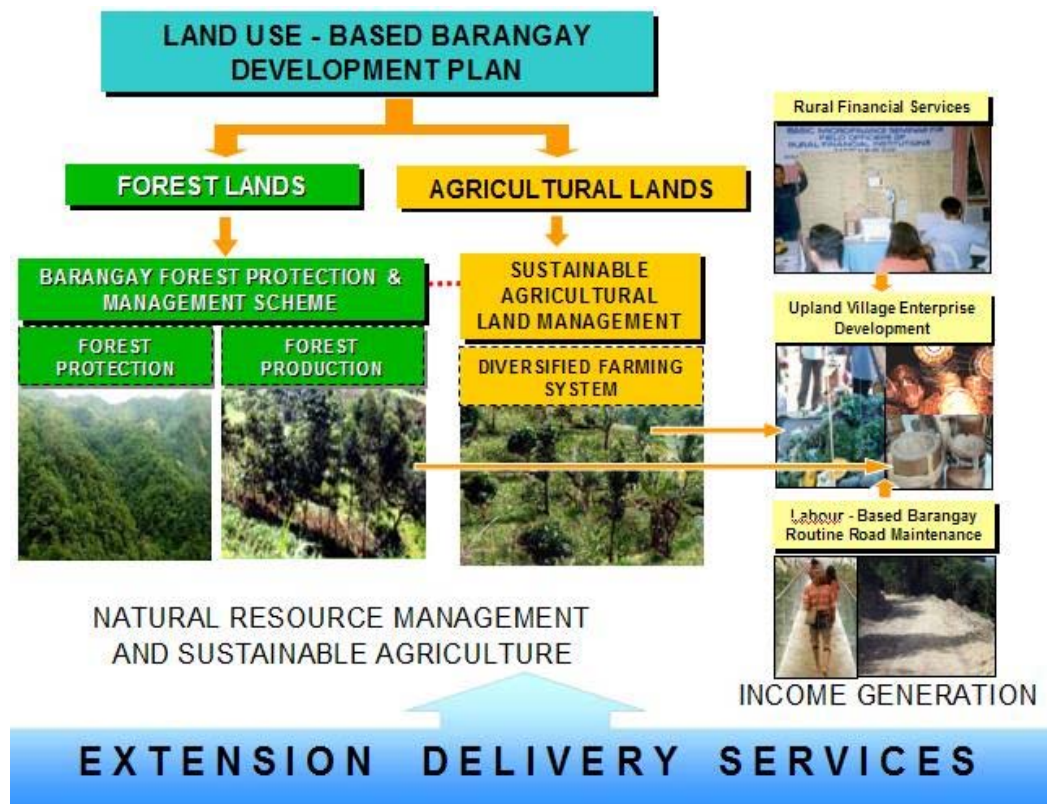
On the other hand, labour-based road rehab & maintenance scheme addressed the need to generate rural employment and spur economic activity in the uplands by involving the participation and mobilisation from among the members of the community in addition to assistance from their Municipal Local Government Unit (MLGU) and Barangay Local Government unit (BLGU). The primary objectives of this scheme were to institutionalise road rehab & maintenance of vital barangay roads by the members of the community and to provide them with the necessary skills to undertake the operational procedures for labour-based road rehab & maintenance.

Tripartite arrangements among the MLGU, BLGU and community-based organizations were formulated and implemented based on an agreed upon multi-year plan approved by the local barangay and MLGU. These included the formation of road rehab and maintenance crews, training activities for these crews, and support for implementation. Under the contract, the well-trained, permanently engaged labour crews were provided with hand tools to do the activities. In addition the local governments provide, on an ad hoc basis,

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equipment and material support should there be heavy damage due to e.g. natural disasters, that cannot be handled by the crew on its own.

Figure 1.0 Nabunturan’s Sustainable Upland Development Strategy



3.0 LGU commitment and support

Nabunturan adopted the SUD approach immediately upon its introduction in 2003. By 2004, Nabunturan has entered into a Memorandum of Agreement (MOA) with the EU-UDP Project to pilot the SUD model in one of its upland barangays – San Isidro. The LGU allocated PhP 250,000 from its annual budget to support the implementation of the project in its pilot SUD barangay, the first time an allocation was made by the LGU for upland agriculture in the area. The EU-UDP project, on the other hand, provided technical assistance through training and capacity building for Nabunturan’s local agriculture, planning and environment staff and local upland farmers along with farm inputs, implements and road maintenance tools.

