

REPORT ON THE 1:10,000 SCALE GEOHAZARDS ASSESSMENT AND MAPPING OF SIBAGAT, AGUSAN DEL SUR



Submitted to:



Mines and Geoscience Bureau
Department of Environment and Natural Resources
Central Office - MGB Compound, North Avenue
Diliman, Quezon City

Submitted by:



SRDP Consulting Inc.
Units 119, 420 & 421 SJB Condominium
130-B Panay Ave, South Triangle
Quezon City, Philippines

OCTOBER 2014



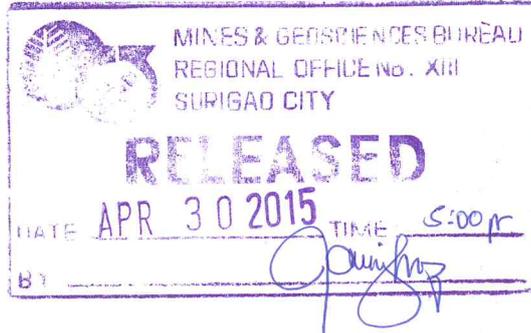
Republic of the Philippines
 Department of Environment and Natural Resources
MINES AND GEOSCIENCES BUREAU
 Regional Office No. XIII

Km. 2 National Highway, Surigao City

Tel No. (+63 86) 826-5256; Fax No. (+63 86) 826-1058; E-mail: info@mgbr13.ph; website: www.mgbr13.ph

April 29, 2015

RD-G-15-04-301



Honorable Thelma G. Lamanilao
 Municipal Mayor
 Municipality of Sibagat
 Province of Agusan del Sur

Dear Mayor Lamanilao,

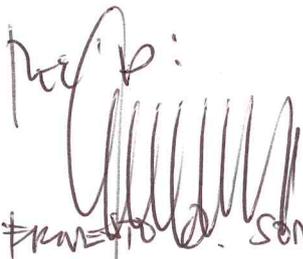
Respectfully furnishing your end the document entitled "Report on the 1:10,000 Scale Geohazards (Landslide and Flooding) Assessment and Mapping of the Municipality of Sibagat, Agusan del Sur submitted by SRDP Consulting Inc. to Mines and Geosciences Bureau as one of the outsource municipalities for CY 2014. The assessment is in line with the government's effort aimed at reducing, if not totally mitigating the destructive effects and impacts of natural hazards to the populace.

The Office expresses its deep gratitude for the support and assistance rendered to the Geohazard Mapping and Assessment Team of SRDP Consulting Inc, during the conduct of the field survey.

We look forward to a continuing partnership and collaboration with the LGU of Sibagat, Agusan del Sur in the nation's overall disaster risk reduction program.

Very truly yours,
 By the Authority of the Regional Director:


ENGR. DANIEL S. BELDEROL
 OIC, Mine Management Division


 FRANCISCO SOMBRIU

GSD-15-04-Ghz-264

Cc: **DIRECTOR, MGB CO**
HON. GOVERNOR, Agusan del Sur
HON. REPRESENTATIVE, 1st District, ADS
Office of Civil Defense, RDRRMC Caraga

REGIONAL EXECUTIVE DIRECTOR, DENR, R-XIII
PENRO, Agusan del Sur
CENRO, Bayugan, ADS
REGIONAL DIRECTOR, DILG-Caraga

**"MINING SHALL BE PRO-PEOPLE AND PRO-ENVIRONMENT
 IN SUSTAINING WEALTH CREATION AND IMPROVED QUALITY OF LIFE."**



REPORT ON THE 1:10,000 SCALE GEOHAZARDS (LANDSLIDE AND FLOODING) ASSESSMENT AND MAPPING OF SIBAGAT, AGUSAN DEL SUR

The SRDP Consulting Inc., tasked by the Mines and Geosciences Bureau Central Office- Department of Environment and Natural Resources (MGB-DENR), conducted flood and landslide assessment and mapping (1:10,000 scale) of barangays within the Municipality of Sibagat, Agusan del Sur on September 29 – October 9, 2014. The SRDP CARAGA technical geohazard team is composed of Jesse Segura (Geologist), Tina Marie de Peralta (Geologist), Rainier Matusalem (Geologist), Llew Lloyd Polinar (Geologist), Idzel Bonn Demetillo (Geologist), Filman Monceda (Geologist), Ryan Gantalao (Geologist), Roberto Mirador (Area Coordinator) and Ria Acevedo (Encoder).

The geohazard assessment of landslide and flood susceptibility used 1:10,000 scale base maps from the National Mapping and Resource Information Authority (NAMRIA). The assessed areas were rated as having low, moderate, high or very high (critical) susceptibility to landslide. Similar flooding susceptibility rating (i.e. high, moderate or low) was also given to the assessed barangays. **Tables 1 and 2** show the parameters used in the assessment of landslide and flood.

Table 1. Landslide susceptibility parameters used during the assessment

Landslide Susceptibility Parameters	Low	Moderate	High	Very High
A. Slope Gradient	Low to moderate (6.5°-12.5°)	Moderate to steep (12.5°-22.5°)	Steep to very steep (22.5°-45°)	Steep to very steep (>45°)
B. Weathering/Soil Characteristics	Slight to moderate	Moderate	Intense; Soil usually non-cohesive	Intense; Soil usually non-cohesive
C. Rock mass strength	Very good to good	Fair	Poor to very poor	Poor to very poor
D. Ground Stability	Stable with no identified landslide scars, either old, recent or active	Soil creep and other indications for possible landslide occurrence are present.	Active and inactive landslides evident; tension cracks present	Active and inactive landslides evident; tension cracks, bulges, terracets, seepage present.
E. Human Initiated effects				May be an aggravating factor

Table 2. Flood susceptibility parameters used during the assessment

Flood Susceptibility Parameters	Low	Moderate	High	Very High
A. Flood height	Areas likely to experience flood heights of less than 0.5 meter	Areas likely to experience flood heights of 0.5 to 1 meter	Areas likely to experience flood heights 1 to 2 meters	Areas likely to experience flood heights greater than 2 meters
B. Flood duration	Areas likely to experience flooding of less than 1 day	Areas likely to experience flooding of 1 to 3 days	Areas likely to experience flooding of more than 3 days	Areas likely to experience flooding of more than 3 days
C. Landform / Geomorphic feature	Low hills and gentle slopes	Fluvial terraces, alluvial fans and in-filled valleys	Topographic lows such as active and abandoned river channels, and areas along river banks	Topographic lows such as active and abandoned river channels, and areas along river banks
D. Drainage density	Sparse to moderately-spaced drainage	Moderately-spaced drainage	Closely-spaced drainage	Closely-spaced drainage
E. Prone to flashflood	No	No	No	Yes

A list of the barangays covered by the geohazard mapping and assessment is given in **Table 3**. Results of the landslide mapping and assessment are tabulated in **Tables 4** (landslide) and **5** (flood), arranged alphabetically by barangay name as shown in **Table 3**. Photos of significant observation points are included in the latter part of this report.

Table 3. List of barangays covered by the Geohazard mapping and assessment in the Municipality of Sibagat, Agusan del Sur

Barangay	Page Number	
	Landslide	Flood
Afga	3	54
Anahawan	6	57
Banagbanag	8	59
Del Rosario	10	60
El Rio	11	62
Ilihan	13	64
Kauswagan	15	66
Kioya	17	67
Kolambugan	19	69
Magkalape	21	71

Magsaysay	23	73
Mahayahay	25	76
New Tubigon	27	78
Padiay	29	79
Perez	32	82
Poblacion	33	84
San Isidro	38	88
San Vicente	40	90
Santa Cruz	42	92
Santa Maria	43	93
Sinai	45	95
Tabon-tabon	47	97
Tag-uyango	49	98
Villangit	52	101

Table 4. Results of the Landslide Hazard Assessment

Location	Landslide Susceptibility Rating	Remarks/Recommendations
Barangay Afga		
SIB-AFG-845 Along Maharlika Highway, Purok 8 8°52'5.3" N 125°39'38.5" E	High	Instability of a slope along the road cut in Maharlika Highway is manifested by shallow debris slide at the mid slope. Recommendations: Discourage future habitation and construction of government building that might add additional load to the steep slope. Organize disaster preparedness and rescue training for barangay officials and residents of the barangay.
SIB-AFG-848 Along Maharlika Highway, Purok 8 8°52'16.6" N 125°39'27.5" E		
SIB-AFG-844 Purok 9 waiting shed 8°51'59.6" N 125°39'53.9" E	High	Instability of the slope on the eastern side of the Maharlika Road is manifested by tilted trees at the mid slope and shallow debris slides which are observed at the base of the slope. Recommendations: Discourage future habitation and construction of government building that might add additional load to the steep slope. Organize disaster preparedness and rescue training for barangay officials and residents of the barangay.
SIB-AFG-819 Trail in Purok 7 8°52'28.2" N 125°39'57.4" E	High	No landslide/mass movement reported but maybe prone to landslide due to its steep slope gradient. Recommendation: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities.
SIB-AFG-820 Trail in Purok 7 8°52'35.5" N 125°40'6.9" E	High	
SIB-AFG-821 Purok Hall of Purok 7 8°52'41.6" N 125°40'15.9" E	High	

SIB-AFG-822 Agricultural area in Purok 7 8°52'46" N 125°40'15.4" E	High	No landslide/mass movement reported but maybe prone to landslide due to its steep slope gradient. Recommendation: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities.
SIB-AFG-823 Agricultural area in Purok 7 8°52'47.9" N 125°40'11.4" E	High	
SIB-AFG-824 Agricultural area in Purok 6 8°52'49.6" N 125°40'4.6" E	High	
SIB-AFG-825 Agricultural area in Purok 6 8°52'54.7" N 125°40'3.7" E	High	
SIB-AFG-826 Unnamed creek in Purok 7 8°52'57.5" N 125°40'5.6" E	High	
SIB-AFG-827 Purok Hall of Purok 6 8°53'0.7" N 125°40'1.3" E	High	
SIB-AFG-847 Purok 8 waiting shed 8°52'6.3" N 125°39'35.6" E	High	Residences near Purok 8 waiting shed that are situated on the eastern side of Maharlika Highway are very prone to landslide due to the instability of the slope. Recommendations: Discourage future habitation and construction of government building that might add additional load to the steep slope. Organize disaster preparedness and rescue training for barangay officials and residents of the barangay.
SIB-AFG-833 Agricultural area of Purok 11 8°52'40.2" N 125°39'19.7" E	High	Several settlements that are situated on top of a steep hill in Purok 11 are very prone to landslide. Shallow debris slides were seen at the mid slope. Recommendations: Discourage future habitation and construction of government building that might add additional load to the steep slope. Organize disaster preparedness and rescue training for barangay officials and residents of the barangay.
SIB-AFG-835 Agricultural area of Purok 11 8°52'41" N 125°39'23.3" E	High	The area is characterized by gently undulating slopes. Several ground ruptures were observed that are probably associated with the traces of the Philippine Fault Zone.
SIB-AFG-836 Proposed relocation area in Purok 11 8°52'40.7" N 125°39'21.3" E		Recommendations: Discourage future habitation and construction of government building that might add additional load to the steep slope. Organize disaster preparedness and rescue training for barangay officials and residents of the barangay.
SIB-AFG-838 Purok 12 waiting shed 8°52'2.2" N 125°38'29.9" E	High	The Purok proper is situated on a plateau and is bounded by steeply undulating slopes where landslides are most likely to occur. Recommendations: Organize disaster preparedness and rescue

SIB-AFG-839 Purok 14-A waiting shed 8°52'39.2" N 125°37'44.7" E	High	training for barangay officials and residents of the barangay.
SIB-AFG-842 Purok 14-B waiting shed 8°52'22.7" N 125°38'34.7" E	High	
SIB-AFG-843 Purok 10 waiting shed 8°52'47.6" N 125°38'28.5" E	High	
SIB-AFG-854 Purok 13, Purok proper 8°52'59.8" N 125°37'14.1" E	High	
SIB-AFG-840 San Isidro Elementary School 8°52'23.1" N 125°38'31.3" E	High	The San Isidro Elementary School is situated on top of a steep slope which makes it prone to landslide. Recommendations: Organize disaster preparedness and rescue training for barangay officials and residents of the barangay.
SIB-AFG-841 San Isidro Elementary School 8°52'22.8" N 125°38'33.1" E		
SIB-AFG-846 Along Maharlika Highway, Purok 8 8°52'6.3" N 125°39'38.1" E	High	Very steep landslide along the eastern side of Maharlika Highway where one residence fell during the said event. Recommendations: Discourage future habitation and construction of government building that might add additional load to the steep slope. Organize disaster preparedness and rescue training for barangay officials and residents of the barangay.
SIB-AFG-818 Agricultural area in Purok 1 8°52'25.2" N 125°39'48" E	Low	No landslide/mass movement component mapped.
SIB-AFG-828 Sibagat River, Purok 6 8°52'59.8" N 125°39'54.9" E	Low	
SIB-AFG-829 Near Sibagat River, Purok 6 8°53'0.4" N 125°39'52" E	Low	
SIB-AFG-830 Near Sibagat River, Purok 5 8°53'0.2" N 125°39'51.7" E	Low	
SIB-AFG-831 Agricultural area of Purok 11 8°52'56.2" N 125°39'39.5" E	Low	

SIB-AFG-832 Agricultural area of Purok 11 8°52'43.7" N 125°39'29.8" E	Low	No landslide/mass movement component mapped.
SIB-AFG-834 Afga National High School 8°52'41.3" N 125°39'18" E	Low	
SIB-AFG-837 Purok 4 waiting shed 8°52'55.5" N 125°38'59.5" E	Low	No landslide/mass movement component observed at this time.
SIB-AFG-849 Afga Elementary School 8°52'24.1" N 125°39'17.9" E	Low	
SIB-AFG-850 Purok 3 waiting shed 8°52'23.9" N 125°39'17.1" E	Low	
SIB-AFG-851 Purok 1 waiting shed 8°52'27.1" N 125°39'17.3" E	Low	
SIB-AFG-852 Purok 2 waiting shed 8°52'29.3" N 125°39'17.5" E	Low	
SIB-AFG-853 Afga Barangay Hall 8°52'29.4" N 125°39'23" E	Low	
Barangay Anahawan		
SIB-ANH-422 Brgy. Road, residential area in Purok 5 8°50'9.56" N 125°39'55.04" E	High	The area is characterized by highly rolling topography with locally steep slopes underlain by tilted and highly weathered sedimentary rocks. Road traverses along steep flanks with high landslide susceptibility.
SIB-ANH-423 Brgy. Road, residential area in Purok 5 8°50'10.03" N 125°39'56.02" E	High	Recommendations: Discontinue building of houses adjacent to slopes identified with active landslide. Existing houses should be relocated to safer ground as landslide is aggravated during rainy season. Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
SIB-ANH-421 Brgy. Road in Purok 5 8°50'8.05" N 125°39'53.57" E	High	
SIB-ANH-412 Brgy. Road, residential area, School 8°50'41.82" N 125°39'40.14" E	High	The area is characterized by highly rolling topography with locally steep slopes underlain by tilted interbedded sedimentary rocks. Steep road cut along school perimeter. Road traverses along steep flanks with high landslide susceptibility. Recommendations: Children should avoid staying or playing near/along road cut during break time. Install warning signages. Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal

		authorities. Avoid construction of new infrastructures along steep slopes.
SIB-ANH-413 Brgy. Road, residential area, Brgy. Hall 8°50'37.46" N 125°39'39.28" E	High	The area is characterized by highly rolling topography with locally steep slopes. Residential areas are located on top of a ridge with steep slopes about 50 meters to the western flank. Road traverses along steep flanks with high landslide susceptibility. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
SIB-ANH-414 Brgy. Road, residential area in Purok 7 8°50'33.58" N 125°39'38.74" E	High	
SIB-ANH-415 Brgy. Road, residential area in Purok 7 8°50'30.16" N 125°39'38.02" E	High	
SIB-ANH-416 Brgy. Road, residential area in Purok 6 8°50'25.62" N 125°39'37.84" E	High	
SIB-ANH-417 Brgy. Road, residential area in Purok 6 8°50'24.97" N 125°39'38.2" E	High	
SIB-ANH-426 Brgy. Road, residential area in Purok 6 8°50'28.79" N 125°39'37.84" E	High	
SIB-ANH-408 Brgy. Road 8°50'36.85" N 125°40'34.28" E	High	
SIB-ANH-409 Brgy. Road 8°50'42.79" N 125°40'16.43" E	High	
SIB-ANH-410 Brgy. Road 8°50'37.25" N 125°40'9.37" E	High	
SIB-ANH-411 Brgy. Road 8°50'43.01" N 125°40'0.77" E	High	
SIB-ANH-418 Brgy. Road in Purok 1 8°50'13.02" N 125°39'36.07" E	High	
SIB-ANH-419 Brgy. Road in Purok 1 8°50'9.31" N 125°39'39.35" E	High	

SIB-ANH-420 Brgy. Road in Purok 1 8°50'6.07" N 125°39'40.68" E	High	
SIB-ANH-424 Brgy. Road in Purok 5 8°50'4.06" N 125°39'45.07" E	High	
SIB-ANH-425 Brgy. Road, residential area in Purok 5 8°49'54.05" N 125°39'43.06" E	High	
SIB-ANH-428 Brgy. Road in Purok 4 8°50'42.25" N 125°40'6.17" E	High	
SIB-ANH-429 Brgy. Road, Agricultural area 8°50'36.85" N 125°40'25.39" E	High	
SIB-ANH-427 Brgy. Road in Purok 4 8°50'42.72" N 125°39'44.86" E	Moderate	The area is characterized by moderately rolling topography with locally steep slopes. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
SIB-ANH-430 Brgy. Road, residential area 8°49'21.63" N 125°39'45.7" E		
Barangay Banagbanag		
SIB-BAN-1919 Tambagoko Creek 8°54'35.4" N 125°45'58.6" E	Moderate	Located along Tambagoko River, this river channel is characterized by very steep to moderate profile composed of limestone. This area is susceptible to debris and rock slide triggered by flash floods due to scouring/removal of material at the base of the slope. Recommendations: Future habitation and construction of government/private structures in known/identified landslide-prone areas are discouraged. Installation of bridge and river dikes may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.
SIB-BAN-1920 Tambagoko Creek 8°54'35.7" N 125°45'58" E		
SIB-BAN-1903 Dirt road from Barangay New Tubigon going to Barangay Perez in Purok 7 8°54'17.1" N 125°47'38.1" E	Moderate	Located at a plateau like feature, this area is characterized by undulating terrain with slope of 20° to 35°, and composed of intercalated sandstone and limestone. Numerous plantations of Falcata, banana, and corn are found in this area. This area is likely susceptible to soil creep and localized debris slides.
SIB-BAN-1905 Dirt road from Barangay New Tubigon going to Barangay Perez in 8°54'12.5" N 125°47'31.2" E	Moderate	Recommendation: Monitor and report for presence of mass movement.