To clearly show the LGU’s commitment to ensure the success of this strategy, Mayor Humol tasked himself to be the SUD project’s over-all supervisor with the respective heads of the municipal agriculturist, planning and development, environment and natural resources and engineering offices as team leaders of its counterpart SUD schemes. The LGU officials and staff coordinated and partnered with the SUD village’s local UBAs/UCOs, barangay extension workers (BEWs), barangay forest protection teams, local road maintenance teams and farmer trainor’s groups in the implementation of the barangay’s SUD activities and plans.

By 2005, Nabunturan has expanded the number of covered barangays to three adjacent barangays⁵ of San Isidro as part of the LGU’s “radiating” strategy to stimulate a ‘domino effect’ on the success of the strategy to other barangays as well as within a common watershed and upland area. It has further expanded its budget allocation for SUD barangays to more than PhP 1.0 million aside from its counterparts in the construction of farm-to-market roads and post-harvest multi-purpose facilities in the barangays.

⁵ In 2005, the SUD approach was introduced in barangays San Roque, Limban and Bayabas. In 2006, SUD was adopted in barangay Bukal and Katipunan.

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For its part the local barangay councils of the SUD barangays also allocated between PhP 25,000-100,000 of their meagre barangay budget to support the barangay extension workers and labour-based community road maintenance activities of the SUD projects. By 2006, Nabunturan was considered the fastest LGU adaptor of the SUD approach in the province by the EU-UDP project.

In 2007, Nabunturan has expanded anew the number of SUD barangays to another two barangays bringing the total of SUD barangay adaptors to 6 of the 18 upland barangays in the municipality. It has appropriated between PhP 250,000 – PhP 500,000 a year from 2003-2008 from its internal revenue allotment (IRA)⁶ to support the implementation of the SUD barangays while generating a yearly supplemental support from the Province government of another PhP 300,000.

In the six years of its implementation (see Table 2.0) the LGU has budgeted a total of PhP 2.265 million or more than US\$ 50,000 (at US\$ 1=PhP 45). This is aside from LGU funding of local water systems and farm-to-market roads to connect the SUD barangays to the town center. Another PhP 500,000 is allocated by the municipal government for the rehabilitation, conservation, protection of the upland areas by providing them rubber seedlings for the barangay reforestation and forest protection project.

By 2010, the LGU has programmed to cover all 18 upland barangays under SUD including portions of the adjacent barangays of Nabunturan’s neighboring towns of New Corella in Davao del Norte and Mawab.

Table 2.0 Annual Budget Allocation for UDP covered areas.

Fiscal Year (FY)	Total Amount Allocated for UDP Areas
<i>2003-2004</i>	<i>100,000.00</i>
<i>2004-2005</i>	<i>280,160.00</i>
<i>2005-2006</i>	<i>500,000.00</i>
<i>2006-2007</i>	<i>500,000.00</i>
<i>2007-2008</i>	<i>385,000.00</i>
<i>2008-2009</i>	<i>500,000.00</i>
TOTAL	2,265,160.00

Source: Municipal Agriculturist Office (MAgro), 2008.

4.0 Institutional policy framework

The adoption of the SUD framework was facilitated by the existing local policy framework in Nabunturan. Prior to the formal adoption of the SUD strategy in 2003, the town’s local council or *sanggunian* have passed a Municipal Environment Code in 2001 that define the environmental policy framework for the management of the town’s physical and natural resources. At the barangay level, local barangay ordinances were passed identifying the protection of the local watersheds of Bgy San Roque and San Isidro based on their land-use based BDPs. These local watershed ordinances were strengthened when the local municipal councils similarly adopted these barangay watersheds as municipal watersheds.

Other local ordinances passed and adopted by the LGU that were generated from SUD initiatives and projects are Organic Farming Support Programmes and Food Always in the Home (FAITH) project in 2006. Through these ordinances LGU promoted the adoption of vermiculture and composting in Nabunturan and provided an annual allocation of PhP 200,000 to procure and distribute organic fertilisers to all barangays as well the development of home gardens in each household.