SIB-BAN-1906 Dirt road from Barangay New Tubigon going to Barangay Perez in 8°54'20.3" N 125°47'20.8" E	Moderate	<p>Located at a plateau like feature, this area is characterized by undulating terrain with slope of 20° to 35°, and composed of intercalated sandstone and limestone. Numerous plantations of Falcata, banana, and corn are found in this area. This area is likely susceptible to soil creep and localized debris slides.</p> <p>Recommendation: Monitor and report for presence of mass movement.</p>
SIB-BAN-1908 Dirt road from Barangay New Tubigon going to Barangay Perez in 8°54'19.2" N 125°47'11" E	Moderate	
SIB-BAN-1910 Dirt road from Barangay New Tubigon going to Barangay Perez in 8°54'14.8" N 125°47'4.1" E	Moderate	
SIB-BAN-1911 Dirt road from Barangay New Tubigon going to Barangay Perez in 8°54'12.5" N 125°47'2.2" E	Moderate	
SIB-BAN-1912 Dirt road from Barangay New Tubigon going to Barangay Perez in 8°54'7.5" N 125°46'52.7" E	Moderate	
SIB-BAN-1914 Dirt road from Barangay New Tubigon going to Barangay Perez in 8°54'24.1" N 125°46'42.9" E	Moderate	
SIB-BAN-1917 Dirt road from Barangay New Tubigon going to Barangay Perez in 8°54'23.5" N 125°46'11.6" E	Moderate	
SIB-BAN-1826 8°55'43.3" N 125°44'51.8" E	Moderate	<p>Located on a plateau like feature, this area is characterized by undulating terrain 20°-35° slope, and composed of intercalated sandstone and limestone. Numerous plantations of Falcata, banana, and corn are found in this area. This area is likely susceptible to soil creep and localized debris slides.</p> <p>Recommendation: Monitor and report for presence of mass movement.</p>
SIB-BAN-1828 Purok 4 8°55'30.5" N 125°45'1.8" E	Moderate	
SIB-BAN-1829 Purok 4 8°55'30.5" N 125°45'1.8" E	Moderate	
SIB-BAN-1830 Purok 4 8°55'30.1" N 125°45'4.6" E	Moderate	
SIB-BAN-1832 8°55'15.2" N 125°44'50.8" E	Moderate	

SIB-BAN-1834 8°54'48.5" N 125°44'48.8" E	Moderate	<p>Located on a plateau like feature, this area is characterized by undulating terrain 20°-35° slope, and composed of intercalated sandstone and limestone. Numerous plantations of Falcata, banana, and corn are found in this area. This area is likely susceptible to soil creep and localized debris slides.</p> <p>Recommendation: Monitor and report for presence of mass movement.</p>
SIB-BAN-1835 8°54'45.2" N 125°44'44.5" E	Moderate	
SIB-BAN-1837 Waiting Shed in Purok 3 8°54'44.4" N 125°44'43.6" E	Moderate	
SIB-BAN-1838 Waiting Shed in Purok 2 8°54'41.9" N 125°44'41.4" E	Moderate	
Barangay Del Rosario		
SIB-DRO-11 Purok 3 8°51'59.4" N 125°42'26.64" E	Very High	<p>A vast landslide area that caused the collapse of the main access road and a house was mapped.</p> <p>Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Del Rosario on geohazard situation. Avoid construction of houses near slope areas.</p>
SIB-DRO-17 Purok 1-A 8°51'13.18" N 125°42'16.78" E	High	<p>Del Rosario Elementary School is situated near a steeply sloping ground.</p> <p>Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Del Rosario on geohazard situation. Avoid construction of houses near slope areas.</p>
SIB-DRO-01 Purok 5 8°52'34.36" N 125°42'57.53" E	High	<p>Main access road at the area is situated along steeply sloping ground.</p> <p>Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Del Rosario on geohazard situation. Avoid construction of houses near slope areas.</p>
SIB-DRO-03 Purok 5 8°52'22.08" N 125°42'41.26" E	High	
SIB-DRO-04 Purok 5 8°52'22.26" N 125°42'30.56" E	High	
SIB-DRO-05 Purok 5 8°52'18.26" N 125°42'23.26" E	High	
SIB-DRO-06 Purok 5 8°52'13.51" N 125°42'28.76" E	High	
SIB-DRO-08 Purok 3 8°52'7.68" N 125°42'27.22" E	High	

SIB-DRO-09 Purok 3 8°51'52.09" N 125°42'28.01" E	High	Main access road at the area is situated along steeply sloping ground. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Del Rosario on geohazard situation. Avoid construction of houses near slope areas.
SIB-DRO-10 Purok 3 8°51'38.3" N 125°42'24.08" E	High	
SIB-DRO-13 Purok 1-B 8°51'31.93" N 125°42'24.95" E	High	
SIB-DRO-14 Purok 1-B 8°51'25.99" N 125°42'21.89" E	High	
SIB-DRO-18 Purok 2 8°51'5.87" N 125°42'10.3" E	High	
SIB-DRO-19 Purok 2 8°50'52.19" N 125°42'3.96" E	High	
SIB-DRO-02 Purok 5 8°52'27.23" N 125°43'2.32" E	High	Residential area is situated along steeply sloping terrain. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Del Rosario on geohazard situation. Avoid construction of houses near slope areas.
SIB-DRO-07 Purok 5 8°52'21.43" N 125°42'51.08" E	High	
SIB-DRO-15 Purok 1-B 8°51'22.86" N 125°42'18.83" E	High	
SIB-DRO-20 Purok 2 8°50'56.22" N 125°42'9.47" E	High	
SIB-DRO-12 Purok 3 8°51'43.45" N 125°42'23.87" E	High	Residential area situated along steeply sloping terrain. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Del Rosario on geohazard situation. Avoid construction of houses near slope areas.
SIB-DRO-16 Purok 1-A 8°51'19.94" N 125°42'16.16" E	Low	Barangay Hall is situated along low undulating ground. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Del Rosario on geohazard situation.
Barangay El Rio		
SIB-RIO-1435	High	Located along Maharlika Highway and characterized by rolling

Maharlika Highway in Purok 4B 8°51'53.6" N 125°40'9" E		terrain. A 105.00m wide earth slide (measured at head) occurred recently characterized by multiple tension cracks and 0.5m to 0.10m scarps.	
SIB-RIO-1436 Maharlika Highway in Purok 1B 8°51'53.5" N 125°40'9" E	High	Recommendations: Stabilize slope edges of road cut. Monitor for presence of further mass movement. Establish warning signage. Proper grading and engineering of slopes may be considered as long term solution subject to a more detailed engineering geological study as to its general applicability in the area of concern.	
SIB-RIO-1437 Maharlika Highway in Purok 1B 8°51'54" N 125°40'5.6" E	High		
SIB-RIO-1438 Maharlika Highway in Purok 1B 8°51'52.9" N 125°40'6.1" E	High		
SIB-RIO-1439 Maharlika Highway in Purok 1B 8°51'52" N 125°40'5.3" E	High		
SIB-RIO-1427 Maharlika Highway in Purok 3A 8°51'35" N 125°40'28" E	High	Located along Maharlika Highway and characterized by very steep 42° slopes and bedded sedimentary rock units. Localized debris slides have occurred in this area due to its very steep profile and bedded rock unit oriented 58° dipping towards Maharlika Highway (44 azi/NE) is prone to localized rock slide.	
SIB-RIO-1428 Maharlika Highway in Purok 3A 8°51'34.1" N 125°40'32.1" E	High		
SIB-RIO-1429 Maharlika Highway in Purok 3A 8°51'27.6" N 125°40'33.3" E	High		
SIB-RIO-1430 Maharlika Highway in Purok 3B 8°51'20.2" N 125°40'34.6" E	High		
SIB-RIO-1431 Maharlika Highway in Purok 3B 8°51'17.2" N 125°40'37.9" E	High		
SIB-RIO-1433 Maharlika Highway in Purok 3B 8°51'18.5" N 125°40'36.7" E	High		
SIB-RIO-1403 Minor earth slide on the upper slope of Purok 4B 8°51'37.6" N 125°40'7" E	High		Recommendations: Stabilize slope edges of road cut. Monitor for presence of mass movement. Establish warning signage. Installation of steel mesh or shotcrete may be considered as long term solution subject to a more detailed engineering geological study as to its general applicability in the area of concern.
			Located at the upper slopes of Purok 4B. Multiple developing tension cracks have been mapped characterized by 0.10 to 0.30m vertical by 0.10m horizontal displacement, 25.00m long, and oriented 80° dipping towards 76 azimuth (northwest).

SIB-RIO-1404 Tension cracks on the upper slopes of Purok 4B 8°51'36.5" N 125°40'6.3" E	High	Recommendations: Monitor for presence of further mass movement. Establish warning signage. Proper grading and engineering of slopes may be considered as long term solution subject to a more detailed engineering geological study as to its general applicability in the area of concern.
SIB-RIO-1405 Tension cracks on the upper slopes of Purok 4B 8°51'35.8" N 125°40'5.6" E	High	
SIB-RIO-1406 Tension cracks on the upper slopes of Purok 4B 8°51'36.1" N 125°40'5.1" E	High	
SIB-RIO-1401 Purok 4B settlement 8°51'38.9" N 125°40'12" E	Moderate	Located on an undulating terrain. This area is susceptible to soil creep and localized debris slide. Recommendation: Monitor for presence of mass movement.
SIB-RIO-1402 Purok 4B settlement 8°51'38" N 125°40'9.2" E	Moderate	
SIB-RIO-1418 Settlement near Sibagat River in Purok 1A 8°51'44.9" N 125°40'27.7" E	Moderate	
SIB-RIO-1397 El Rio Health Center 8°51'41.2" N 125°40'19.1" E	Low	Located on a nearly flat to gently rolling terrain. No landslide/mass movement component mapped.
SIB-RIO-1419 Settlement near Sibagat River in Purok 1A 8°51'45.5" N 125°40'28.4" E	Low	The area is located on a nearly flat to gently rolling terrain. No landslide/mass movement component mapped.
Barangay Ilihan		
SIB-ILI-177 Proposed Central MRF in Purok 3 8°47'46.97" N 125°40'55.6" E	Moderate	The area is characterized by moderately rolling topography with locally steep slopes underlain by tilted/folded interbedded mudstone, siltstone and sandstone. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
SIB-ILI-171 Municipal road, Creek in Purok 6 8°46'39.43" N 125°41'30.48" E	Low	Low landslide susceptibility.
SIB-ILI-172 Sinay Creek, Bridge 8°46'55.99" N 125°41'24.94" E	Low	

SIB-ILI-173 Municipal road in Purok 3 8°47'22.42" N 125°41'29.36" E	Low	Low landslide susceptibility.
SIB-ILI-174 Ilihan Brgy. Hall, Residential area 8°47'41.75" N 125°41'41.6" E	Low	
SIB-ILI-175 Health Center, Residential area 8°47'41.32" N 125°41'40.99" E	Low	
SIB-ILI-176 Municipal road in Purok 3 8°47'34.22" N 125°41'34.58" E	Low	
SIB-ILI-178 Municipal road, residential area in Purok 5 8°47'0.89" N 125°41'23.39" E	Low	
SIB-ILI-179 Agricultural field in Purok 4 8°47'19.68" N 125°41'29.94" E	Low	
SIB-ILI-180 Agricultural field in Purok 4 8°47'0.64" N 125°41'36.85" E	Low	
SIB-ILI-181 Agricultural field, Creek in Purok 4 8°47'6.18" N 125°41'48.59" E	Low	
SIB-ILI-182 Agricultural field in Purok 4 8°47'6.4" N 125°41'51.25" E	Low	
SIB-ILI-183 Agricultural field, Wawa River in Purok 4 8°47'7.4" N 125°41'57.19" E	Low	
SIB-ILI-184 Ilihan Elementary School 8°47'37.32" N 125°41'33.83" E	Low	

SIB-ILI-185 Agricultural field in Purok 2 8°47'51.79" N 125°41'43.12" E	Low	Low landslide susceptibility.
SIB-ILI-186 Agricultural field in Purok 2 8°47'55.5" N 125°41'45.89" E	Low	
SIB-ILI-187 Agricultural field in Purok 1 8°47'51.29" N 125°41'50.5" E	Low	
SIB-ILI-188 Agricultural field, Wawa River in Purok 1 8°47'45.78" N 125°41'54.2" E	Low	
SIB-ILI-189 Agricultural field, Wawa River in Purok 1 8°47'43.67" N 125°41'52.92" E	Low	
SIB-ILI-190 Agricultural field in Purok 4 8°47'3.42" N 125°41'34.12" E	Low	
SIB-ILI-191 Agricultural field in Purok 4 8°47'13.87" N 125°41'26.72" E	Low	
Barangay Kauswagan		
SIB-KSW-389 Brgy. Road 8°48'32.8" N 125°41'45.92" E	High	The area is characterized by highly rolling topography with locally steep slopes underlain by tilted/folded interbedded mudstone, siltstone and sandstone. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
SIB-KSW-405 Brgy. Road 8°48'15.05" N 125°40'58.3" E	High	The area is characterized by highly rolling topography with locally steep slopes. Road traverses along steep flanks with high landslide susceptibility.
SIB-KSW-406 Brgy. Road 8°48'13.25" N 125°41'0.1" E		Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
SIB-KSW-397 Residential area, Falcata plantation in Purok 1 8°48'39.71" N	High	The residential area is characterized by highly rolling topography with locally steep slopes. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or

125°40'35.54" E		seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
SIB-KSW-398 Residential area, Brgy. road in Purok 4 8°48'37.58" N 125°40'35.04" E	High	
SIB-KSW-399 Residential area, Brgy. road in Purok 2 8°48'29.05" N 125°40'38.17" E	High	
SIB-KSW-401 Residential area, Brgy. road 8°48'22.1" N 125°40'43.54" E	High	
SIB-KSW-395 Kauswagan Primary School 8°48'19.84" N 125°40'52.75" E	High	The school area is characterized by highly rolling topography with locally steep slopes. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
SIB-KSW-396 Kauswagan Brgy. Hall, residential area 8°48'33.12" N 125°40'35.65" E		
SIB-KSW-402 Brgy. Road 8°48'20.12" N 125°40'47.17" E	Moderate	The area is characterized by highly rolling topography with locally steep slopes. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
SIB-KSW-390 Brgy. Road 8°48'27.18" N 125°41'36.85" E	Moderate	The area is characterized by moderately rolling topography with locally steep slopes. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
SIB-KSW-391 Brgy. Road 8°48'24.8" N 125°41'28.75" E	Moderate	
SIB-KSW-392 Brgy. Road 8°48'19.22" N 125°41'21.08" E	Moderate	
SIB-KSW-393 Brgy. Road 8°48'12.2" N 125°41'16.22" E	Moderate	
SIB-KSW-394 Brgy. Road 8°48'11.38" N 125°41'1.82" E	Moderate	
SIB-KSW-403 Residential area, Brgy. road 8°48'20.74" N 125°40'49.87" E	Moderate	

SIB-KSW-404 Brgy. Road 8°48'18" N 125°40'55.85" E	Moderate	The area is characterized by moderately rolling topography with locally steep slopes.
SIB-KSW-407 Brgy. Road 8°48'10.04" N 125°41'6.5" E	Moderate	Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
SIB-KSW-400 Residential area, Brgy. road in Purok 2 8°48'25.16" N 125°40'40.84" E	Low	Low landslide susceptibility.
Barangay Kioya		
SIB-KYA-01 Agricultural area 8°49'40.6" N 125°44'26.3" E	Very High	<p>The area is located on a steep to very steep, relatively elevated slope, approximately 550 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Soil creep and tilted trees are very much evident. Moreover, tension cracks were observed on the slopes above the barangay area.</p> <p>Recommendations: Residents are highly advised to relocate.</p>
SIB-KYA-02 Agricultural area 8°49'36.9" N 125°44'28.4" E	Very High	
SIB-KYA-03 Agricultural area 8°49'36.9" N 125°44'28.4" E	Very High	
SIB-KYA-04 Agricultural area 8°49'34.7" N 125°44'37.1" E	Very High	
SIB-KYA-05 Agricultural area 8°49'36.7" N 125°44'41.5" E	Very High	
SIB-KYA-06 Agricultural area 8°49'36.8" N 125°44'41.6" E	Very High	
SIB-KYA-07 Agricultural area 8°50'4.2" N 125°44'49.2" E	Very High	
SIB-KYA-08 Houses along/at the foot of the slope 8°50'19" N 125°45'2.5" E	Very High	
SIB-KYA-09 Houses along/at the foot of the slope 8°50'20.7" N 125°45'1.3" E	Very High	
SIB-KYA-10 Houses along/at the foot of the slope 8°50'23.4" N 125°45'1" E	Very High	

SIB-KYA-11 Houses along/at the foot of the slope 8°49'39.6" N 125°44'19" E	Very High	<p>The area is located on a steep to very steep, relatively elevated slope, approximately 550 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Soil creep and tilted trees are very much evident. Moreover, tension cracks were observed on the slopes above the barangay area.</p> <p>Recommendations: Residents are highly advised to relocate.</p>
SIB-KYA-12 Houses along/at the foot of the slope 8°49'36.3" N 125°44'14.6" E	Very High	
SIB-KYA-13 Houses along/at the foot of the slope 8°49'29.4" N 125°44'11.3" E	Very High	
SIB-KYA-14 Houses along/at the foot of the slope 8°49'28.5" N 125°44'12.2" E	Very High	
SIB-KYA-15 Purok 1 8°49'31.2" N 125°44'7.9" E	Very High	
SIB-KYA-16 Proposed Barangay Site 8°49'33.7" N 125°44'4.1" E	High	<p>The area is located on a steep to very steep, relatively elevated slope, approximately 550 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Soil creep and tilted trees are very much evident. Moreover, tension cracks were observed on the slopes above the barangay area.</p> <p>Recommendations: Residents are highly advised to relocate.</p>
SIB-KYA-20 Kioya Barangay Hall 8°49'40.2" N 125°44'13.8" E	High	
SIB-KYA-21 Houses along/at the foot of the slope in Purok 2 8°49'26.2" N 125°43'56.3" E	High	
SIB-KYA-22 Houses along/at the foot of the slope in Purok 6 8°49'16.7" N 125°43'31.5" E	High	
SIB-KYA-23 Houses along/at the foot of the slope in Purok 6 8°49'16.7" N 125°43'27.7" E	High	
SIB-KYA-17 Kioya Elementary School 8°49'31.8" N 125°44'4.7" E	Moderate	
SIB-KYA-18 Houses along/at the foot of the slope in Purok 2 8°49'30.9" N 125°44'6.3" E	Moderate	
SIB-KYA-19 Houses along/at the foot	Moderate	<p>Recommendations: The area is highly discouraged for habitation and construction of government structures.</p>

of the slope in Purok 2 8°49'30.3" N 125°44'5.7" E		
Barangay Kolambugan		
SIB-KLM-17 Houses along the hanger/cliff in Purok 3 8°59'12.5" N 125°43'39.5" E	High	<p>The area is located on a steep to very steep, relatively elevated slope, approximately 500 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Presence of mass movement due to soil creep and subtle disintegration of overlying sedimentary units was observed.</p> <p>Recommendations: Residents are highly advised to relocate.</p>
SIB-KLM-18 Houses along the hanger/cliff in Purok 3 8°58'58.4" N 125°43'30.4" E	High	
SIB-KLM-19 Houses at the foot of a very steep slope in Purok 4 8°58'53.6" N 125°43'26.1" E	High	
SIB-KLM-20 Houses at the foot of a very steep slope in Purok 4 8°58'58.3" N 125°43'21.7" E	High	
SIB-KLM-21 Houses at the foot of a very steep slope in Purok 4 8°58'59.9" N 125°43'19.2" E	High	
SIB-KLM-22 Houses at the foot of a very steep slope in Purok 4 8°58'56.8" N 125°43'2.4" E	High	
SIB-KLM-23 Unstable road cut in Purok 5 8°58'52.5" N 125°42'56.3" E	High	
SIB-KLM-24 Houses along the hanger/cliff in Purok 5 8°58'49.9" N 125°42'54.3" E	High	
SIB-KLM-25 Houses along the hanger/cliff in Purok 5 8°58'49.1" N 125°42'48" E	High	
SIB-KLM-01 Houses along the hanger/cliff in Purok 1 8°59'35.9" N 125°43'53.6" E	High	

SIB-KLM-02 Agricultural area in Purok 1 8°59'40.8" N 125°43'58.2" E	High	<p>The area is located on a steep to very steep, relatively elevated slope, approximately 500 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Presence of mass movement due to soil creep and subtle disintegration of overlying sedimentary units was observed.</p> <p>Recommendations: Residents are highly advised to relocate.</p>
SIB-KLM-03 Agricultural area in Purok 1 8°59'49" N 125°43'54.5" E	High	
SIB-KLM-04 Houses at the foot of the slope in Purok 6 9°0'0.3" N 125°43'58.2" E	High	
SIB-KLM-05 Houses at the foot of the slope in Purok 6 9°0'0.1" N 125°44'1.9" E	High	
SIB-KLM-06 Houses at the foot of the slope in Purok 6 8°59'56.7" N 125°44'9.7" E	High	
SIB-KLM-07 Houses at the foot of the slope in Purok 6 8°59'56.1" N 125°44'12.7" E	High	
SIB-KLM-08 Houses at the foot of the slope in Purok 2 8°59'25.8" N 125°43'50.5" E	High	
SIB-KLM-09 Houses at the foot of the slope in Purok 2 8°59'22.2" N 125°43'56" E	High	
SIB-KLM-10 Houses at the foot of the slope in Purok 2 8°59'15.7" N 125°43'56.9" E	High	
SIB-KLM-11 Houses at the foot of the slope in Purok 2 8°59'8" N 125°43'58.3" E	High	
SIB-KLM-12 Houses at the foot of the slope in Purok 7 8°59'0.7" N 125°44'7.4" E	High	
SIB-KLM-13 Houses at the foot of the slope in Purok 7 8°59'1" N 125°44'11.2" E	High	

SIB-KLM-14 Houses at the foot of the slope in Purok 7 8°58'58" N 125°44'9.4" E	High	The area is located on a steep to very steep, relatively elevated slope, approximately 500 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Presence of mass movement due to soil creep and subtle disintegration of overlying sedimentary units was observed. Recommendations: Residents are highly advised to relocate.
SIB-KLM-15 Houses at the foot of the slope in Purok 2 8°59'29.7" N 125°43'47.1" E	Moderate	The area is located on a moderately dipping slope. However, a steep to very steep, relatively elevated slope, approximately 500 meters high, was observed 50 meters from where the observation point was taken. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Presence of mass movement due to soil creep and subtle disintegration of overlying sedimentary units was observed. Recommendation: Residents are highly advised to relocate.
SIB-KLM-16 Houses at the foot of the slope in Purok 2 8°59'28.8" N 125°43'44.7" E		
SIB-KLM-26 Kolambungan Elementary School 8°59'27.8" N 125°43'44.2" E	Moderate	The area is located on a steep to very steep, relatively elevated slope, approximately 500 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Presence of mass movement due to soil creep and subtle disintegration of overlying sedimentary units was observed. Recommendation: Residents are highly advised to relocate.
Barangay Magkalape		
SIB-MGK-01 Purok 1 8°54'33.08" N 125°42'13.07" E	Very High	Landslide area mapped along the road. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Magkalape on geohazard situation. Avoid construction of houses near slope areas.
SIB-MGK-03 Purok 1 8°54'34.92" N 125°42'17.35" E	Very High	Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Magkalape on geohazard situation. Avoid construction of houses near slope areas.
SIB-MGK-04 Purok 1 8°54'34.74" N 125°42'14.87" E	Very High	
SIB-MGK-06 Purok 1 8°54'33.62" N 125°42'9.58" E	High	Magkalape Elementary School is situated near a steeply sloping ground. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Magkalape on geohazard situation. Avoid construction of houses near slope areas.
SIB-MGK-08 Purok 1 8°54'27.86" N 125°42'36.22" E	High	Main access road going to the area is situated along steeply sloping terrain. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Magkalape on geohazard situation. Avoid construction of houses near slope areas.
SIB-MGK-09 Purok 1 8°54'29.59" N 125°42'30.49" E	High	Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Magkalape on geohazard situation. Avoid construction of houses near slope areas.

SIB-MGK-10 Purok 1 8°54'31.18" N 125°42'24.91" E	High	<p>Main access road going to the area is situated along steeply sloping terrain.</p> <p>Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Magkalape on geohazard situation. Avoid construction of houses near slope areas.</p>
SIB-MGK-11 Purok 1 8°54'35.39" N 125°42'22.14" E	High	
SIB-MGK-12 Purok 1 8°54'33.41" N 125°42'6.41" E	High	
SIB-MGK-13 Purok 1 8°54'34.31" N 125°42'2.45" E	High	
SIB-MGK-14 Purok 1 8°54'33.62" N 125°41'57.19" E	High	
SIB-MGK-16 Purok 2 8°54'4.75" N 125°42'41.33" E	High	
SIB-MGK-17 Purok 2 8°54'10.58" N 125°42'42.3" E	High	
SIB-MGK-18 Purok 2 8°54'15.34" N 125°42'42.59" E	High	
SIB-MGK-19 Purok 2 8°54'20.16" N 125°42'41.58" E	High	
SIB-MGK-20 Purok 2 8°54'24.44" N 125°42'39.31" E	High	
SIB-MGK-23 Purok 3 8°54'32.58" N 125°41'52.19" E	High	
SIB-MGK-24 Purok 3 8°54'28.91" N 125°41'49.6" E	High	
SIB-MGK-25 Purok 3 8°54'24.05" N 125°41'47.04" E	High	
SIB-MGK-26 Purok 3 8°54'22.97" N 125°41'52.66" E	High	

SIB-MGK-05 Purok 1 8°54'33.62" N 125°42'11.23" E	High	Residential area is situated along steeply sloping ground. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Magkalape on geohazard situation. Avoid construction of houses near slope areas.
SIB-MGK-07 Purok 1 8°54'33.01" N 125°42'10.3" E	High	
SIB-MGK-15 Purok 2 8°54'1.28" N 125°42'42.95" E	High	
SIB-MGK-21 Purok 3 8°54'21.1" N 125°41'56.51" E	High	
SIB-MGK-22 Purok 3 8°54'20.38" N 125°41'58.56" E	High	
SIB-MGK-02 Purok 1 8°54'33.12" N 125°42'14.8" E	High	Residential area situated along steeply sloping ground. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Magkalape on geohazard situation. Avoid construction of houses near slope areas.
Barangay Magsaysay		
SIB-MGS-1849 Hanging bridge approach 8°54'14.8" N 125°43'54" E	High	Hanging bridge approach. Steep river banks. Locally susceptible to landslide. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities.
SIB-MGS-355 Hanging bridge approach 8°54'11.66" N 125°43'55.78" E		
SIB-MGS-354 Wawa River 8°54'13.97" N 125°43'54.44" E	High	Steep river banks. Locally susceptible to landslide. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities.
SIB-MGS-368 Brgy. Road 8°54'25.96" N 125°41'47.58" E	High	The area is characterized by highly rolling topography with locally active landslides underlain by tilted/folded interbedded mudstone, siltstone and sandstone. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
SIB-MGS-369 Brgy. Road 8°54'15.19" N 125°40'57.4" E		
SIB-MGS-1845 Brgy. Road 8°54'31.2" N 125°43'57.5" E	Moderate	The area is characterized by moderately rolling topography with locally steep slopes underlain by tilted/folded interbedded mudstone, siltstone and sandstone.

SIB-MGS-1846 Brgy. Road 8°54'27.8" N 125°43'54.1" E	Moderate	Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
SIB-MGS-1847 Brgy. Road 8°54'23.3" N 125°43'50.2" E	Moderate	
SIB-MGS-1848 Brgy. Road 8°54'17" N 125°43'52.3" E	Moderate	
SIB-MGS-1792 Brgy. Road 8°54'33.4" N 125°44'1" E	Low	Low landslide susceptibility.
SIB-MGS-1793 Brgy. Road 8°54'39.1" N 125°44'9.7" E	Low	
SIB-MGS-1839 Brgy. Road 8°54'40.2" N 125°44'33.8" E	Low	
SIB-MGS-1840 Brgy. Road 8°54'42.6" N 125°44'24.5" E	Low	
SIB-MGS-1843 Brgy. Road 8°54'39.1" N 125°44'13" E	Low	
SIB-MGS-1844 Brgy. Road 8°54'39.1" N 125°44'9.5" E	Low	
SIB-MGS-1850 Brgy. Road 8°54'10.8" N 125°44'1" E	Low	
SIB-MGS-1851 Brgy. Road 8°54'5.8" N 125°43'58.2" E	Low	
SIB-MGS-353 Brgy. Road 8°54'20.23" N 125°43'49.19" E	Low	
SIB-MGS-356 Brgy. Road (old logging road) in Purok 2 8°54'7.92" N 125°44'7.01" E	Low	
SIB-MGS-357 Magsaysay Elementary School 8°54'4.36" N 125°44'8.05" E	Low	

SIB-MGS-358 Brgy. Hall, Residential area in Purok 3 8°54'0.11" N 125°44'11.4" E	Low	Low landslide susceptibility.
SIB-MGS-359 Basin, Residential area in Purok 3 8°54'0.32" N 125°44'10.75" E	Low	
SIB-MGS-360 Residential area in Purok 1 8°54'1.22" N 125°44'13.2" E	Low	
SIB-MGS-361 Wawa River in Purok 1 8°54'0.54" N 125°44'14.86" E	Low	
SIB-MGS-362 Wawa River in Purok 1 8°54'1.22" N 125°44'16.26" E	Low	
SIB-MGS-363 Wawa River in Purok 1 8°53'58.88" N 125°44'16.48" E	Low	
SIB-MGS-364 Residential area in Purok 3 8°53'54.89" N 125°44'10.68" E	Low	
SIB-MGS-365 Residential area in Purok 3 8°53'57.37" N 125°44'11.04" E	Low	
SIB-MGS-366 Brgy. Road 8°54'3.56" N 125°43'53.65" E	Low	
SIB-MGS-367 Brgy. Road 8°54'3.67" N 125°43'51.1" E	Low	
Barangay Mahayahay		
SIB-MHY807 Purok 6, Barangay Mahayahay 8°50'35.5" N 125°40'29.4" E	High	Ground rupture about 1 km away from the barangay proper was observed at the surface in Purok 6 (western portion of the barangay) which could possibly be associated with the traces of the Philippine Fault Zone.
SIB-MHY808 Purok 6, Barangay Mahayahay 8°50'34.9" N 125°40'25.6" E	High	Recommendations: Discourage future habitation and construction of government structures in known/ identified landslide especially where the ground ruptures were observed. Constant communication and updates within the barangay and with nearby barangays about geohazard situations.

SIB-MHY809 Purok 6, Barangay Mahayahay 8°50'31.3" N 125°40'37.7" E	High	Ground rupture about 1 km away from the barangay proper was observed at the surface in Purok 6 (western portion of the barangay) which could possibly be associated with the traces of the Philippine Fault Zone. Recommendations: Discourage future habitation and construction of government structures in known/ identified landslide especially where the ground ruptures were observed. Constant communication and updates within the barangay and with nearby barangays about geohazard situations.
SIB-MHY810 Purok 6, Barangay Mahayahay 8°50'31.5" N 125°40'38.5" E	High	
SIB-MHY811 Purok 6, Barangay Mahayahay 8°50'43.8" N 125°40'42.6" E	High	
SIB-MHY795 Maharlika Highway 8°50'24" N 125°41'15.3" E	Moderate	Tilted trees were observed at the midslope along the whole stretch of the road cut in the western portion of Maharlika Highway which indicates soil creep. Recommendation: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities.
SIB-MHY812 Purok 11 waiting shed 8°50'37.8" N 125°41'1.2" E	Low	Ground rupture about 1 km away from the barangay proper was observed at the surface in Purok 6 (western portion of the barangay) which could possibly be associated with the traces of the Philippine Fault Zone. Recommendations: Discourage future habitation and construction of government structures in known/ identified landslide especially where the ground ruptures were observed. Constant communication and updates within the barangay and with nearby barangays about geohazard situations.
SIB-MHY791 Creek in Purok 15 8°50'36.7" N 125°41'3.6" E	Low	No landslide/mass movement component mapped.
SIB-MHY792 Barangay boundary between Poblacion and Mahayahay 8°50'8.4" N 125°41'26.2" E	Low	
SIB-MHY793 Maharlika Highway 8°50'18.7" N 125°41'19.1" E	Low	
SIB-MHY794 Purok 8 waiting shed 8°50'22.5" N 125°41'16.2" E	Low	
SIB-MHY796 Purok 2 waiting shed 8°50'37.1" N 125°41'4.7" E	Low	
SIB-MHY797 Residential area in Purok 3 8°50'39.2" N 125°41'9.5" E	Low	

SIB-MHY798 Purok 9 waiting shed 8°50'44.1" N 125°41'20" E	Low	No landslide/mass movement component mapped.
SIB-MHY799 Purok 4 waiting shed 8°50'42.2" N 125°41'14.6" E	Low	
SIB-MHY800 Purok 3 waiting shed 8°50'37.8" N 125°41'10.3" E	Low	
SIB-MHY801 Purok 5 waiting shed 8°50'42.7" N 125°41'5.3" E	Low	
SIB-MHY802 Sibagat River 8°50'38.5" N 125°41'7.8" E	Low	
SIB-MHY803 Boundary between Del Rio and Mahayahay 8°51'0.9" N 125°40'40.5" E	Low	
SIB-MHY804 Purok 7 waiting shed 8°50'52.4" N 125°40'38.9" E	Low	
SIB-MHY805 Along Maharlika Highway 8°50'51.4" N 125°40'44.5" E	Low	
SIB-MHY806 Purok 6 waiting shed 8°50'47.9" N 125°40'48.5" E	Low	
SIB-MHY813 Purok 10, Barangay Mahayahay 8°50'37.1" N 125°40'57.8" E	Low	
SIB-MHY814 Mahayahay Elementary School 8°50'33" N 125°41'2.4" E	Low	
SIB-MHY815 Purok 10 waiting shed 8°50'31.2" N 125°41'3.5" E	Low	
SIB-MHY816 Purok 1 waiting shed 8°50'33.2" N 125°41'8.8" E	Low	
Barangay New Tubigon		
SIB-NEW-1866 Settlement near/at	High	Located along the edge of a ridge, this area is characterized by 48°-60° slope, 1.00m thick soil, and composed of intercalated sandstone

ridgeline in Purok 1 8°53'10.1" N 125°49'37.7" E		and siltstone. Numerous tension cracks and debris slide have been mapped in this area.
SIB-NEW-1867 Settlement near/at ridgeline in Purok 1 8°53'9.7" N 125°49'37.9" E	High	Recommendation: Future habitation and construction of government/private structures in known/ identified landslide areas (areas/zones with very steep slopes) are discouraged.
SIB-NEW-1868 Settlement near/at ridgeline in Purok 1 8°53'8.7" N 125°49'38" E	High	
SIB-NEW-1870 Settlement near/at ridgeline in Purok 2 8°53'19.6" N 125°49'36.4" E	High	
SIB-NEW-1871 Settlement near/at ridgeline in Purok 2 8°53'20.3" N 125°49'35.4" E	High	
SIB-NEW-1872 Settlement near/at ridgeline in Purok 2 8°53'25.2" N 125°49'34" E	High	
SIB-NEW-1873 Settlement near/at ridgeline in Purok 2 8°53'25.2" N 125°49'33.9" E	High	
SIB-NEW-1893 Purok 7 settlement near mountain peak 8°54'43.2" N 125°48'20.1" E	High	
SIB-NEW-1895 Purok 7 settlement near mountain peak 8°54'46.8" N 125°48'11.1" E	High	
SIB-NEW-1897 Purok 7 settlement near mountain peak 8°54'44.2" N 125°47'58.2" E	High	
SIB-NEW-1899 Purok 7 settlement near mountain peak 8°54'40.5" N 125°47'54" E	High	
SIB-NEW-1901 Purok 7 settlement near mountain peak 8°54'29.2" N 125°47'42" E	High	
SIB-NEW-1921	High	Located at the junction of 3 headwater tributaries of Andanan River,

Bridge boundary of Barangay New Tubigon and Barangay San Juan 8°52'30.3" N 125°49'39.9" E		<p>this river channel is characterized by very steep profile composed of limestone. This area is highly susceptible to debris and rock slide triggered by flash floods due to scouring/removal of material at the base of the slope.</p> <p>Recommendations: Future habitation and construction of government/private structures in known/identified landslide-prone areas are discouraged. Monitor for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of bridge and river dikes may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.</p>
SIB-NEW-1877 Trail/dirt road in Purok 3 going to Purok 7 8°53'47.1" N 125°49'19.2" E	Moderate	<p>Located at proximal edge of a ridge, this area is characterized by undulating terrain with 20°-35° slope and composed of limestone. Numerous plantations of Falcata, banana, and corn are found in this area. This area is likely susceptible to soil creep and localized debris slides.</p> <p>Recommendation: Monitor and report for presence of mass movement.</p>
SIB-NEW-1879 Trail/dirt road in Purok 3 going to Purok 7 8°53'57.9" N 125°49'15.9" E	Moderate	
SIB-NEW-1881 Trail/dirt road in Purok 3 going to Purok 7 8°54'1.9" N 125°49'13.4" E	Moderate	
SIB-NEW-1883 Trail/dirt road in Purok 3 going to Purok 7 8°54'17.7" N 125°49'1.5" E	Moderate	
SIB-NEW-1886 Trail/dirt road in Purok 4 going to Purok 7 8°54'28.5" N 125°48'48" E	Moderate	
SIB-NEW-1890 Trail/dirt road in Purok 4 going to Purok 7 8°54'47.9" N 125°48'29.8" E	Moderate	
SIB-NEW-1888 Purok 4 8°54'42.2" N 125°48'42.5" E	Moderate	
Barangay Padiay		
SIB-PDY-06 Agricultural area in Purok 9 8°59'0.5" N 125°45'12.1" E	High	<p>The area is located on a steep to very steep, relatively elevated slope, approximately 100 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Presence of mass movement due to soil creep and subtle disintegration of overlying sedimentary units was observed.</p> <p>Recommendations: Habitation on this area is highly discouraged.</p>
SIB-PDY-07 Agricultural area in Purok 9 8°59'2.9" N 125°45'37.7" E	High	

SIB-PDY-08 Houses along steep slopes in Purok 7 8°59'11.1" N 125°45'47.9" E	High	<p>The area is located on a steep to very steep, relatively elevated slope, approximately 100 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Presence of mass movement due to soil creep and subtle disintegration of overlying sedimentary units was observed.</p> <p>Recommendations: Habitation on this area is highly discouraged.</p>
SIB-PDY-09 Houses along steep slopes in Purok 7 8°59'16.1" N 125°45'51" E	High	
SIB-PDY-10 Houses along steep slopes in Purok 7 8°59'22.4" N 125°46'1.1" E	High	
SIB-PDY-11 Agricultural area in Purok 10 8°59'25.1" N 125°46'36.8" E	High	
SIB-PDY-12 Balunbon Elementary School 8°59'25.1" N 125°46'43.5" E	High	
SIB-PDY-13 Agricultural area in Purok 5 8°58'11.3" N 125°44'36.9" E	High	
SIB-PDY-14 Agricultural area in Purok 5 8°58'11" N 125°44'39.3" E	High	
SIB-PDY-15 Residential area in Purok 3 8°58'30.6" N 125°45'7.7" E	High	
SIB-PDY-16 Residential area in Purok 3 8°58'29.1" N 125°45'2.1" E	High	
SIB-PDY-17 Residential area in Purok 3 8°58'34.3" N 125°45'47.7" E	High	
SIB-PDY-18 Residential area in Purok 6 8°58'42.1" N 125°46'17.6" E	High	
SIB-PDY-19 Residential area in Purok 6 8°58'42.4" N 125°46'18.9" E	High	