5.0 Partnership and local convergence of other stakeholders and agencies.

Partnership and participation of other stakeholders were critical ingredients to Nabunturan’s SUD programme. A municipal convergence team from other national government and local agencies, academic institutions, NGOs and private sector groups were organised and mobilised by the LGU to provide technical assistance and resource support group to SUD barangays at the different stages of its implementation from barangay development planning process to the road maintenance and marketing and enterprise development activities. These agencies and groups included the local offices of the Departments of Agriculture, Agrarian Reform, Environment and Natural Resources, Bureau of Fisheries, University of Southeastern Philippines,

⁶ In 2007, the IRA or national revenue support fund received by the municipality of Nabunturan was PhP 60.495 million; and PhP 49.87 million in 2006 and 2005, respectively (*Source: Department of Budget and Management*).

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Assumption College of Nabunturan, among others. At the village level, the municipal government also deployed full-time agricultural technicians in each SUD barangays to provide day-to-day technical guidance and assistance to the local UBAs/UCOs and barangay extension workers.

C. Benefits and Impact Achieved

1.0. Increase in land productivity and household incomes.

Mayor Humol's belief in a sustainable upland approach for his municipality was not unfounded. By its second year of implementation, local community members have reported 60-80% improvement in production. Table 3.0 shows the dramatic increases in average yield per hectare for all crops in SUD barangays in 2007 compared to its average production before the implementation of the programme in 2003. This is attributed to improvement in farm production and management techniques by SUD farmers. Whereas before upland farmers practice mono-cropping (e.g. corn and coconut), did not use fertilisers and proper farm management, upland farmers trained under SUD have adopted effective land management techniques such as contouring, organic farming, diversification of crops, proper field lay outing, slope treatment oriented practice and animal integration, among others.

As a result farm income has diversified and maximised with the new farm technologies, crop diversification and alternative livelihood sources. In many case, farmers also reported reduction in farm production cost as result of conversion to use of organic fertilizers that they produce themselves. This has resulted to savings in farm input costs of around 30%.

Table 3.0 Estimated Yield (tons/ha) by crops of SUD Sites (Present and Previous yield)

SUD Barangay	Corn	Coconut	Coffee	Cacao	Banana	Lanzones	Durian	Mango	Rambutan	Root crops	Rubber
<i>Bayabas</i>	58	170.27	12.20	0.48	62	9	10	38	4	10	10
<i>Linda</i>	75	132.35	5.74	5	35	17	20	30	7	15	7.26
<i>San Roque</i>	37	117.50	1.92	0.40	20	15	6	11	1	7.25	24.6
<i>San Isidro</i>	176	91.09	21.2	0.90	142.85	18	15	15	9	93	10.43
<i>Bukal</i>	90	35	22	2	88	10	25	3	2	22	3.49
<i>Katipunan</i>	27	819.60	110	25.10	59	165	23	9	5.5	6.5	-
TOTAL (has)	463	1,365.81	173.1	33.88	406.8	234	99	106	28.5	153.7	55.78
Municipal Ave. Prd'n. (ton/ ha)	1.0	2.0	0.4	0.6	6	2.50	2	4	3	4.5	0.4
Previous (2003)	0.8	1.8	0.2	0.4	5	2	1.8	2	2	3	0.3
Present (2007)	4.0	2.5	0.7	0.8	10	3.2	2.7	4	3.5	5.5	0.6

Source: Municipal Agriculturist Office (MAgro), 2008.

Indeed, in a 2005 impact evaluation survey conducted by a local university that was commissioned by the EU-UDP project⁷ from a representative sampling of 30 SUD community adopters in the five EU project provinces, which included Compostela Valley province, found that SUD intervention areas had a significant difference in household incomes compared from its pre-intervention period in 2003 as well as between intervention and non-intervention areas in total income from all sources, in net income from agricultural production, and in average income from other economic activities. It further reported that absolute incomes in intervention areas “nearly doubled” by 2005 (Cabaraban, 2005).