SIB-PDY-20 Agricultural area in Purok 4 8°57'59.9" N 125°45'19.3" E	High	<p>The area is located on a steep to very steep, relatively elevated slope, approximately 100 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Presence of mass movement due to soil creep and subtle disintegration of overlying sedimentary units was observed.</p> <p>Recommendations: Habitation on this area is highly discouraged.</p>
SIB-PDY-21 Agricultural area in Purok 4 8°57'40.4" N 125°45'27.8" E	High	
SIB-PDY-22 Agricultural area in Purok 4 8°57'31.2" N 125°45'27.9" E	High	
SIB-PDY-23 Agricultural area in Purok 4 8°57'8.9" N 125°45'45.3" E	High	
SIB-PDY-24 Falcata Plantation in Purok 8 8°57'31.3" N 125°46'33.2" E	High	
SIB-PDY-25 Falcata Plantation in Purok 8 8°57'35.5" N 125°46'36.3" E	High	
SIB-PDY-26 Falcata Plantation in Purok 8 8°57'54.9" N 125°45'9.4" E	High	<p>A moderately to steeply dipping slope was observed in a relatively elevated area, approximately 350 meters. The slope is composed entirely of weathered sedimentary materials making it moderately susceptible to landslide. Presence of mass movement was observed due to soil creep and subtle disintegration of overlying sedimentary units.</p> <p>Recommendation: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to the MGB/municipal authorities.</p>
SIB-PDY-01 Padiay Elementary School 8°58'14.7" N 125°44'23.6" E	Moderate	
SIB-PDY-02 Agricultural area in Purok 1 8°58'7.3" N 125°44'19" E	Moderate	
SIB-PDY-03 Agricultural area in Purok 1 8°58'8.8" N 125°44'21.4" E	Moderate	
SIB-PDY-04 Agricultural area in Purok 2 8°58'25.5" N 125°44'24.2" E	Moderate	
SIB-PDY-05 Agricultural area in Purok 2 8°58'31.3" N 125°44'30.2" E	Moderate	

Barangay Perez		
SIB-PRZ-1808 Dirt road going to Barangay Padiay 8°56'26" N 125°44'3.7" E	High	<p>Located along the edge of a ridge, this area is characterized by 48°-60° slope, 1.00m thick soil, and composed of intercalated sandstone and siltstone. Numerous tension cracks and debris slide have been mapped in this area.</p> <p>Recommendation: Future habitation and construction of government/private structures in known/ identified landslide areas (areas/zones with very steep slopes) are discouraged.</p>
SIB-PRZ-1809 Dirt road going to Barangay Padiay 8°56'21.1" N 125°44'3" E	High	
SIB-PRZ-1810 Dirt road going to Barangay Padiay 8°56'16.8" N 125°44'5.2" E	High	
SIB-PRZ-1819 Dirt road in Purok 6 going to Barangay Padiay 8°56'12.6" N 125°44'40.6" E	High	
SIB-PRZ-1821 Dirt road in Purok 7 going to Barangay Padiay 8°56'3" N 125°44'41.2" E	High	
SIB-PRZ-1795 Dirt road in Purok 4 going to Barangay Padiay 8°57'40.3" N 125°44'38.6" E	Moderate	<p>Located on a plateau like feature, this area is characterized by undulating terrain 20°-35° slope, and composed of intercalated sandstone and limestone. Numerous plantations of Falcata, banana, and corn are found in this area. This area is likely susceptible to soil creep and localized debris slides.</p> <p>Recommendation: Monitor and report for presence of mass movement.</p>
SIB-PRZ-1796 Dirt road in Purok 4 going to Barangay Padiay 8°57'40.3" N 125°44'38.7" E	Moderate	
SIB-PRZ-1797 Dirt road in Purok 4 going to Barangay Padiay 8°57'40.4" N 125°44'37.9" E	Moderate	
SIB-PRZ-1798 Dirt road in Purok 2 going to Barangay Padiay 8°57'0.2" N 125°43'44.5" E	Moderate	
SIB-PRZ-1799 Perez Daycare Center 8°56'59.9" N 125°43'40.3" E	Moderate	

SIB-PRZ-1800 Dirt road in Purok 2 going to Barangay Padiay 8°57'0.3" N 125°43'40.4" E	Moderate	<p>Located on a plateau like feature, this area is characterized by undulating terrain 20°-35° slope, and composed of intercalated sandstone and limestone. Numerous plantations of Falcata, banana, and corn are found in this area. This area is likely susceptible to soil creep and localized debris slides.</p> <p>Recommendation: Monitor and report for presence of mass movement.</p>
SIB-PRZ-1801 Perez Elementary school 8°56'51.7" N 125°43'27.4" E	Moderate	
SIB-PRZ-1805 Dirt road in Purok 3 going to Barangay Padiay 8°56'40" N 125°43'47.7" E	Moderate	
SIB-PRZ-1806 Dirt road in Purok 3 going to Barangay Padiay 8°56'31.6" N 125°43'46.7" E	Moderate	
SIB-PRZ-1812 Dirt road in Purok 3 going to Barangay Padiay 8°56'28.7" N 125°44'13.7" E	Moderate	
SIB-PRZ-1815 Dirt road in Purok 6 going to Barangay Padiay 8°56'21.9" N 125°44'26.3" E	Moderate	
SIB-PRZ-1816 Dirt road in Purok 6 going to Barangay Padiay 8°56'22.2" N 125°44'31.1" E	Moderate	
SIB-PRZ-1817 Waiting Shed in Purok 6 8°56'20.7" N 125°44'32.6" E	Moderate	
SIB-PRZ-1822 Dirt road in Purok 7 going to Barangay Padiay 8°55'57.1" N 125°44'46.7" E	Moderate	
SIB-PRZ-1824 Dirt road in Purok 7 going to Barangay Padiay 8°55'53.2" N 125°44'50.6" E	Moderate	
Barangay Poblacion		
SIB-POB-750	High	A relict landslide forming a valley-like feature was observed along

Along the barangay road in Purok 15 8°50'5.8" N 125°42'29.7" E		the barangay road. Instability of the slope is manifested by tilted trees in the midslope as well as talus deposits observed at the base of the slope. Recommendations: Future habitation and construction of government structures in known/ identified landslide prone areas such as at the base of the slope in Purok 15 are discouraged. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains.
SIB-POB-744 Creek in Purok 15 8°50'17.6" N 125°42'27.5" E	High	No landslide/mass movement reported but maybe prone to landslide due to its steep slope gradient.
SIB-POB-745 Along the barangay road in Purok 15 8°50'17.1" N 125°42'27" E	High	Recommendations: Future habitation and construction of government structures in known/ identified landslide prone areas such as at the base of the slope in Purok 15 are discouraged. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains.
SIB-POB-746 Along the barangay road in Purok 15 8°50'17.2" N 125°42'27.2" E	High	
SIB-POB-751 Along the barangay road in Purok 15 8°50'3.1" N 125°42'30.9" E	High	Prolonged heavy rain during typhoon Agaton caused an 8m deep landslide along the barangay road. A seepage was also observed at the base of the slope which makes erosion faster. Recommendations: Future habitation and construction of government structures in known/identified landslide prone areas such as at the base of the slope in Purok 15 are discouraged. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains.
SIB-POB-756 Along the barangay road in Purok 15 8°49'58" N 125°42'3.4" E	High	Relict landslide about 6m deep was observed along the barangay road. Tilted trees observed along the midslope indicates soil creep. Recommendations: Future habitation and construction of government structures in known/identified landslide prone areas such as at the base of the slope in Purok 15 are discouraged. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains.
SIB-POB-748 Along the barangay road in Purok 15 8°50'13" N 125°42'25" E	High	Relict landslide along the barangay road. Tilted trees observed along the midslope indicates soil creep. Recommendations: Future habitation and construction of government structures in known/identified landslide prone areas such as at the base of the slope in Purok 15 are discouraged. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains.
SIB-POB-747 Along the barangay road in Purok 15 8°50'14.2" N 125°42'25" E	High	Series of landslides caused by prolonged heavy rains were observed along the barangay road. The first landslide is about 15m deep and 8m wide composed of highly weathered andesite while the other landslide is composed of alluvial deposits caused by riverbank erosion at the base of the slope during typhoon Agaton. Recommendations: Future habitation and construction of government structures in known/identified landslide prone areas such as at the base of the slope in Purok 15 are discouraged. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains.

SIB-POB-753 Along the barangay road in Purok 15 8°49'48.2" N 125°42'24.2" E	High	The road is bounded to the north by steep slopes. Relict landslides and active soil creep were observed on some portion of the access road. Recommendations: Future habitation and construction of government structures in known/identified landslide prone areas such as at the base of the slope in Purok 15 are discouraged. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains.
SIB-POB-754 Along the barangay road in Purok 15 8°49'53.1" N 125°42'16" E	High	
SIB-POB-755 Along the barangay road in Purok 15 8°49'53.1" N 125°42'10" E	High	
SIB-POB-757 Along the barangay road in Purok 14 8°49'59" N 125°41'58.4" E	High	
SIB-POB-758 Along the barangay road in Purok 14 8°49'58.3" N 125°41'52.2" E	High	
SIB-POB-749 Along the barangay road in Purok 15 8°50'11.2" N 125°42'26.7" E	High	Very steep landslide about 10m high and 5m wide was observed along the barangay road in Purok 15. Recommendations: Future habitation and construction of government structures in known/identified landslide prone areas such as at the base of the slope in Purok 15 are discouraged. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains.
SIB-POB-752 Purok 15 waiting shed 8°49'58.6" N 125°42'32.3" E	Moderate	Purok Center is situated on a gentle to steeply undulating terrain towards the western portion of the purok. Recommendations: Future habitation and construction of government structures in known/identified landslide prone areas such as at the base of the slope in Purok 15 are discouraged. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains.
SIB-POB-759 Purok 14 waiting shed 8°49'55.3" N 125°41'48.7" E	Low	No landslide/mass movement component mapped.
SIB-POB-760 Wawa River, Purok 14 8°49'51.3" N 125°41'50.8" E	Low	
SIB-POB-761 Residential area in Purok 14 8°49'51.3" N 125°41'50.2" E	Low	
SIB-POB-762 Residential area in Purok 14 8°49'51.5" N 125°41'50.2" E	Low	

SIB-POB-763 Residential area in Purok 14 8°49'51.5" N 125°41'45.1" E	Low	No landslide/mass movement component mapped.
SIB-POB-764 Sibagat River in Purok 14 8°49'51.7" N 125°41'44" E	Low	
SIB-POB-765 Near Sibagat River in Purok 14 8°49'52.1" N 125°41'44.2" E	Low	
SIB-POB-766 Residential area in Purok 14 8°49'49.9" N 125°41'39.4" E	Low	
SIB-POB-767 Boundary between Purok 13 and 7 8°49'47.2" N 125°41'33" E	Low	
SIB-POB-768 Residential area near Sibagat river, Purok 7 8°49'24.1" N 125°41'42.6" E	Low	
SIB-POB-769 Residential area near Sibagat river, Purok 7 8°49'24.6" N 125°41'42.8" E	Low	
SIB-POB-770 Barangay Poblacion, Barangay Hall 8°49'21.5" N 125°41'40.3" E	Low	
SIB-POB-771 Purok 4 waiting shed 8°49'19.4" N 125°41'41.1" E	Low	
SIB-POB-772 Residential area in Purok 4 8°49'17.8" N 125°41'43.4" E	Low	
SIB-POB-773 Residential area in Purok 4 8°49'18" N 125°41'43.3" E	Low	
SIB-POB-774 Junction between Sibagat and Wawa River 8°49'47.2" N 125°41'47.9" E	Low	

SIB-POB-775 Near the Junction of Sibagat and Wawa River 8°49'47.2" N 125°41'47.1" E	Low	No landslide/mass movement component mapped.
SIB-POB-776 Near the Junction of Sibagat and Wawa River 8°49'47.2" N 125°41'47" E	Low	
SIB-POB-777 Purok 13 waiting shed 8°49'42.7" N 125°41'42.3" E	Low	
SIB-POB-778 Purok 12 waiting shed 8°49'40.8" N 125°41'31.4" E	Low	
SIB-POB-779 FSUU High School 8°49'44.6" N 125°41'29.4" E	Low	
SIB-POB-780 Purok 12-A waiting shed 8°49'46.8" N 125°41'29.5" E	Low	
SIB-POB-781 Sibagat National High School of Home Industries 8°49'33.6" N 125°41'20.9" E	Low	
SIB-POB-782 Proposed Municipal Evacuation Center 8°49'33.6" N 125°41'37.6" E	Low	
SIB-POB-783 Sibagat Central Elementary School 8°49'33.1" N 125°41'37.1" E	Low	
SIB-POB-784 Purok 9 waiting shed 8°49'28.8" N 125°41'32.9" E	Low	
SIB-POB-785 Purok 8 waiting shed 8°49'30.1" N 125°41'32.1" E	Low	
SIB-POB-786 Purok 5 waiting shed 8°49'23.8" N 125°41'33.5" E	Low	

SIB-POB-787 Purok 6 waiting shed 8°49'20.9" N 125°41'39.4" E	Low	No landslide/mass movement component mapped.
SIB-POB-788 Purok 3 waiting shed 8°49'15.5" N 125°41'37.8" E	Low	
SIB-POB-789 Purok 2 waiting shed 8°49'18" N 125°41'25.4" E	Low	
SIB-POB-790 Purok 1 waiting shed 8°49'3" N 125°41'36" E	Low	
Barangay San Isidro		
SIB-SNI-06 Landslide near Sibagat river in Purok 2 8°53'14.06" N 125°43'57.32" E	Very High	Progressive river bank erosion along the high bank at Sibagat river. Recommendations: Observe for and/or monitor for presence of mass movement, saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. San Isidro on geohazard situation. Avoid settlements near slope areas.
SIB-SNI-16 Purok 6 8°53'3.52" N 125°43'18.34" E	High	Main access road that leads to the area is situated along steeply sloping terrain. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. San Isidro on geohazard situation.
SIB-SNI-17 Purok 6 8°53'2.15" N 125°43'14.7" E	High	
SIB-SNI-18 Purok 6 8°53'0.53" N 125°43'12.22" E	High	
SIB-SNI-19 Purok 6 8°52'55.09" N 125°43'7.46" E	High	
SIB-SNI-20 Purok 6 8°52'51.06" N 125°43'2.78" E	High	
SIB-SNI-21 Purok 6 8°52'46.45" N 125°42'59.9" E	High	
SIB-SNI-22 Residential area in Purok 6 8°53'5.75" N 125°43'21.22" E	High	
SIB-SNI-09 Day Care Center 8°53'15.9" N 125°43'46.74" E	Low	Day care center is situated along low gently undulating ground. Recommendations: Observe for and/or monitor for presence of mass movement, saturated ground or seeps and sunken or displaced road

		surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. San Isidro on geohazard situation.
SIB-SNI-13 Purok 5-B 8°53'13.81" N 125°43'22.51" E	Low	Main access road that leads to the area is situated at the base of a steeply sloping terrain. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. San Isidro on geohazard situation.
SIB-SNI-14 Purok 5-B 8°53'9.17" N 125°43'21.94" E	Low	
SIB-SNI-12 Residential area in Purok 5-A 8°53'6.43" N 125°43'47.78" E	Low	No landslide component mapped
SIB-SNI-11 Purok 4 8°53'19.1" N 125°43'57.5" E	Low	
SIB-SNI-01 Residential area in Purok 1 8°53'15.25" N 125°43'38.68" E	Low	
SIB-SNI-02 Open area in Purok 1 8°53'13.45" N 125°43'35.22" E	Low	
SIB-SNI-03 Residential area in Purok 1 8°53'11.76" N 125°43'32.92" E	Low	Residential area situated along low gently undulating ground. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. San Isidro on geohazard situation.
SIB-SNI-04 Residential area in Purok 2 8°53'11.58" N 125°43'43" E	Low	
SIB-SNI-05 Residential area in Purok 2 8°53'13.81" N 125°43'44.69" E	Low	
SIB-SNI-07 Residential area in Purok 2 8°53'12.41" N 125°43'48.29" E	Low	
SIB-SNI-08 Residential area in Purok 3 8°53'17.34" N 125°43'51.82" E	Low	
SIB-SNI-15 Residential area in Purok 5-B 8°53'16.98" N 125°43'23.16" E	Low	Residential area situated at the base of a steeply sloping ground. Recommendations: Observe for and/or monitor for presence of mass movement and report to (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report

		to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. San Isidro on geohazard situation. Avoid settlements at base of slopes.
SIB-SNI-10 San Isidro I Elementary School 8°53'15.14" N 125°43'55.7" E	Low	San Isidro Elementary School is situated along low gently undulating ground. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. San Isidro on Geohazard situation.
Barangay San Vicente		
SIB-VIN-1376 Settlement along dirt road going to Barangay Ilihan in Purok 7 8°48'19.7" N 125°41'57.6" E	High	<p>Located at the base of a steep hill, this area is highly susceptible to debris and rock slides.</p> <p>Recommendations: Future habitation and construction of government/private structures in known/identified landslide-prone areas are discouraged. Monitor for presence of mass movement.</p> <p>Located on an undulating terrain. This area is susceptible to soil creep and localized debris slide.</p> <p>Recommendation: Monitor for presence of mass movement.</p>
SIB-VIN-1377 Settlement along dirt road going to Barangay Ilihan in Purok 7 8°48'15.8" N 125°41'57.6" E	High	
SIB-VIN-1378 Settlement along dirt road going to Barangay Ilihan in Purok 7 8°48'9.7" N 125°41'54.5" E	High	
SIB-VIN-1362 Settlement along dirt road going to Purok 3 8°48'32" N 125°41'59.1" E	Moderate	
SIB-VIN-1373 Waiting Shed in Purok 4 8°48'29.3" N 125°42'2.4" E	Moderate	
SIB-VIN-1383 Settlement along Maharlika Highway in Purok 2 8°48'33.2" N 125°41'51.7" E	Moderate	
SIB-VIN-1384 Settlement along dirt road going to Barangay Kauswagan in Purok 2 8°48'33.8" N 125°41'47.3" E	Moderate	
SIB-VIN-1385 Settlement along dirt road going to Barangay Kauswagan in Purok 2 8°48'33.7" N 125°41'40.9" E	Moderate	

SIB-VIN-1390 Settlement along dirt road going to Purok 3 in Purok 3 8°48'37.9" N 125°42'1" E	Moderate	Located on an undulating terrain. This area is susceptible to soil creep and localized debris slide. Recommendation: Monitor for presence of mass movement.
SIB-VIN-1391 Settlement along dirt road going to Purok 3 in Purok 3 8°48'41" N 125°42'1.9" E	Moderate	
SIB-VIN-1395 San Vicente Multi-Purpose Hall 8°48'35.5" N 125°41'59.9" E	Moderate	
SIB-VIN-1396 San Vicente Health Center 8°48'36.2" N 125°41'59.8" E	Moderate	
SIB-VIN-1364 Maharlika Highway on Wawa River flood plain in Purok 4 8°48'27.4" N 125°42'8.6" E	Low	Located on a flood plain. No landslide/mass movement component mapped.
SIB-VIN-1366 Settlement and structures on Wawa River flood plain in Purok 5 8°48'24.7" N 125°42'16.5" E	Low	
SIB-VIN-1367 Settlement and structures on Wawa River flood plain in Purok 5 8°48'24" N 125°42'18.7" E	Low	
SIB-VIN-1369 Settlement and structures on Wawa River flood plain in Purok 5 8°48'18.8" N 125°42'22.3" E	Low	
SIB-VIN-1370 Settlement and structures on Wawa River flood plain in Purok 5 8°48'18.2" N 125°42'21.6" E	Low	