The resulting increase in upland household incomes also resulted to increased ownership of farm assets, household items and consumer durables. A report by the Nabunturan Agriculture Office validated this findings from observations that some farmer-beneficiaries in the SUD programme areas now own their personal motorcycle that use them as personal means of transportation and for marketing their farm produce. Others have made improvements in houses and farm expansion while some were able to purchase additional agricultural lots. Still others were able to send their children to college education and some have engaged in

⁷ Cabaraban, M. (2005) Evaluation of the Upland Development Programme in Southern Mindanao: Its Impact on Households and Communities (Vol I), Research Institute for Mindanao Culture (RIMCU) Xavier University, Cagayan de Oro City.

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agri-business. In the institutional aspect, local savings and capital build-up of local cooperatives increased with the farmers increased incomes.

2.0 Increased crop diversification and improvement of environmental conditions

Mono-cropping of corn in upland farms in Nabunturan has also been reduced from 3,000 hectares of at the start of the project in 2003 to 2,400 hectares by 2007. In the pilot SUD barangay of San Isidro a total of 100 hectares of upland corn farms have been diversified and converted to other types of crops. Farmer beneficiaries also reported increased productivity shown in the increase in production of lands that were subjected to contour farming and crop diversification as well as reported cases of landslides and erosion. These reports are confirmed by the findings of EU-UDP's 2005 study that close to three-fourths of surveyed households claimed to have noticed changes in the quality of their farmland, notably on the level of land productivity.

The study further stated that local farmer reports of erosion occurrence in SUD areas was reduced by 15% from 2000 while sheet erosion reduced by more half by 2005 (Cabaraban, 2005). This was attributed to the adoption of soil and water conservation techniques in sloping areas such as contour farming with a reported adoption rate of 88% in 2005 from 28% in 2000 (Cabaraban, 2005)..



Diversified types of crops such as banana, peanut, durian are inter-cropped with corn along contoured upland slopes in Bgy. Bayabas, one of Nabunturan's SUD barangays. (Photo by E. Mercado, 21 August 2008).

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3.0 Increase in municipal and barangay revenues

Mayor Humol believed that adopting a sustainable upland development strategy in his municipality will ultimately redound not only to reducing poverty among poor upland farmers and rehabilitation of Nabunturan's upland areas but also increased economic activity in the LGU and even improve real property tax collections. Records of property taxes collection from the municipal treasurer's office proved Mayor Humol's belief to be true.

Table 4.0 Comparative collection efficiency of SUD barangays from 2003-2005

Barangay	2003 (BaseYear)	2004 ⁸		2005		2006		2007	
	Actual Collection	Actual Collection	% Increase (Decrease)	Actual Collection	% Increase (Decrease)	Actual Collection	% Increase (Decrease)	Actual Collection	% Increase (Decrease)
Bayabas	20,744.49	12,153.95	(42%)	32,076.81	163%	14,010.17	(57%)	28,678.98	104%
Linda	51,880.01	43,431.86	17%	56,912.61	31%	45,652.24	(20%)	75,940.35	64%
San Isidro	15,552.90	18,524.99	19%	9,846.93	(47%)	12,148.84	23%	23,236.41	91%
San Roque	22,237.33	6,342.11	(72%)	11,067.75	74%	13,545.13	22%	41,318.34	205%
Total	110,414.73	80,452.91	(28%)	109,904.10	36%	85,356.38	(23%)⁹	168,228.53	97%

Source: Nabunturan Municipal Treasurer's Office

Table 4.0 shows the poor tax collection rate (i.e. basic real property taxes) in the SUD barangays prior to its full implementation in 2003. However, this situation dramatically changed a year after the SUD's implementation when average tax collection increase by an average of 36% in the SUD barangays. A sudden drop in over-all tax collection in SUD barangays was due to the impact of a strong typhoon in 2006 that destroyed most crops in the province. By 2007, latest collection reports by the Nabunturan treasurer's office noted almost a 100% increase in collection in the SUD barangays with Bgys San Roque and Bayabas ranked no 2 and 12 in the highest collection efficiency among the municipality's 28 barangays. This was due to the start of harvest of annual crops planted by SUD barangays as well as turnaround in the adoption of proper farm techniques such as sloping technology and diversified farming systems.

Likewise, added revenue benefits were also experienced by SUD barangays with the increases in the collection of barangay road toll fees and local community taxes arising from the increases in farmers' income and marketing activities, improved farm-to-market road conditions and increases in farm productivity and trading.

4.0 Stronger barangay governance and participation of upland poor in local governance

Nabunturan's SUD model gave upland community members the opportunity to directly be part of their own development and local governance. Through the land-use barangay development planning process, poor upland farmers and their families were able to identify projects that directly addressed their needs as well as participate in its implementation.

With their BDPs, SUD barangays were able to appropriate funds from the barangay's IRA and mobilised funds from other sources such as the municipal LGU and province. This included an annual allocation of PhP 300,000 from the Provincial Government, PhP 500,000 from the Philippine Coconut Authority (PCA) and another PhP 500,000 from non-government organisations.

SUD-initiatives and activities in the SUD barangays land-use based development plans became the basis for the on-going revision and updating of the town's 1997 comprehensive land use plan (CLUP). As an

⁸ SUD model was formally introduced in 2003 but was piloted in 2004 in Bgy. San Isidro and was subsequently expanded into Bgys. Bayabas, Linda and San Roque in 2005.

⁹ In 2006, a major typhoon ravaged large portions of the agricultural areas in Nabunturan that included the SUD barangays. Even then the effects of the typhoon were less in the SUD barangays compared to the other non-SUD barangays of Nabunturan.

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administrative policy, no municipal funds were released by the municipal treasurer to the barangays if local activities were not part of the approved BDPs submitted to the LGU.

Indeed, an EU-UDP's pre-project completion review mission in November 2005 highlighted that the presence and active coordination of the UBAs/UCOs with the barangay and processing of the CWP/BDPs "have triggered a more dynamic barangay local governance system" in the SUD barangays (CIDE Report, Nov 2005). It further stated that the UBAs/UCOs have been instrumental in making the barangay development council (BDCs) as active venues for community participation in local governance. The UBAs/UCOs also have become instrumental through the BDPs in bringing about more development projects and funding assistance to the community.

5.0 Stronger community empowerment and organisations

Another major benefit of Nabunturan's SUD experience was the strengthening of community organisations. The formation of UBAs/UCOs as implementing arms of the SUD strategy on barangay forest protection, farmer cooperatives, local savings and loan associations, barangay agricultural extension workers (BEWs), farmers' training groups (FTGs) and community infrastructure labour maintenance teams gave local community members the opportunity not only to participate in implementing local projects but more so gained valuable knowledge, experience and training in local self development. Because of their role in the community's development process, most UBAs/UCOs have been included as members of the barangay development councils (BDCs) and individual members were elected as barangay officials or council members.

By the end of 2007, the total beneficiaries in the six SUD barangays numbered around 453 households. In barangay San Isidro, the pioneer SUD-adopter barangay in 2003, almost 62% or 133 households out of the 216 households in the barangay have benefitted from the SUD programme whilst a growing number of recipients and households are seen in the other SUD barangays (see Table 5.0).

Table 5.0 Total Number of Recipients in SUD Barangays

<i>UDP Barangay</i>	<i>No. of Recipients/Households</i>	<i>No. of Households</i>	<i>Total Population</i>
1. Bayabas	90	173	849
2. Linda	90	399	1621
3. San Roque	90	264	1048
4. San Isidro	133	216	983
5. Bukal	30	511	2641
6. Katipunan	20	330	1610
Total	453	1,893	8,752
Total HH & Population in the Municipality		16,360	68,168

Source: Municipal Agriculturist Office (MAgrO), 2008.

D. Sustainability

The sustainability of Nabunturan's SUD initiatives has been assured through the following actions:

a. Institutionalisation of SUD programme in local development plan. The SUD programme has been integrated into the revised municipal development plan and annual budget appropriations. Inputs from the land-use based BDPs produced by the SUD barangays have been integrated and adopted into the 2007 revision of Nabunturan's Comprehensive Land Use Plan (CLUP). Agricultural extension support to the SUD barangays and other barangays have been included into the Municipal Extension Work plans until 2010.