SIB-VIN-1372 Maharlika Highway on Wawa River flood plain in Purok 4 8°48'28.1" N 125°42'7" E	Low	Located on a flood plain. No landslide/mass movement component mapped.
SIB-VIN-1392 Settlement and structures on Wawa River flood plain in Purok 3 8°48'43.1" N 125°42'3.4" E	Low	
SIB-VIN-1393 Settlement and structures on Wawa River flood plain in Purok 3 8°48'44.4" N 125°42'3.9" E	Low	
Barangay Santa Cruz		
SIB-STC-353 Residential area, Wawa river bank in Purok 4 8°54'59.7" N 125°43'21.26" E	High	Steep river banks. Locally susceptible to landslide. Recommendation: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities.
SIB-STC-1794 Brgy. Road 8°54'46.2" N 125°44'17.9" E	Low	Low landslide susceptibility.
SIB-STC-1841 Brgy. Road 8°54'46.3" N 125°44'17.8" E	Low	
SIB-STC-1842 Brgy. Road 8°54'43.3" N 125°44'15.1" E	Low	
SIB-STC-344 Day Care Center, residential area 8°54'46.48" N 125°43'21.04" E	Low	
SIB-STC-345 Sta. Cruz Brgy. Hall 8°54'47.59" N 125°43'19.78" E	Low	
SIB-STC-346 Sta. Cruz Elementary School 8°54'45.86" N 125°43'23.38" E	Low	
SIB-STC-347 Back of Sta. Cruz Elementary School 8°54'44.53" N 125°43'24.24" E	Low	

SIB-STC-348 Residential area in Purok 1 8°54'49.61" N 125°43'25.9" E	Low	
SIB-STC-349 CBFM nursery 8°54'55.22" N 125°43'26.87" E	Low	
SIB-STC-350 River bank in Purok 1 8°54'56.74" N 125°43'26.29" E	Low	
SIB-STC-351 Residential area in Purok 1 8°54'48.67" N 125°43'22.08" E	Low	
SIB-STC-352 Open field in Purok 1 8°54'46.98" N 125°43'34.03" E	Low	
Barangay Santa Maria		
SIB-STM-17 Landslide area in Purok 2 8°54'17.28" N 125°40'58.12" E	Very High	Landslide area mapped along the main access road. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Sta. Maria on geohazard situation. Avoid construction of houses near slope areas.
SIB-STM-22 Landslide area in Purok 3 8°53'41.75" N 125°41'12.34" E		
SIB-STM-07 Purok 2 8°54'10.3" N 125°40'46.38" E	High	Main access road going to the area is situated along a steeply sloping ground. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Sta. Maria on geohazard situation.
SIB-STM-08 Purok 2 8°54'10.91" N 125°40'50.38" E	High	
SIB-STM-09 Purok 2 8°54'13.1" N 125°40'52.39" E	High	
SIB-STM-12 Purok 2 8°54'13.75" N 125°40'59.63" E	High	
SIB-STM-19 Purok 3 8°53'53.88" N 125°41'13.85" E	High	
SIB-STM-20 Purok 3 8°53'46.61" N 125°41'14.46" E	High	
SIB-STM-13 Purok 2	High	

8°54'11.95" N 125°41'3.3" E		<p>Recommendations: Observe for and/or monitor for presence of mass movement and report to the MGB/municipal authorities (e.g., landslides, tension cracks). Observe for saturated ground or seeps and sunken or displaced road surfaces and report to the MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Sta. Maria on geohazard situation.</p>
SIB-STM-02 Purok 1 8°53'57.95" N 125°41'5.57" E	High	
SIB-STM-03 Purok 1 8°54'1.8" N 125°41'5.46" E	High	
SIB-STM-23 Purok 4 8°54'18" N 125°41'50.57" E	High	
SIB-STM-24 Purok 4 8°54'16.92" N 125°41'41.24" E	High	
SIB-STM-25 Purok 4 8°54'15.98" N 125°41'30.91" E	High	
SIB-STM-26 Purok 4 8°54'6.73" N 125°41'20.04" E	High	
SIB-STM-01 Purok 1 8°53'52.62" N 125°41'6.54" E	High	<p>Residential area is situated at the slopes of a steeply sloping terrain.</p> <p>Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Sta. Maria on geohazard situation. Avoid construction of houses near slope areas.</p>
SIB-STM-06 Residential area in Purok 2 8°54'13.18" N 125°40'43.46" E	High	<p>Residential area situated at the slopes of a steeply sloping terrain.</p> <p>Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Sta. Maria on geohazard situation. Avoid construction of houses near slope areas.</p>
SIB-STM-10 Residential area in Purok 2 8°54'12.28" N 125°40'55.81" E	High	
SIB-STM-11 Residential area in Purok 2 8°54'15.34" N 125°40'57.43" E	High	
SIB-STM-14 Residential area in Purok 2 8°54'8.32" N 125°41'1.75" E	High	
SIB-STM-15 Residential area in Purok 2 8°54'4.28" N 125°41'4.63" E	High	

SIB-STM-16 Residential area in Purok 2 8°54'5.65" N 125°41'2.83" E	High	Residential area situated at the slopes of a steeply sloping terrain.
SIB-STM-18 Residential area in Purok 3 8°54'0.18" N 125°41'18.17" E	High	Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Sta. Maria on geohazard situation. Avoid construction of houses near slope areas.
SIB-STM-21 Residential area in Purok 3 8°53'42.43" N 125°41'12.98" E	High	
SIB-STM-04 Barangay Hall 8°53'46.28" N 125°41'5.89" E	Moderate	
SIB-STM-05 Sta. Maria Elementary School 8°53'47.8" N 125°41'6.97" E	Moderate	Sta. Maria Elementary School is located along moderately sloping ground and is also at the base of a low but steeply sloping hill. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Sta. Maria on geohazard situation. Avoid construction of houses near slope areas.
Barangay Sinai		
SIB-SIN-388 Municipal Dump Site 8°47'18.78" N 125°40'42.78" E	High	The area is characterized by highly rolling topography with locally steep slopes presently utilized as municipal dump site. Recommendations: Discontinue land utilization as dumpsite. The area is located along the slopes with no proper underground lining. Highly susceptible to ground water contamination associated with leachate generated from garbage. Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
SIB-SIN-372 Brgy. Road 8°46'39.97" N 125°41'1.86" E	High	The area is characterized by highly rolling topography with locally steep slopes underlain by tilted/folded interbedded mudstone, siltstone and sandstone. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
SIB-SIN-373 Brgy. Road 8°46'50.52" N 125°40'53.29" E	High	
SIB-SIN-374 Brgy. Road 8°47'2.9" N 125°40'51.64" E	High	

SIB-SIN-375 Brgy. Road 8°47'17.45" N 125°40'44.26" E	High	The area is characterized by highly rolling topography with locally steep slopes underlain by tilted/folded interbedded mudstone, siltstone and sandstone. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
SIB-SIN-376 Brgy. Road in Purok 1 8°47'31.81" N 125°40'31.8" E	High	
SIB-SIN-383 Brgy. Road in Purok 8 8°47'33.11" N 125°39'56.77" E	High	
SIB-SIN-384 Residential area in Purok 5 8°47'2.36" N 125°39'36.83" E	High	
SIB-SIN-387 Brgy. Road, Agricultural area in Purok 1 8°47'34.08" N 125°40'28.56" E	High	
SIB-SIN-370 Brgy. Road 8°46'52.32" N 125°41'20.87" E	Moderate	The area is characterized by moderately rolling topography with locally steep slopes underlain by tilted/folded interbedded mudstone, siltstone and sandstone. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
SIB-SIN-371 Brgy. Road 8°46'47.82" N 125°41'14.71" E		
SIB-SIN-377 Residential area, Agricultural area in Purok 1 8°47'29.04" N 125°40'19.16" E	Low	Low landslide susceptibility.
SIB-SIN-378 Brgy. Road, Agricultural area in Purok 1 8°47'21.91" N 125°40'13.19" E	Low	
SIB-SIN-379 Residential area, Brgy. Road in Purok 3 8°47'13.81" N 125°39'57.06" E	Low	
SIB-SIN-380 Residential area, Brgy. Hall 8°47'14.68" N 125°39'55.84" E	Low	
SIB-SIN-381 Residential area, Brgy. Road in Purok 6 8°47'18.24" N 125°39'55.76" E	Low	

SIB-SIN-382 Fish pond in Purok 6 8°47'25.48" N 125°39'55.01" E	Low	Low landslide susceptibility.
SIB-SIN-385 Residential area, Sinai Elementary School 8°47'14.17" N 125°39'59.4" E	Low	
SIB-SIN-386 Residential area, fish pond in Purok 2 8°47'20.87" N 125°40'11.1" E	Low	
Barangay Tabon-tabon		
SIB-TAB-1518 Maharlika Highway in Purok 1 8°54'9.3" N 125°39'20.6" E	Very High	<p>Located along Maharlika Highway near Barangay Tabon-tabon proper. This collapsed portion on the eastern side of the highway is caused by headward erosion. This erosion will continue to advance if not mitigated properly.</p> <p>Recommendations: Installation of rock riprap and or reengineering of drainage pathways may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern. Future loading/habitation and construction of government/private structures in known/identified landslide areas (areas/zones with very steep slopes) are discouraged. Develop warning signage.</p>
SIB-TAB-1474 Barangay Road near Multi-purpose hall in Purok 1 8°54'12.6" N 125°39'21" E	Very High	<p>Located few meters south of Barangay Tabon-tabon Multi-purpose Hall is a collapsed portion of barangay road caused by headward erosion. This erosion will continue to advance if not mitigated properly.</p> <p>Recommendations: Installation of rock riprap and or reengineering of drainage pathways may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern. Future loading/habitation and construction of government/private structures in known/ identified landslide areas (areas/zones with very steep slopes) are discouraged.</p>
SIB-TAB-1475 Barangay Road near Multi-purpose hall in Purok 1 8°54'12.4" N 125°39'21.2" E		
SIB-TAB-1478 Tabon-tabon Elementary School 8°54'9.8" N 125°39'25.1" E	Very High	<p>Tabon-tabon Elementary School is at risk of further damage to buildings due to developing tension cracks. These tension cracks may develop into scarps of an earth/debris slide triggered by earthquake or heavy and prolonged rains. These structures have been mapped along hallways and within the classrooms.</p> <p>Recommendation: Relocation of Tabon-tabon Elementary School to a safer ground must be considered as long term solution.</p>
SIB-TAB-1479 Tabon-tabon Elementary School 8°54'8.7" N 125°39'25.9" E	Very High	
SIB-TAB-1480 Tabon-tabon Elementary School 8°54'9.1" N 125°39'24.8" E	Very High	
SIB-TAB-1462 Maharlika Highway in Purok 9 8°54'20.6" N 125°39'13.4" E	High	<p>Located along Maharlika Highway and characterized by undulating to steep terrain. Long developing tension crack approximately 170.00m long have been mapped along the western side of the highway.</p> <p>Recommendations: Proper grading and engineering of slope can be</p>

		considered subject to a more detailed engineering geological study as to its general applicability in the area of concern. Constant communication and updates within the barangay and with nearby barangays about geohazard situations. Monitor and report for presence of further mass movement (tension cracks, bulges, localized debris slides). Develop early warning signage.
SIB-TAB-1448 Maharlika Highway in Purok 2 8°54'41.7" N 125°38'53.6" E	High	Located along Maharlika Highway and characterized by undulating to steep terrain. This earth slide is characterized by 65.00m wide, 30° slope. Several tension cracks and bulges have been noted in this area. Recommendations: Proper grading and engineering of slope or installation of retaining wall on the toe of the landslide may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern. Constant communication and updates within the barangay and with nearby barangays about geohazard situations. Monitor and report for presence of further mass movement (tension cracks, bulges, localized debris slides). Develop early warning signage.
SIB-TAB-1458 Maharlika Highway in Purok 9 8°54'25.3" N 125°39'8" E	High	Located along Maharlika Highway and characterized by undulating to steep terrain. This earth slide is characterized by approximately 100.00m in width, 30° slope, 1.00m vertical displacement on scarps. Numerous tension cracks and bulges forming terracets have been noted in this area. Recommendations: Proper grading and engineering of slope or installation of retaining wall on the toe of the landslide may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern. Constant communication and updates within the barangay and with nearby barangays about geohazard situations. Monitor and report for presence of further mass movement (tension cracks, bulges, localized debris slides). Develop early warning signage.
SIB-TAB-1453 Maharlika Highway in Purok 2 8°54'31.5" N 125°39'1.8" E	High	Located along Maharlika Highway and characterized by undulating to steep terrain. This portion of Maharlika Highway is at risk of collapse/damage due to loading and or lateral spreading/earth slide developing on the western side of the highway. Recommendations: Proper grading and engineering of slope or installation of retaining wall on the side of the road may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern. Constant communication and updates within the barangay and with nearby barangays about geohazard situations. Monitor and report for presence of further mass movement (tension cracks, bulges, localized debris slides). Develop early warning signage.
SIB-TAB-1514 Maharlika Highway in Purok 4 8°53'21.3" N 125°39'4.8" E	High	Located along Maharlika Highway and characterized by very steep slopes and bedded sedimentary rock units. Localized debris/earth slides have occurred in this area due to its very steep profile. Recommendations: Monitor for presence of mass movement. Establish warning signage. Proper grading and engineering of slope or installation of retaining wall on the side of the road may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.
SIB-TAB-1486 Purok 5 settlement 8°53'59.1" N 125°39'36.5" E	High	Located on a dirt road along Purok 5. This area is majorly covered with mango, coconut, corn, and Falcata plantations. This area is highly susceptible to localized earth/debris slides triggered by heavy/prolonged rains and earthquake. Several tension cracks have been mapped characterized by 20.00 to 50.00m long, 0.10 to 0.20m

		horizontal separation, and 0.20 to 0.30m vertical displacement. Recommendation: Future loading/habitation and construction of government/private structures in known/identified landslide areas (areas/zones with very steep slopes) are discouraged. Constant communication and updates within the barangay and with nearby barangays about geohazard situations. Monitor and report for presence of further mass movement (tension cracks, bulges, localized debris slides). Develop early warning signage.
SIB-TAB-1497 Dirt road going to Barangay Sta. Maria in Purok 7 8°53'55.6" N 125°40'9.6" E	High	Located on a dirt road going to Barangay Sta. Maria, this area is characterized by very steep slopes and covered with coconut and Falcata plantations. Localized debris slides, tension cracks, ground bulges, and tilted trees are common features in this area. Recommendations: Constant communication and updates within the barangay and with nearby barangays about geohazard situations. Future habitation and construction of government/private structures in known/identified landslide areas (areas/zones with very steep slopes) are discouraged. Stabilize slope edges of road cut. Monitor and report for presence of mass movement (tension cracks, bulges, localized debris slides). Develop early warning signage.
SIB-TAB-1498 Dirt road going to Barangay Sta. Maria in Purok 7 8°53'59.4" N 125°40'9.1" E		
SIB-TAB-1468 Maharlika Highway in Purok 9 8°54'15.6" N 125°39'18.1" E	High	Located on the western flank of Maharlika Highway and characterized by undulating terrain. This earth slide is characterized by approximately 80.00m in width, 25° slope, 1.00m vertical displacement on scarps. Numerous tension cracks and bulges forming terracets have been noted in this area. These structures have already inflicted damages to residents nearby.
SIB-TAB-1470 Settlement on the west flank of Maharlika Highway in Purok 9 8°54'14.9" N 125°39'17.7" E	High	Recommendations: Future habitation and construction of government/private structures in known/ identified landslide areas (areas/zones with very steep slopes) are discouraged. Proper grading and engineering of slope may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern. Constant communication and updates within the barangay and with nearby barangays about geohazard situations. Monitor and report for presence of further mass movement (tension cracks, bulges, localized debris slides). Develop early warning signage.
SIB-TAB-1473 Settlement on the west flank of Maharlika Highway in Purok 9 8°54'14" N 125°39'16.3" E	High	Recommendations: Future habitation and construction of government/private structures in known/ identified landslide areas (areas/zones with very steep slopes) are discouraged. Proper grading and engineering of slope may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern. Constant communication and updates within the barangay and with nearby barangays about geohazard situations. Monitor and report for presence of further mass movement (tension cracks, bulges, localized debris slides). Develop early warning signage.
SIB-TAB-1492 Dirt road going to Barangay Sta. Maria in Purok 3 8°53'35.5" N 125°39'58.6" E	Moderate	Located on an undulating terrain. This area is susceptible to soil creep and localized debris slide. Recommendation: Monitor for presence of mass movement.
SIB-TAB-1501 Bridge in Purok 3 8°53'39.4" N 125°39'57.4" E		
SIB-TAB-1502 Bridge in Purok 3 8°53'35.6" N 125°39'58.3" E	Low	Located on a nearly flat to gently rolling terrain. No landslide/mass movement component mapped.
Barangay Tag-uyango		
SIB-TGY-01 Agricultural area in Purok 8 8°49'21.8" N 125°42'39.4" E	High	The area is located on a steep to very steep, relatively elevated slope, approximately 120 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Presence of mass movement due to soil creep and subtle disintegration of overlying sedimentary units was observed.
SIB-TGY-02	High	

Agricultural area in Purok 8 8°49'23.4" N 125°42'46.2" E		Recommendation: Habitation on this area is highly discouraged.
SIB-TGY-03 Agricultural area in Purok 8 8°49'24.4" N 125°42'49.1" E	High	
SIB-TGY-04 Agricultural area in Purok 8 8°49'20.9" N 125°42'54" E	High	
SIB-TGY-05 Agricultural area in Purok 7 8°49'28.7" N 125°43'7.6" E	High	
SIB-TGY-06 Agricultural area in Purok 7 8°49'30.5" N 125°43'8.1" E	High	
SIB-TGY-21 Residential area in Purok 2 8°49'12.7" N 125°42'18.9" E	Moderate	
SIB-TGY-22 Residential area in Purok 2 8°49'14.9" N 125°42'16.8" E		
SIB-TGY-07 Agricultural area in Purok 7 8°49'21.1" N 125°41'58.9" E	Low	No landslide component mapped.
SIB-TGY-08 Agricultural area in Purok 7 8°49'19.8" N 125°41'51.6" E	Low	
SIB-TGY-09 Agricultural area/houses in Purok 6 8°49'22.4" N 125°41'49" E	Low	
SIB-TGY-10 Agricultural area/houses in Purok 6 8°49'25.2" N 125°41'48.8" E	Low	
SIB-TGY-11 Agricultural area/houses in Purok 6 8°49'29.5" N 125°41'49.2" E	Low	

SIB-TGY-12 Agricultural area with houses near Wawa River in Purok 5 8°49'27.1" N 125°41'47.8" E	Low	No landslide component mapped.
SIB-TGY-13 Agricultural area with houses near Wawa River in Purok 5 8°49'20.8" N 125°41'46.3" E	Low	
SIB-TGY-14 Agricultural area with houses near Wawa River in Purok 5 8°49'16.4" N 125°41'47" E	Low	
SIB-TGY-15 Agricultural area with houses near Wawa River in Purok 5 8°49'7.7" N 125°41'52.4" E	Low	
SIB-TGY-16 Residential area in Purok 4 8°48'59.5" N 125°42'1.3" E	Low	
SIB-TGY-17 Residential area in Purok 4 8°48'58.5" N 125°42'2.7" E	Low	
SIB-TGY-18 Residential area in Purok 3 8°49'9.5" N 125°42'19.7" E	Low	
SIB-TGY-19 Residential area in Purok 3 8°49'6.2" N 125°42'23.1" E	Low	
SIB-TGY-20 Residential area in Purok 3 8°49'3.4" N 125°42'25.7" E	Low	
SIB-TGY-23 Residential area in Purok 1 8°49'13.7" N 125°42'14.9" E	Low	
SIB-TGY-24 Residential area in Purok 1 8°49'14.1" N 125°42'15.7" E	Low	

Barangay Villangit		
SIB-VLT-10 Residential area in Purok 1-A 8°51'34.24" N 125°43'37.63" E	High	No landslide component mapped.
SIB-VLT-19 Purok 4-A 8°50'56.08" N 125°43'13.55" E	Moderate	Main access to the area is situated along a moderately sloping terrain. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Villangit on geohazard situation. Avoid building of houses near slope areas.
SIB-VLT-20 Purok 4-A 8°50'46.21" N 125°43'11.78" E	Moderate	
SIB-VLT-21 Purok 5 8°50'38.69" N 125°43'2.71" E	Moderate	
SIB-VLT-22 Purok 5 8°50'35.34" N 125°42'57.02" E	Moderate	
SIB-VLT-23 Purok 5 8°50'37.43" N 125°42'51.3" E	Moderate	
SIB-VLT-14 Purok 4 8°51'21.38" N 125°43'31.19" E	Moderate	Main access to the area is situated along moderately sloping terrain.
SIB-VLT-15 Purok 4 8°51'16.56" N 125°43'28.24" E	Moderate	Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to the MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Villangit on geohazard situation. Avoid building of houses near slope areas.
SIB-VLT-16 Purok 4 8°51'11.92" N 125°43'25.21" E	Moderate	Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Villangit on geohazard situation. Avoid building of houses near slope areas.
SIB-VLT-17 Residential area in Purok 4 8°51'7.96" N 125°43'19.63" E	Moderate	Residential area is situated along a moderately sloping terrain.
SIB-VLT-18 Residential area in Purok 4-A 8°51'2.05" N 125°43'16.5" E		Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Villangit on geohazard situation. Avoid building of houses near slope areas.
SIB-VLT-11 Barangay Hall 8°51'30.31" N 125°43'33.71" E	Low	Barangay hall is situated on a low gently undulating ground and is almost near the base of a steep sloping terrain. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Villangit on geohazard situation. Avoid building houses near slope areas.
SIB-VLT-13 Purok 1-A	Low	Main access to the area is at the base of a steeply sloping ground.

8°51'26.89" N 125°43'32.41" E		Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Villangit on geohazard situation. Avoid building of houses near slope areas.
SIB-VLT-03 Sibagat river in Purok 2 8°51'34.92" N 125°43'53.04" E	Low	No landslide component mapped.
SIB-VLT-24 Residential area in Purok 5 8°50'26.09" N 125°42'51.41" E	Low	Residential area is at the base of a steeply sloping ground. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Villangit on geohazard situation. Avoid building of houses near slope areas.
SIB-VLT-01 Purok 2 8°51'32.8" N 125°43'51.74" E	Low	Residential area is situated on a low gently undulating ground and is almost near the base of a steep sloping terrain. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Villangit on geohazard situation. Avoid building houses near slope areas.
SIB-VLT-02 Residential area in Purok 2 8°51'31" N 125°43'49.51" E	Low	
SIB-VLT-04 Residential area/waiting shed in Purok 1 8°51'34.52" N 125°43'48" E	Low	
SIB-VLT-05 Villangit Elementary School 8°51'31.93" N 125°43'46.38" E	Low	
SIB-VLT-06 Residential area in Purok 1 8°51'33.01" N 125°43'44.87" E	Low	
SIB-VLT-07 Purok 1-A 8°51'28.76" N 125°43'36.62" E	Low	
SIB-VLT-08 Purok 1-A 8°51'27.79" N 125°43'43.1" E	Low	
SIB-VLT-09 Open area in Purok 1-A 8°51'32.33" N 125°43'39.43" E	Low	
SIB-VLT-12 Residential area/waiting shed in Purok 1-A 8°51'28.98" N 125°43'34.07" E	Low	

Table 5. Results of the Flood Hazard Assessment

Location	Flood Susceptibility Rating	Remarks/Recommendations
Barangay Afga		
SIB-AFG-828 Sibagat River, Purok 6 8°52'59.8" N 125°39'54.9" E	Very High	Channelized flooding are experienced in the months of December to February. Flood height reaches as high as 2.5 meters from the river channel. Recommendations: Observe for rapid increase/decrease in river/creek water level, possibly accompanied by increased turbidity (soil/rock content). Discourage future habitation and construction of government structures in known/identified flood prone areas
SIB-AFG-830 Near Sibagat River, Purok 5 8°53'0.2" N 125°39'51.7" E	High	Worst flooding recorded happened during typhoon Agaton. Flood level reaches about 0.5m high. Recommendations: Observe for rapid increase/decrease in river/creek water level, possibly accompanied by increased turbidity (soil/rock content). Discourage future habitation and construction of government structures in known/identified flood prone areas.
SIB-AFG-829 Near Sibagat River, Purok 6 8°53'0.4" N 125°39'52" E	Moderate	Worst flooding recorded happened during typhoon Agaton. Flood level reaches about 0.5m high. Recommendations: Observe for rapid increase/decrease in river/creek water level, possibly accompanied by increased turbidity (soil/rock content). Discourage future habitation and construction of government structures in known/identified flood prone areas.
SIB-AFG-826 Unnamed creek in Purok 7 8°52'57.5" N 125°40'5.6" E	Low	Flooding is only restricted in the river channel. Flood level reaches as high as 1.5m. Recommendation: Observe for rapid increase/decrease in river/creek water level, possibly accompanied by increased turbidity (soil/rock content).
SIB-AFG-818 Agricultural area in Purok 1 8°52'25.2" N 125°39'48" E		No reported case of flooding.
SIB-AFG-819 Trail in Purok 7 8°52'28.2" N 125°39'57.4" E		
SIB-AFG-820 Trail in Purok 7 8°52'35.5" N 125°40'6.9" E		
SIB-AFG-821 Purok Hall of Purok 7 8°52'41.6" N 125°40'15.9" E		
SIB-AFG-822 Agricultural area in Purok 7 8°52'46" N 125°40'15.4" E		

SIB-AFG-823 Agricultural area in Purok 7 8°52'47.9" N 125°40'11.4" E		No reported case of flooding.
SIB-AFG-824 Agricultural area in Purok 6 8°52'49.6" N 125°40'4.6" E		
SIB-AFG-825 Agricultural area in Purok 6 8°52'54.7" N 125°40'3.7" E		
SIB-AFG-827 Purok Hall of Purok 6 8°53'0.7" N 125°40'1.3" E		
SIB-AFG-831 Agricultural area of Purok 11 8°52'56.2" N 125°39'39.5" E		
SIB-AFG-832 Agricultural area of Purok 11 8°52'43.7" N 125°39'29.8" E		
SIB-AFG-833 Agricultural area of Purok 11 8°52'40.2" N 125°39'19.7" E		
SIB-AFG-834 Afga National High School 8°52'41.3" N 125°39'18" E		
SIB-AFG-835 Agricultural area of Purok 11 8°52'41" N 125°39'23.3" E		
SIB-AFG-836 Proposed relocation area in Purok 11 8°52'40.7" N 125°39'21.3" E		
SIB-AFG-837 Purok 4 waiting shed 8°52'55.5" N 125°38'59.5" E		
SIB-AFG-838 Purok 12 waiting shed 8°52'2.2" N 125°38'29.9" E		

SIB-AFG-839 Purok 14-A waiting shed 8°52'39.2" N 125°37'44.7" E		No reported case of flooding.
SIB-AFG-840 San Isidro Elementary School 8°52'23.1" N 125°38'31.3" E		
SIB-AFG-841 San Isidro Elementary School 8°52'22.8" N 125°38'33.1" E		
SIB-AFG-842 Purok 14-B waiting shed 8°52'22.7" N 125°38'34.7" E		
SIB-AFG-843 Purok 10 waiting shed 8°52'47.6" N 125°38'28.5" E		
SIB-AFG-844 Purok 9 waiting shed 8°51'59.6" N 125°39'53.9" E		
SIB-AFG-845 Along Maharlika Highway, Purok 8 8°52'5.3" N 125°39'38.5" E		
SIB-AFG-846 Along Maharlika Highway, Purok 8 8°52'6.3" N 125°39'38.1" E		
SIB-AFG-847 Purok 8 waiting shed 8°52'6.3" N 125°39'35.6" E		
SIB-AFG-848 Along Maharlika Highway, Purok 8 8°52'16.6" N 125°39'27.5" E		
SIB-AFG-849 Afga Elementary School 8°52'24.1" N 125°39'17.9" E		
SIB-AFG-850 Purok 3 waiting shed 8°52'23.9" N 125°39'17.1" E		
SIB-AFG-851 Purok 1 waiting shed 8°52'27.1" N 125°39'17.3" E		

SIB-AFG-852 Purok 2 waiting shed 8°52'29.3" N 125°39'17.5" E		No reported case of flooding.
SIB-AFG-853 Afga Barangay Hall 8°52'29.4" N 125°39'23" E		
SIB-AFG-854 Purok 13, Purok proper 8°52'59.8" N 125°37'14.1" E		
Barangay Anahawan		
SIB-ANH-408 Brgy. Road 8°50'36.85" N 125°40'34.28" E		No reported case of flooding.
SIB-ANH-409 Brgy. Road 8°50'42.79" N 125°40'16.43" E		
SIB-ANH-410 Brgy. Road 8°50'37.25" N 125°40'9.37" E		
SIB-ANH-411 Brgy. Road 8°50'43.01" N 125°40'0.77" E		
SIB-ANH-412 Brgy. Road, residential area, School 8°50'41.82" N 125°39'40.14" E		
SIB-ANH-413 Brgy. Road, residential area, Brgy. Hall 8°50'37.46" N 125°39'39.28" E		
SIB-ANH-414 Brgy. Road, residential area in Purok 7 8°50'33.58" N 125°39'38.74" E		
SIB-ANH-415 Brgy. Road, residential area in Purok 7 8°50'30.16" N 125°39'38.02" E		
SIB-ANH-416 Brgy. Road, residential area in Purok 6 8°50'25.62" N 125°39'37.84" E		
SIB-ANH-417 Brgy. Road, residential area in Purok 6 8°50'24.97" N 125°39'38.2" E		

SIB-ANH-418 Brgy. Road in Purok 1 8°50'13.02" N 125°39'36.07" E		No reported case of flooding.
SIB-ANH-419 Brgy. Road in Purok 1 8°50'9.31" N 125°39'39.35" E		
SIB-ANH-420 Brgy. Road in Purok 1 8°50'6.07" N 125°39'40.68" E		
SIB-ANH-421 Brgy. Road in Purok 5 8°50'8.05" N 125°39'53.57" E		
SIB-ANH-422 Brgy. Road, residential area in Purok 5 8°50'9.56" N 125°39'55.04" E		
SIB-ANH-423 Brgy. Road, residential area in Purok 5 8°50'10.03" N 125°39'56.02" E		
SIB-ANH-424 Brgy. Road in Purok 5 8°50'4.06" N 125°39'45.07" E		
SIB-ANH-425 Brgy. Road, residential area in Purok 5 8°49'54.05" N 125°39'43.06" E		
SIB-ANH-426 Brgy. Road, residential area in Purok 6 8°50'28.79" N 125°39'37.84" E		
SIB-ANH-427 Brgy. Road in Purok 4 8°50'42.72" N 125°39'44.86" E		
SIB-ANH-428 Brgy. Road in Purok 4 8°50'42.25" N 125°40'6.17" E		
SIB-ANH-429 Brgy. Road, Agricultural area 8°50'36.85" N 125°40'25.39" E		
SIB-ANH-430 Brgy. Road, residential area 8°49'21.63" N 125°39'45.7" E		

Barangay Banagbanag		
SIB-BAN-1919 Tambagoko Creek 8°54'35.4" N 125°45'58.6" E	Very High	<p>Located along Tambagoko River, this area has experienced flash flood depths reaching 2.5m along the river channel.</p> <p>Recommendations: Future habitation and construction of government/private structures in known/identified flood-prone areas are discouraged. Advise for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of bridge and river dikes may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.</p>
SIB-BAN-1920 Tambagoko Creek 8°54'35.7" N 125°45'58" E		
SIB-BAN-1826 8°55'43.3" N 125°44'51.8" E		<p>Located on an elevated terrain. No reported case of flooding.</p>
SIB-BAN-1828 Purok 4 8°55'30.5" N 125°45'1.8" E		
SIB-BAN-1829 Purok 4 8°55'30.5" N 125°45'1.8" E		
SIB-BAN-1830 Purok 4 8°55'30.1" N 125°45'4.6" E		
SIB-BAN-1832 8°55'15.2" N 125°44'50.8" E		
SIB-BAN-1834 8°54'48.5" N 125°44'48.8" E		
SIB-BAN-1835 8°54'45.2" N 125°44'44.5" E		
SIB-BAN-1837 Waiting Shed in Purok 3 8°54'44.4" N 125°44'43.6" E		
SIB-BAN-1838 Waiting Shed in Purok 2 8°54'41.9" N 125°44'41.4" E		
SIB-BAN-1903 Dirt road from Barangay New Tubigon going to Barangay Perez in Purok 7 8°54'17.1" N 125°47'38.1" E		
SIB-BAN-1905 Dirt road from Barangay New Tubigon going to Barangay Perez 8°54'12.5" N 125°47'31.2" E		

SIB-BAN-1906 Dirt road from Barangay New Tubigon going to Barangay Perez 8°54'20.3" N 125°47'20.8" E		Located on an elevated terrain. No reported case of flooding.
SIB-BAN-1908 Dirt road from Barangay New Tubigon going to Barangay Perez 8°54'19.2" N 125°47'11" E		
SIB-BAN-1910 Dirt road from Barangay New Tubigon going to Barangay Perez 8°54'14.8" N 125°47'4.1" E		
SIB-BAN-1911 Dirt road from Barangay New Tubigon going to Barangay Perez 8°54'12.5" N 125°47'2.2" E		
SIB-BAN-1912 Dirt road from Barangay New Tubigon going to Barangay Perez 8°54'7.5" N 125°46'52.7" E		
SIB-BAN-1914 Dirt road from Barangay New Tubigon going to Barangay Perez 8°54'24.1" N 125°46'42.9" E		
SIB-BAN-1917 Dirt road from Barangay New Tubigon going to Barangay Perez 8°54'23.5" N 125°46'11.6" E		
Barangay Del Rosario		
SIB-DRO-01 Purok 5 8°52'34.36" N 125°42'57.53" E		No reported case of flooding.
SIB-DRO-02 Purok 5 8°52'27.23" N 125°43'2.32" E		
SIB-DRO-03 Purok 5 8°52'22.08" N 125°42'41.26" E		
SIB-DRO-04 Purok 5 8°52'22.26" N 125°42'30.56" E		

SIB-DRO-05 Purok 5 8°52'18.26" N 125°42'23.26" E		No reported case of flooding.
SIB-DRO-06 Purok 5 8°52'13.51" N 125°42'28.76" E		
SIB-DRO-07 Purok 5 8°52'21.43" N 125°42'51.08" E		
SIB-DRO-08 Purok 3 8°52'7.68" N 125°42'27.22" E		
SIB-DRO-09 Purok 3 8°51'52.09" N 125°42'28.01" E		
SIB-DRO-10 Purok 3 8°51'38.3" N 125°42'24.08" E		
SIB-DRO-11 Purok 3 8°51'59.4" N 125°42'26.64" E		
SIB-DRO-12 Purok 3 8°51'43.45" N 125°42'23.87" E		
SIB-DRO-13 Purok 1-B 8°51'31.93" N 125°42'24.95" E		
SIB-DRO-14 Purok 1-B 8°51'25.99" N 125°42'21.89" E		
SIB-DRO-15 Purok 1-B 8°51'22.86" N 125°42'18.83" E		
SIB-DRO-16 Purok 1-A 8°51'19.94" N 125°42'16.16" E		
SIB-DRO-17 Purok 1-A 8°51'13.18" N 125°42'16.78" E		
SIB-DRO-18 Purok 2 8°51'5.87" N 125°42'10.3" E		

SIB-DRO-19 Purok 2 8°50'52.19" N 125°42'3.96" E		No reported case of flooding.
SIB-DRO-20 Purok 2 8°50'56.22" N 125°42'9.47" E		
Barangay El Rio		
SIB-RIO-1419 Settlement near Sibagat River in Purok 1A 8°51'45.5" N 125°40'28.4" E	Very High	Located on the riverbank of Sibagat River, this area has experienced flash flood depths reaching 4.00m. Recommendations: Future habitation and construction of government/private structures in known/identified flood-prone areas are discouraged. Advise for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of bridge and river dikes may be considered subject to a more engineering geological study as to its general applicability in the area of concern.
SIB-RIO-1418 Settlement near Sibagat River in Purok 1A 8°51'44.9" N 125°40'27.7" E	High	Located on the riverbank of Sibagat River, this area has experienced flash flood depths reaching 4.00m. Recommendations: Future habitation and construction of government/private structures in known/identified flood-prone areas are discouraged. Advise for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of bridge and river dikes may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.
SIB-RIO-1397 El Rio Health Center 8°51'41.2" N 125°40'19.1" E		Located on a roughly elevated terrain. No reported case of flooding.
SIB-RIO-1401 Purok 4B settlement 8°51'38.9" N 125°40'12" E		
SIB-RIO-1402 Purok 4B settlement 8°51'38" N 125°40'9.2" E		
SIB-RIO-1403 Minor earth slide on the upper slope of Purok 4B 8°51'37.6" N 125°40'7" E		
SIB-RIO-1404 Tension cracks on the upper slopes of Purok 4B 8°51'36.5" N 125°40'6.3" E		
SIB-RIO-1405 Tension cracks on the upper slopes of Purok 4B 8°51'35.8" N 125°40'5.6" E		

SIB-RIO-1406 Tension cracks on the upper slopes of Purok 4B 8°51'36.1" N 125°40'5.1" E		Located on a roughly elevated terrain. No reported case of flooding.
SIB-RIO-1427 Maharlika Highway in Purok 3A 8°51'35" N 125°40'28" E		
SIB-RIO-1428 Maharlika Highway in Purok 3A 8°51'34.1" N 125°40'32.1" E		
SIB-RIO-1429 Maharlika Highway in Purok 3A 8°51'27.6" N 125°40'33.3" E		
SIB-RIO-1430 Maharlika Highway in Purok 3B 8°51'20.2" N 125°40'34.6" E		
SIB-RIO-1431 Maharlika Highway in Purok 3B 8°51'17.2" N 125°40'37.9" E		
SIB-RIO-1433 Maharlika Highway in Purok 3B 8°51'18.5" N 125°40'36.7" E		
SIB-RIO-1435 Maharlika Highway in Purok 4B 8°51'53.6" N 125°40'9" E		
SIB-RIO-1436 Maharlika Highway in Purok 1B 8°51'53.5" N 125°40'9" E		
SIB-RIO-1437 Maharlika Highway in Purok 1B 8°51'54" N 125°40'5.6" E		
SIB-RIO-1438 Maharlika Highway in Purok 1B 8°51'52.9" N 125°40'6.1" E		