Likewise, the LGU has hired 7 municipal agricultural extension workers for upland barangays that would work with the local community agricultural extension teams and farmer-training groups organised at the different barangays to provide continuous technical assistance and capacity building to local farmers and community adopters of the Nabunturan SUD model. By 2008, a three storey farmers' learning training centre with a capacity for 300 persons shall be completed from LGU funds. The farmers' learning training centre shall serve as a facility for the different training and capacity building programmes on farming techniques and technologies for Nabunturan's local farmers.

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b. Regular budget allocation at the municipal and barangay levels. Local appropriations for SUD activities and other support projects, i.e. farm-to-market roads, organic fertiliser production and distribution, watershed protection, road maintenance and extension work activities, have been allocated regular funds in the municipal and SUD barangay budgets. SUD programme in Nabunturan has also been integrated into the regular programme support by the Provincial government. At the Municipal Agriculturist Office (MAgrO) has been expanded with a full complement of 19 regular staff and 17 agricultural technicians with specific specialisations on areas such as organic farming, fisheries, high value crops, research, livestock, and crops support the network of barangay extension workers organised in the different upland barangays as well as lowland areas.

c. Adoption by incoming donor projects of SUD programmes. Nabunturan's SUD experience facilitated the mobilisation of other donor assisted projects in its upland communities. These projects have taken on the SUD-initiatives and projects identified by Nabunturan's SUD barangays as well as the expansion to the town's other barangays. Among the donor-assisted projects working with the upland communities of Nabunturan are World Bank (WB)'s Agrarian Reform Communities Development Project Phase II (ARCDP2) and CIDSS-Kalahi Project, ADB Infrastructure for Rural Productivity Enhancement Structure (Infres) and AusAid's Land Administration and Management Project (LAMP2)-Innovation Support Fund Project.

d. Strong LGU commitment and community support and demand. Finally, the most important factor in the sustainability of Nabunturan's SUD approach to land rehabilitation and management was the strong commitment and unity of the LGU officials and staff, local community leaders and members that partnered and joined hands in addressing rural poverty, low productivity and land degradation in the uplands.

E. Replication

Replication of the SUD programme in Nabunturan's remaining 18 barangays have been earmarked in the LGUs local development plan until 2010 and will ensure that the success generated in the 6 SUD barangays are also seen in these areas. Likewise, neighboring municipalities of Nabunturan, particularly New Corella and Mawab, as well as other provinces in Mindanao has signified interest in replicating the same SUD approach in their own upland barangays. Nabunturan's MDPC has already conducted training and sharing sessions on the conduct of land-use based barangay development planning with local counterparts in these municipalities. At the barangay level, farmer-to-farmer exchange and farmers' field days in the uplands called "Kasadya sa Bungtod" or "Mountain Festival".

At the national level, an executive order¹⁰ signed by the President of the Philippines has formally adopted sustainable upland development as the Philippine government's strategy to achieve "food, wood and no-wood" security and economic productivity in the country's almost 15 million hectares uplands and forestlands.

¹⁰ EO 606 was signed by President Gloria Macapagal-Arroyo last 27 February 2007.

(NOT FOR ATTRIBUTION; FOR DISCUSSION PURPOSES ONLY)

F. Reference Materials

a. Documents and Reports

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b. Interviews:

Hon. Macario T. Humol, Municipal Mayor, Nabunturan, Compostela Valley

Ms. Ofelia Tomada, Municipal Agriculturist Office, Nabunturan, Compostela Valley

Mr. Freddie Coronica, Municipal Planning and Development Office, Nabunturan, Compostela Valley

Ms. Maria Flor Miranda, Municipal Budget Office, Nabunturan, Compostela Valley

Ms. Amelita Pestano, Municipal Treasurer, Nabunturan, Compostela Valley

Mr. Wilmer Turing, Agricultural Technician-MAgrO, Nabunturan, Compostela Valley

Mr. Benhur Viloria, Field Coordinator, LMP-Mayors' Development Centre-Mindanao, Davao City

Former Mayor Givel Mamaril, Mindanao Coordinator, LMP-MDC Mindanao, Davao City

c. On-line sources:

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