SIB-RIO-1439 Maharlika Highway in Purok 1B 8°51'52" N 125°40'5.3" E		Located on a roughly elevated terrain. No reported case of flooding.
Barangay Ilihan		
SIB-ILI-180 Agricultural field in Purok 4 8°47'0.64" N 125°41'36.85" E	Very High	<p>Located along the flood plain of an old river channel created from channel migration. Area is presently utilized for agriculture.</p> <p>Recommendations: Observe for rapid increase/decrease in creek/river water levels, possibly accompanied by increased turbidity (soil content). Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rainfall. Observe proper easement along bodies of water. Avoid construction of important infrastructures within the identified flood prone areas.</p>
SIB-ILI-181 Agricultural field, Creek in Purok 4 8°47'6.18" N 125°41'48.59" E	Very High	
SIB-ILI-182 Agricultural field in Purok 4 8°47'6.4" N 125°41'51.25" E	Very High	
SIB-ILI-191 Agricultural field in Purok 4 8°47'13.87" N 125°41'26.72" E	Very High	
SIB-ILI-183 Agricultural field, Wawa River in Purok 4 8°47'7.4" N 125°41'57.19" E	Very High	
SIB-ILI-187 Agricultural field in Purok 1 8°47'51.29" N 125°41'50.5" E	Very High	<p>Located along the flood plain of an old river channel created from channel migration.</p> <p>Recommendations: Observe for rapid increase/decrease in creek/river water levels, possibly accompanied by increased turbidity (soil content). Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rainfall. Observe proper easement along bodies of water. Avoid construction of important infrastructures within the identified flood prone areas.</p>
SIB-ILI-188 Agricultural field, Wawa River in Purok 1 8°47'45.78" N 125°41'54.2" E	Very High	
SIB-ILI-189 Agricultural field, Wawa River in Purok 1 8°47'43.67" N 125°41'52.92" E	Very High	
SIB-ILI-190 Agricultural field in Purok 4 8°47'3.42" N 125°41'34.12" E	Very High	
SIB-ILI-172 Sinay Creek, Bridge 8°46'55.99" N 125°41'24.94" E	High	
		<p>Sinay bridge.</p> <p>Recommendations: Observe for rapid increase/decrease in creek/river water levels, possibly accompanied by increased turbidity</p>

		(soil content). Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rainfall. Observe proper easement along bodies of water. Avoid construction of important infrastructures within the identified flood prone areas and along/near river banks.
SIB-ILI-171 Municipal road, Creek in Purok 6 8°46'39.43" N 125°41'30.48" E	Low	Creek traversing the road usually flooded when drain pipe is clogged. Recommendation: Replace adequate concrete pipe or box culvert to cater the water volume during inclement weather condition.
SIB-ILI-173 Municipal road in Purok 3 8°47'22.42" N 125°41'29.36" E	Low	<p>Located along the flood plain of an old river channel created from channel migration. Area is presently utilized for agriculture.</p> <p>Recommendations: Observe for rapid increase/decrease in creek/river water levels, possibly accompanied by increased turbidity (soil content). Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rainfall. Observe proper easement along bodies of water. Avoid construction of important infrastructures within the identified flood prone areas.</p>
SIB-ILI-174 Ilihan Brgy. Hall, Residential area 8°47'41.75" N 125°41'41.6" E	Low	
SIB-ILI-175 Health Center, Residential area 8°47'41.32" N 125°41'40.99" E	Low	
SIB-ILI-179 Agricultural field in Purok 4 8°47'19.68" N 125°41'29.94" E	Low	
SIB-ILI-176 Municipal road in Purok 3 8°47'34.22" N 125°41'34.58" E		
SIB-ILI-177 Proposed Central MRF in Purok 3 8°47'46.97" N 125°40'55.6" E		No reported case of flooding.
SIB-ILI-178 Municipal road, residential area in Purok 5 8°47'0.89" N 125°41'23.39" E		
SIB-ILI-184 Ilihan Elementary School 8°47'37.32" N 125°41'33.83" E		
SIB-ILI-185 Agricultural field in Purok 2 8°47'51.79" N 125°41'43.12" E		
SIB-ILI-186 Agricultural field in Purok 2 8°47'55.5" N 125°41'45.89" E		

Barangay Kauswagan

SIB-KSW-389 Brgy. Road 8°48'32.8" N 125°41'45.92" E		No reported case of flooding.
SIB-KSW-390 Brgy. Road 8°48'27.18" N 125°41'36.85" E		
SIB-KSW-391 Brgy. Road 8°48'24.8" N 125°41'28.75" E		
SIB-KSW-392 Brgy. Road 8°48'19.22" N 125°41'21.08" E		
SIB-KSW-393 Brgy. Road 8°48'12.2" N 125°41'16.22" E		
SIB-KSW-394 Brgy. Road 8°48'11.38" N 125°41'1.82" E		
SIB-KSW-395 Kauswagan Primary School 8°48'19.84" N 125°40'52.75" E		
SIB-KSW-396 Kauswagan Brgy. Hall, residential area 8°48'33.12" N 125°40'35.65" E		
SIB-KSW-397 Residential area, Falcata plantation in Purok 1 8°48'39.71" N 125°40'35.54" E		
SIB-KSW-398 Residential area, Brgy. road in Purok 4 8°48'37.58" N 125°40'35.04" E		
SIB-KSW-399 Residential area, Brgy. road in Purok 2 8°48'29.05" N 125°40'38.17" E		
SIB-KSW-400 Residential area, Brgy. road in Purok 2 8°48'25.16" N 125°40'40.84" E		

SIB-KSW-401 Residential area, Brgy. road 8°48'22.1" N 125°40'43.54" E		No reported case of flooding.
SIB-KSW-402 Brgy. Road 8°48'20.12" N 125°40'47.17" E		
SIB-KSW-403 Residential area, Brgy. road 8°48'20.74" N 125°40'49.87" E		
SIB-KSW-404 Brgy. Road 8°48'18" N 125°40'55.85" E		
SIB-KSW-405 Brgy. Road 8°48'15.05" N 125°40'58.3" E		
SIB-KSW-406 Brgy. Road 8°48'13.25" N 125°41'0.1" E		
SIB-KSW-407 Brgy. Road 8°48'10.04" N 125°41'6.5" E		
Barangay Kioya		
SIB-KYA-01 Agricultural area 8°49'40.6" N 125°44'26.3" E		No reported case of flooding.
SIB-KYA-02 Agricultural area 8°49'36.9" N 125°44'28.4" E		
SIB-KYA-03 Agricultural area 8°49'36.9" N 125°44'28.4" E		
SIB-KYA-04 Agricultural area 8°49'34.7" N 125°44'37.1" E		
SIB-KYA-05 Agricultural area 8°49'36.7" N 125°44'41.5" E		
SIB-KYA-06 Agricultural area 8°49'36.8" N 125°44'41.6" E		
SIB-KYA-07 Agricultural area 8°50'4.2" N 125°44'49.2" E		

SIB-KYA-08 Houses along/at the foot of the slope 8°50'19" N 125°45'2.5" E		No reported case of flooding.
SIB-KYA-09 Houses along/at the foot of the slope 8°50'20.7" N 125°45'1.3" E		
SIB-KYA-10 Houses along/at the foot of the slope 8°50'23.4" N 125°45'1" E		
SIB-KYA-11 Houses along/at the foot of the slope 8°49'39.6" N 125°44'19" E		
SIB-KYA-12 Houses along/at the foot of the slope 8°49'36.3" N 125°44'14.6" E		
SIB-KYA-13 Houses along/at the foot of the slope 8°49'29.4" N 125°44'11.3" E		
SIB-KYA-14 Houses along/at the foot of the slope 8°49'28.5" N 125°44'12.2" E		
SIB-KYA-15 Purok 1 8°49'31.2" N 125°44'7.9" E		
SIB-KYA-16 Proposed Barangay Site 8°49'33.7" N 125°44'4.1" E		
SIB-KYA-17 Kioya Elementary School 8°49'31.8" N 125°44'4.7" E		
SIB-KYA-18 Houses along/at the foot of the slope in Purok 2 8°49'30.9" N 125°44'6.3" E		
SIB-KYA-19 Houses along/at the foot of the slope in Purok 2 8°49'30.3" N 125°44'5.7" E		

SIB-KYA-20 Kioya Barangay Hall 8°49'40.2" N 125°44'13.8" E		No reported case of flooding.
SIB-KYA-21 Houses along/at the foot of the slope in Purok 2 8°49'26.2" N 125°43'56.3" E		
SIB-KYA-22 Houses along/at the foot of the slope in Purok 6 8°49'16.7" N 125°43'31.5" E		
SIB-KYA-23 Houses along/at the foot of the slope in Purok 6 8°49'16.7" N 125°43'27.7" E		
Barangay Kolambugan		
SIB-KLM-01 Houses along the hanger/cliff in Purok 1 8°59'35.9" N 125°43'53.6" E		No reported case of flooding.
SIB-KLM-02 Agricultural area in Purok 1 8°59'40.8" N 125°43'58.2" E		
SIB-KLM-03 Agricultural area in Purok 1 8°59'49" N 125°43'54.5" E		
SIB-KLM-04 Houses at the foot of the slope in Purok 6 9°0'0.3" N 125°43'58.2" E		
SIB-KLM-05 Houses at the foot of the slope in Purok 6 9°0'0.1" N 125°44'1.9" E		
SIB-KLM-06 Houses at the foot of the slope in Purok 6 8°59'56.7" N 125°44'9.7" E		
SIB-KLM-07 Houses at the foot of the slope in Purok 6 8°59'56.1" N 125°44'12.7" E		

SIB-KLM-08 Houses at the foot of the slope in Purok 2 8°59'25.8" N 125°43'50.5" E		No reported case of flooding.
SIB-KLM-09 Houses at the foot of the slope in Purok 2 8°59'22.2" N 125°43'56" E		
SIB-KLM-10 Houses at the foot of the slope in Purok 2 8°59'15.7" N 125°43'56.9" E		
SIB-KLM-11 Houses at the foot of the slope in Purok 2 8°59'8" N 125°43'58.3" E		
SIB-KLM-12 Houses at the foot of the slope in Purok 7 8°59'0.7" N 125°44'7.4" E		
SIB-KLM-13 Houses at the foot of the slope in Purok 7 8°59'1" N 125°44'11.2" E		
SIB-KLM-14 Houses at the foot of the slope in Purok 7 8°58'58" N 125°44'9.4" E		
SIB-KLM-15 Houses at the foot of the slope in Purok 2 8°59'29.7" N 125°43'47.1" E		
SIB-KLM-16 Houses at the foot of the slope in Purok 2 8°59'28.8" N 125°43'44.7" E		
SIB-KLM-17 Houses along the hanger/cliff in Purok 3 8°59'12.5" N 125°43'39.5" E		
SIB-KLM-18 Houses along the hanger/cliff in Purok 3 8°58'58.4" N 125°43'30.4" E		

SIB-KLM-19 Houses at the foot of a very steep slope in Purok 4 8°58'53.6" N 125°43'26.1" E		No reported case of flooding.
SIB-KLM-20 Houses at the foot of a very steep slope in Purok 4 8°58'58.3" N 125°43'21.7" E		
SIB-KLM-21 Houses at the foot of a very steep slope in Purok 4 8°58'59.9" N 125°43'19.2" E		
SIB-KLM-22 Houses at the foot of a very steep slope in Purok 4 8°58'56.8" N 125°43'2.4" E		
SIB-KLM-23 Unstable road cut in Purok 5 8°58'52.5" N 125°42'56.3" E		
SIB-KLM-24 Houses along the hanger/cliff in Purok 5 8°58'49.9" N 125°42'54.3" E		
SIB-KLM-25 Houses along the hanger/cliff in Purok 5 8°58'49.1" N 125°42'48" E		
SIB-KLM-26 Kolambugan Elementary School 8°59'27.8" N 125°43'44.2" E		
Barangay Magkalape		
SIB-MGK-01 Purok 1 8°54'33.08" N 125°42'13.07" E		No reported case of flooding.
SIB-MGK-02 Purok 1 8°54'33.12" N 125°42'14.8" E		
SIB-MGK-03 Purok 1 8°54'34.92" N 125°42'17.35" E		

SIB-MGK-04 Purok 1 8°54'34.74" N 125°42'14.87" E		No reported case of flooding.
SIB-MGK-05 Purok 1 8°54'33.62" N 125°42'11.23" E		
SIB-MGK-06 Purok 1 8°54'33.62" N 125°42'9.58" E		
SIB-MGK-07 Purok 1 8°54'33.01" N 125°42'10.3" E		
SIB-MGK-08 Purok 1 8°54'27.86" N 125°42'36.22" E		
SIB-MGK-09 Purok 1 8°54'29.59" N 125°42'30.49" E		
SIB-MGK-10 Purok 1 8°54'31.18" N 125°42'24.91" E		
SIB-MGK-11 Purok 1 8°54'35.39" N 125°42'22.14" E		
SIB-MGK-12 Purok 1 8°54'33.41" N 125°42'6.41" E		
SIB-MGK-13 Purok 1 8°54'34.31" N 125°42'2.45" E		
SIB-MGK-14 Purok 1 8°54'33.62" N 125°41'57.19" E		
SIB-MGK-15 Purok 2 8°54'1.28" N 125°42'42.95" E		
SIB-MGK-16 Purok 2 8°54'4.75" N 125°42'41.33" E		
SIB-MGK-17 Purok 2 8°54'10.58" N 125°42'42.3" E		

SIB-MGK-18 Purok 2 8°54'15.34" N 125°42'42.59" E		No reported case of flooding.
SIB-MGK-19 Purok 2 8°54'20.16" N 125°42'41.58" E		
SIB-MGK-20 Purok 2 8°54'24.44" N 125°42'39.31" E		
SIB-MGK-21 Purok 3 8°54'21.1" N 125°41'56.51" E		
SIB-MGK-22 Purok 3 8°54'20.38" N 125°41'58.56" E		
SIB-MGK-23 Purok 3 8°54'32.58" N 125°41'52.19" E		
SIB-MGK-24 Purok 3 8°54'28.91" N 125°41'49.6" E		
SIB-MGK-25 Purok 3 8°54'24.05" N 125°41'47.04" E		
SIB-MGK-26 Purok 3 8°54'22.97" N 125°41'52.66" E		
Barangay Magsaysay		
SIB-MGS-354 Wawa River 8°54'13.97" N 125°43'54.44" E	Very High	Hanging bridge. Steep river banks. Recommendations: Observe for rapid increase/decrease in creek/river water levels, possibly accompanied by increased turbidity (soil content). Avoid crossing the river during inclement weather condition and occasions of heavy and prolonged rainfall as flash flood may occur. Observe proper easement along bodies of water. Avoid construction of important infrastructures within the identified flood prone areas and along/near river banks.
SIB-MGS-361 Wawa River in Purok 1 8°54'0.54" N 125°44'14.86" E	Very High	Right bank of Wawa River.
SIB-MGS-362 Wawa River in Purok 1 8°54'1.22" N 125°44'16.26" E	Very High	Recommendations: Observe for rapid increase/decrease in creek/river water levels, possibly accompanied by increased turbidity (soil content). Avoid crossing the river during inclement weather condition and occasions of heavy and prolonged rainfall as flash flood may occur. Observe proper easement along bodies of water. Avoid construction of important infrastructures within the identified flood prone areas and along/near river banks.
SIB-MGS-363 Wawa River in Purok 1 8°53'58.88" N 125°44'16.48" E	Very High	
SIB-MGS-364	High	Right bank of Wawa River.

Residential area in Purok 3 8°53'54.89" N 125°44'10.68" E		Recommendations: Observe for rapid increase/decrease in creek/river water levels, possibly accompanied by increased turbidity (soil content). Avoid crossing the river during inclement weather condition and occasions of heavy and prolonged rainfall as flash flood may occur. Observe proper easement along bodies of water. Avoid construction of important infrastructures within the identified flood prone areas and along/near river banks.
SIB-MGS-359 Basin, Residential area in Purok 3 8°54'0.32" N 125°44'10.75" E	Moderate	Low lying area usually ponded during heavy and prolonged rainfall. Recommendations: Avoid construction of important infrastructures within the identified flood prone area. Water level may rise significantly and dangerous to children.
SIB-MGS-1792 Brgy. Road 8°54'33.4" N 125°44'1" E		No reported case of flooding.
SIB-MGS-1793 Brgy. Road 8°54'39.1" N 125°44'9.7" E		
SIB-MGS-1839 Brgy. Road 8°54'40.2" N 125°44'33.8" E		
SIB-MGS-1840 Brgy. Road 8°54'42.6" N 125°44'24.5" E		
SIB-MGS-1843 Brgy. Road 8°54'39.1" N 125°44'13" E		
SIB-MGS-1844 Brgy. Road 8°54'39.1" N 125°44'9.5" E		
SIB-MGS-1845 Brgy. Road 8°54'31.2" N 125°43'57.5" E		
SIB-MGS-1846 Brgy. Road 8°54'27.8" N 125°43'54.1" E		
SIB-MGS-1847 Brgy. Road 8°54'23.3" N 125°43'50.2" E		
SIB-MGS-1848 Brgy. Road 8°54'17" N 125°43'52.3" E		
SIB-MGS-1849 Hanging bridge approach 8°54'14.8" N 125°43'54" E		

SIB-MGS-1850 Brgy. Road 8°54'10.8" N 125°44'1" E		No reported case of flooding.
SIB-MGS-1851 Brgy. Road 8°54'5.8" N 125°43'58.2" E		
SIB-MGS-353 Brgy. Road 8°54'20.23" N 125°43'49.19" E		
SIB-MGS-355 Hanging bridge approach 8°54'11.66" N 125°43'55.78" E		
SIB-MGS-356 Brgy. Road (old logging road) in Purok 2 8°54'7.92" N 125°44'7.01" E		
SIB-MGS-357 Magsaysay Elementary School 8°54'4.36" N 125°44'8.05" E		
SIB-MGS-358 Brgy. Hall, Residential area in Purok 3 8°54'0.11" N 125°44'11.4" E		
SIB-MGS-360 Residential area in Purok 1 8°54'1.22" N 125°44'13.2" E		
SIB-MGS-365 Residential area in Purok 3 8°53'57.37" N 125°44'11.04" E		
SIB-MGS-366 Brgy. Road 8°54'3.56" N 125°43'53.65" E		
SIB-MGS-367 Brgy. Road 8°54'3.67" N 125°43'51.1" E		
SIB-MGS-368 Brgy. Road 8°54'25.96" N 125°41'47.58" E		
SIB-MGS-369 Brgy. Road 8°54'15.19" N 125°40'57.4" E		

Barangay Mahayahay

<p>SIB-MHY802 Sibagat River 8°50'38.5" N 125°41'7.8" E</p>	<p>Low</p>	<p>No reported case of flooding. Flooding is only restricted along the Sibagat River channel. Recommendation: Observe for rapid increase/decrease in river/creek water level, possibly accompanied by increased turbidity (soil/rock content).</p>
<p>SIB-MHY791 Creek in Purok 15 8°50'36.7" N 125°41'3.6" E</p>		<p>No reported case of flooding.</p>
<p>SIB-MHY792 Barangay boundary between Poblacion and Mahayahay 8°50'8.4" N 125°41'26.2" E</p>		
<p>SIB-MHY793 Maharlika Highway 8°50'18.7" N 125°41'19.1" E</p>		
<p>SIB-MHY794 Purok 8 waiting shed 8°50'22.5" N 125°41'16.2" E</p>		
<p>SIB-MHY795 Maharlika Highway 8°50'24" N 125°41'15.3" E</p>		
<p>SIB-MHY796 Purok 2 waiting shed 8°50'37.1" N 125°41'4.7" E</p>		
<p>SIB-MHY797 Residential area in Purok 3 8°50'39.2" N 125°41'9.5" E</p>		
<p>SIB-MHY798 Purok 9 waiting shed 8°50'44.1" N 125°41'20" E</p>		
<p>SIB-MHY799 Purok 4 waiting shed 8°50'42.2" N 125°41'14.6" E</p>		
<p>SIB-MHY800 Purok 3 waiting shed 8°50'37.8" N 125°41'10.3" E</p>		
<p>SIB-MHY801 Purok 5 waiting shed 8°50'42.7" N 125°41'5.3" E</p>		
<p>SIB-MHY803 Boundary between Del Rio and Mahayahay 8°51'0.9" N 125°40'40.5" E</p>		

SIB-MHY804 Purok 7 waiting shed 8°50'52.4" N 125°40'38.9" E		No reported case of flooding.
SIB-MHY805 Along Maharlika Highway 8°50'51.4" N 125°40'44.5" E		
SIB-MHY806 Purok 6 waiting shed 8°50'47.9" N 125°40'48.5" E		
SIB-MHY807 Purok 6, Barangay Mahayahay 8°50'35.5" N 125°40'29.4" E		
SIB-MHY808 Purok 6, Barangay Mahayahay 8°50'34.9" N 125°40'25.6" E		
SIB-MHY809 Purok 6, Barangay Mahayahay 8°50'31.3" N 125°40'37.7" E		
SIB-MHY810 Purok 6, Barangay Mahayahay 8°50'31.5" N 125°40'38.5" E		
SIB-MHY811 Purok 6, Barangay Mahayahay 8°50'43.8" N 125°40'42.6" E		
SIB-MHY812 Purok 11 waiting shed 8°50'37.8" N 125°41'1.2" E		
SIB-MHY813 Purok 10, Barangay Mahayahay 8°50'37.1" N 125°40'57.8" E		
SIB-MHY814 Mahayahay Elementary School 8°50'33" N 125°41'2.4" E		
SIB-MHY815 Purok 10 waiting shed 8°50'31.2" N 125°41'3.5" E		

SIB-MHY816 Purok 1 waiting shed 8°50'33.2" N 125°41'8.8" E		No reported case of flooding.
Barangay New Tubigon		
SIB-NEW-1921 Bridge boundary of Barangay New Tubigon and Barangay San Juan 8°52'30.3" N 125°49'39.9" E	Very High	Located at the junction of 3 headwater tributaries of Andanan River, this area has experienced flash flood depths reaching 4.00m along river channel. Recommendations: Future habitation and construction of government/private structures in known/identified flood-prone areas are discouraged. Advise for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of bridge and river dikes may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.
SIB-NEW-1866 Settlement near/at ridgeline in Purok 1 8°53'10.1" N 125°49'37.7" E		Located on an elevated terrain. No reported case of flooding.
SIB-NEW-1867 Settlement near/at ridgeline in Purok 1 8°53'9.7" N 125°49'37.9" E		
SIB-NEW-1868 Settlement near/at ridgeline in Purok 1 8°53'8.7" N 125°49'38" E		
SIB-NEW-1870 Settlement near/at ridgeline in Purok 2 8°53'19.6" N 125°49'36.4" E		
SIB-NEW-1871 Settlement near/at ridgeline in Purok 2 8°53'20.3" N 125°49'35.4" E		
SIB-NEW-1872 Settlement near/at ridgeline in Purok 2 8°53'25.2" N 125°49'34" E		
SIB-NEW-1873 Settlement near/at ridgeline in Purok 2 8°53'25.2" N 125°49'33.9" E		
SIB-NEW-1877 Trail/dirt road in Purok 3 going to Purok 7 8°53'47.1" N 125°49'19.2" E		

SIB-NEW-1879 Trail/dirt road in Purok 3 going to Purok 7 8°53'57.9" N 125°49'15.9" E		Located on an elevated terrain. No reported case of flooding.
SIB-NEW-1881 Trail/dirt road in Purok 3 going to Purok 7 8°54'1.9" N 125°49'13.4" E		
SIB-NEW-1883 Trail/dirt road in Purok 3 going to Purok 7 8°54'17.7" N 125°49'1.5" E		
SIB-NEW-1886 Trail/dirt road in Purok 4 going to Purok 7 8°54'28.5" N 125°48'48" E		
SIB-NEW-1888 Purok 4 8°54'42.2" N 125°48'42.5" E		
SIB-NEW-1890 Trail/dirt road in Purok 4 going to Purok 7 8°54'47.9" N 125°48'29.8" E		
SIB-NEW-1893 Purok 7 settlement near mountain peak 8°54'43.2" N 125°48'20.1" E		
SIB-NEW-1895 Purok 7 settlement near mountain peak 8°54'46.8" N 125°48'11.1" E		
SIB-NEW-1897 Purok 7 settlement near mountain peak 8°54'44.2" N 125°47'58.2" E		
SIB-NEW-1899 Purok 7 settlement near mountain peak 8°54'40.5" N 125°47'54" E		
SIB-NEW-1901 Purok 7 settlement near mountain peak 8°54'29.2" N 125°47'42" E		
Barangay Padiay		
SIB-PDY-01 Padiay Elementary School 8°58'14.7" N 125°44'23.6" E		No reported case of flooding.

SIB-PDY-02 Agricultural area in Purok 1 8°58'7.3" N 125°44'19" E		No reported case of flooding.
SIB-PDY-03 Agricultural area in Purok 1 8°58'8.8" N 125°44'21.4" E		
SIB-PDY-04 Agricultural area in Purok 2 8°58'25.5" N 125°44'24.2" E		
SIB-PDY-05 Agricultural area in Purok 2 8°58'31.3" N 125°44'30.2" E		
SIB-PDY-06 Agricultural area in Purok 9 8°59'0.5" N 125°45'12.1" E		
SIB-PDY-07 Agricultural area in Purok 9 8°59'2.9" N 125°45'37.7" E		
SIB-PDY-08 Houses along steep slopes in Purok 7 8°59'11.1" N 125°45'47.9" E		
SIB-PDY-09 Houses along steep slopes in Purok 7 8°59'16.1" N 125°45'51" E		
SIB-PDY-10 Houses along steep slopes in Purok 7 8°59'22.4" N 125°46'1.1" E		
SIB-PDY-11 Agricultural area in Purok 10 8°59'25.1" N 125°46'36.8" E		
SIB-PDY-12 Balunbon Elementary School 8°59'25.1" N 125°46'43.5" E		
SIB-PDY-13 Agricultural area in Purok 5 8°58'11.3" N 125°44'36.9" E		

SIB-PDY-14 Agricultural area in Purok 5 8°58'11" N 125°44'39.3" E		No reported case of flooding.
SIB-PDY-15 Residential area in Purok 3 8°58'30.6" N 125°45'7.7" E		
SIB-PDY-16 Residential area in Purok 3 8°58'29.1" N 125°45'2.1" E		
SIB-PDY-17 Residential area in Purok 3 8°58'34.3" N 125°45'47.7" E		
SIB-PDY-18 Residential area in Purok 6 8°58'42.1" N 125°46'17.6" E		
SIB-PDY-19 Residential area in Purok 6 8°58'42.4" N 125°46'18.9" E		
SIB-PDY-20 Agricultural area in Purok 4 8°57'59.9" N 125°45'19.3" E		
SIB-PDY-21 Agricultural area in Purok 4 8°57'40.4" N 125°45'27.8" E		
SIB-PDY-22 Agricultural area in Purok 4 8°57'31.2" N 125°45'27.9" E		
SIB-PDY-23 Agricultural area in Purok 4 8°57'8.9" N 125°45'45.3" E		
SIB-PDY-24 Falcata Plantation in Purok 8 8°57'31.3" N 125°46'33.2" E		
SIB-PDY-25 Falcata Plantation in Purok 8 8°57'35.5" N 125°46'36.3" E		

SIB-PDY-26 Falcata Plantation in Purok 8 8°57'54.9" N 125°45'9.4" E		No reported case of flooding.
Barangay Perez		
SIB-PRZ-1795 Dirt road in Purok 4 going to Barangay Padiay 8°57'40.3" N 125°44'38.6" E	High	Located near the riverbank of Pariay River, this area is highly susceptible to flash floods during heavy and prolonged rainfall. A concrete bridge was constructed at this location characterized by series of RCP culverts and overlain by boulders and cement. Construction of the bridge caused the river channel to become shallower due to accumulation of debris that clogged the RCP culverts. This effect together with heavy and prolonged rainfall causes regular flooding in the area. Recommendations: Future habitation and construction of government/private structures in known/identified flood-prone areas are discouraged. Monitor for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of bridge and river dikes may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.
SIB-PRZ-1796 Dirt road in Purok 4 going to Barangay Padiay 8°57'40.3" N 125°44'38.7" E	High	
SIB-PRZ-1797 Dirt road in Purok 4 going to Barangay Padiay 8°57'40.4" N 125°44'37.9" E	High	
SIB-PRZ-1798 Dirt road in Purok 2 going to Barangay Padiay 8°57'0.2" N 125°43'44.5" E		Located on an elevated terrain. No flooding component mapped.
SIB-PRZ-1799 Perez Daycare Center 8°56'59.9" N 125°43'40.3" E		Located on an elevated terrain. No reported case of flooding.
SIB-PRZ-1800 Dirt road in Purok 2 going to Barangay Padiay 8°57'0.3" N 125°43'40.4" E		
SIB-PRZ-1801 Perez Elementary school 8°56'51.7" N 125°43'27.4" E		
SIB-PRZ-1805 Dirt road in Purok 3 going to Barangay Padiay 8°56'40" N 125°43'47.7" E		
SIB-PRZ-1806 Dirt road in Purok 3 going to Barangay Padiay 8°56'31.6" N 125°43'46.7" E		

SIB-PRZ-1808 Dirt road going to Barangay Padiay 8°56'26" N 125°44'3.7" E		Located on an elevated terrain. No reported case of flooding.
SIB-PRZ-1809 Dirt road going to Barangay Padiay 8°56'21.1" N 125°44'3" E		
SIB-PRZ-1810 Dirt road going to Barangay Padiay 8°56'16.8" N 125°44'5.2" E		
SIB-PRZ-1812 Dirt road in Purok 3 going to Barangay Padiay 8°56'28.7" N 125°44'13.7" E		
SIB-PRZ-1815 Dirt road in Purok 6 going to Barangay Padiay 8°56'21.9" N 125°44'26.3" E		
SIB-PRZ-1816 Dirt road in Purok 6 going to Barangay Padiay 8°56'22.2" N 125°44'31.1" E		
SIB-PRZ-1817 Waiting Shed in Purok 6 8°56'20.7" N 125°44'32.6" E		
SIB-PRZ-1819 Dirt road in Purok 6 going to Barangay Padiay 8°56'12.6" N 125°44'40.6" E		
SIB-PRZ-1821 Dirt road in Purok 7 going to Barangay Padiay 8°56'3" N 125°44'41.2" E		
SIB-PRZ-1822 Dirt road in Purok 7 going to Barangay Padiay 8°55'57.1" N 125°44'46.7" E		
SIB-PRZ-1824 Dirt road in Purok 7 going to Barangay Padiay 8°55'53.2" N		

125°44'50.6" E		
Barangay Poblacion		
SIB-POB-774 Junction between Sibagat and Wawa River 8°49'47.2" N 125°41'47.9" E	Very High	Junction of the two river systems, to the west is the Sibagat River and to the east is the Wawa River. Recommendations: Installation of river wall along the riverbanks of Wawa River may be considered subject to a more detailed engineering geological study as to its applicability. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains. Discourage future habitation in flood prone areas.
SIB-POB-760 Wawa River, Purok 14 8°49'51.3" N 125°41'50.8" E	Very High	Worst flood recorded happened during typhoon Pablo and Agaton. Flood heights of about 3-4 meters experienced in areas 15m away from the riverbank. Recommendations: Installation of river wall along the riverbanks of Wawa River may be considered subject to a more detailed engineering geological study as to its applicability. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains. Discourage future habitation in flood prone areas.
SIB-POB-744 Creek in Purok 15 8°50'17.6" N 125°42'27.5" E	High	A creek was observed along the barangay road in Purok 15. Recommendation: Observe for rapid increase/decrease in river/creek water level, possibly accompanied by increased turbidity (soil/rock content).
SIB-POB-761 Residential area in Purok 14 8°49'51.3" N 125°41'50.2" E	High	Flood heights in this area reaches about 1 meter high. Worst flood recorded happened during typhoon Agaton and Pablo. Recommendations: Installation of river wall along the riverbanks of Wawa River may be considered subject to a more detailed engineering geological study as to its applicability. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains. Discourage future habitation in flood prone areas.
SIB-POB-764 Sibagat River in Purok 14 8°49'51.7" N 125°41'44" E	High	Flooding along Sibagat River is only restricted in the river channel. Worst flood recorded happened during typhoon Agaton and Pablo. Recommendations: Installation of river wall along the riverbanks of Sibagat River may be considered subject to a more detailed engineering geological study as to its applicability. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains. Discourage future habitation in flood prone areas.
SIB-POB-772 Residential area in Purok 4 8°49'17.8" N 125°41'43.4" E	High	The area is bounded by Hupas creek to the west and Wawa River to the east. River overflow of the two puts the area at high risk of flooding. Recommendations: Installation of river wall along the riverbanks of Wawa River may be considered subject to a more detailed engineering geological study as to its applicability. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains. Discourage future habitation in flood prone areas
SIB-POB-775 Near the Junction of Sibagat and Wawa River 8°49'47.2" N 125°41'47.1" E	High	The observation point was taken near the junction of Sibagat River to the west and Wawa River to the east. Worst flood recorded happened during typhoon Agaton and Pablo. Recommendations: Installation of river wall along the riverbanks of

		Wawa River may be considered subject to a more detailed engineering geological study as to its applicability. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains. Discourage future habitation in flood prone areas.
SIB-POB-765 Near Sibagat River in Purok 14 8°49'52.1" N 125°41'44.2" E	Moderate	<p>Flooding along Sibagat River is only restricted in the river channel. Worst flood recorded happened during typhoon Agaton and Pablo.</p> <p>Recommendations: Installation of river wall along the riverbanks of Sibagat River may be considered subject to a more detailed engineering geological study as to its applicability. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains. Discourage future habitation in flood prone areas.</p>
SIB-POB-746 Along the barangay road in Purok 15 8°50'17.2" N 125°42'27.2" E	Moderate	<p>Sheet flooding is due to the overflowing in of the nearby creek.</p> <p>Recommendation: Observe for rapid increase/decrease in river/creek water level, possibly accompanied by increased turbidity (soil/rock content).</p>
SIB-POB-773 Residential area in Purok 4 8°49'18" N 125°41'43.3" E	Moderate	<p>The area is bounded by Hupas creek to the west and Wawa River to the east. River overflow of the two puts the area at high risk of flooding.</p> <p>Recommendations: Installation of river wall along the riverbanks of Wawa River may be considered subject to a more detailed engineering geological study as to its applicability. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains. Discourage future habitation in flood prone areas</p>
SIB-POB-776 Near the Junction of Sibagat and Wawa River 8°49'47.2" N 125°41'47" E	Moderate	<p>The observation point was taken near the junction of Sibagat River to the west and Wawa River to the east. Worst flood recorded happened during typhoon Agaton and Pablo.</p> <p>Recommendations: Installation of river wall along the riverbanks of Wawa River may be considered subject to a more detailed engineering geological study as to its applicability. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains. Discourage future habitation in flood prone areas.</p>
SIB-POB-745 Along the barangay road in Purok 15 8°50'17.1" N 125°42'27" E		No reported case of flooding.
SIB-POB-747 Along the barangay road in Purok 15 8°50'14.2" N 125°42'25" E		
SIB-POB-748 Along the barangay road in Purok 15 8°50'13" N 125°42'25" E		
SIB-POB-749 Along the barangay road in Purok 15 8°50'11.2" N 125°42'26.7" E		

SIB-POB-750 Along the barangay road in Purok 15 8°50'5.8" N 125°42'29.7" E		No reported case of flooding.
SIB-POB-751 Along the barangay road in Purok 15 8°50'3.1" N 125°42'30.9" E		
SIB-POB-752 Purok 15 waiting shed 8°49'58.6" N 125°42'32.3" E		
SIB-POB-753 Along the barangay road in Purok 15 8°49'48.2" N 125°42'24.2" E		
SIB-POB-754 Along the barangay road in Purok 15 8°49'53.1" N 125°42'16" E		
SIB-POB-755 Along the barangay road in Purok 15 °49'53.1" N 125°42'10" E		
SIB-POB-756 Along the barangay road in Purok 15 8°49'58" N 125°42'3.4" E		
SIB-POB-757 Along the barangay road in Purok 14 8°49'59" N 125°41'58.4" E		
SIB-POB-758 Along the barangay road in Purok 14 8°49'58.3" N 125°41'52.2" E		
SIB-POB-759 Purok 14 waiting shed 8°49'55.3" N 125°41'48.7" E		
SIB-POB-762 Residential area in Purok 14 8°49'51.5" N 125°41'50.2" E		
SIB-POB-763 Residential area in Purok 14 8°49'51.5" N 125°41'45.1" E		

SIB-POB-766 Residential area in Purok 14 8°49'49.9" N 125°41'39.4" E		No reported case of flooding.
SIB-POB-767 Boundary between Purok 13 and 7 8°49'47.2" N 125°41'33" E		
SIB-POB-768 Residential area near Sibagat river, Purok 7 8°49'24.1" N 125°41'42.6" E		
SIB-POB-769 Residential area near Sibagat river, Purok 7 8°49'24.6" N 125°41'42.8" E		
SIB-POB-770 Barangay Poblacion, Barangay Hall 8°49'21.5" N 125°41'40.3" E		
SIB-POB-771 Purok 4 waiting shed 8°49'19.4" N 125°41'41.1" E		
SIB-POB-777 Purok 13 waiting shed 8°49'42.7" N 125°41'42.3" E		
SIB-POB-778 Purok 12 waiting shed 8°49'40.8" N 125°41'31.4" E		
SIB-POB-779 FSUU High School 8°49'44.6" N 125°41'29.4" E		
SIB-POB-780 Purok 12-A waiting shed 8°49'46.8" N 125°41'29.5" E		
SIB-POB-781 Sibagat National High School of Home Industries 8°49'33.6" N 125°41'20.9" E		
SIB-POB-782 Proposed Municipal Evacuation Center 8°49'33.6" N 125°41'37.6" E		

SIB-POB-783 Sibagat Central Elementary School 8°49'33.1" N 125°41'37.1" E		No reported case of flooding.
SIB-POB-784 Purok 9 waiting shed 8°49'28.8" N 125°41'32.9" E		
SIB-POB-785 Purok 8 waiting shed 8°49'30.1" N 125°41'32.1" E		
SIB-POB-786 Purok 5 waiting shed 8°49'23.8" N 125°41'33.5" E		
SIB-POB-787 Purok 6 waiting shed 8°49'20.9" N 125°41'39.4" E		
SIB-POB-788 Purok 3 waiting shed 8°49'15.5" N 125°41'37.8" E		
SIB-POB-789 Purok 2 waiting shed 8°49'18" N 125°41'25.4" E		
SIB-POB-790 Purok 1 waiting shed 8°49'3" N 125°41'36" E		
Barangay San Isidro		
SIB-SNI-01 Residential area in Purok 1 8°53'15.25" N 125°43'38.68" E		No reported case of flooding.
SIB-SNI-02 Open area in Purok 1 8°53'13.45" N 125°43'35.22" E		
SIB-SNI-03 Residential area in Purok 1 8°53'11.76" N 125°43'32.92" E		
SIB-SNI-04 Residential area in Purok 2 8°53'11.58" N 125°43'43" E		
SIB-SNI-05 Residential area in Purok 2 8°53'13.81" N 125°43'44.69" E		

SIB-SNI-06 Landslide near Sibagat river in Purok 2 8°53'14.06" N 125°43'57.32" E		No reported case of flooding.
SIB-SNI-07 Residential area in Purok 2 8°53'12.41" N 125°43'48.29" E		
SIB-SNI-08 Residential area in Purok 3 8°53'17.34" N 125°43'51.82" E		
SIB-SNI-09 Day Care Center 8°53'15.9" N 125°43'46.74" E		
SIB-SNI-10 San Isidro I Elementary School 8°53'15.14" N 125°43'55.7" E		
SIB-SNI-11 Purok 4 8°53'19.1" N 125°43'57.5" E		
SIB-SNI-12 Residential area in Purok 5-A 8°53'6.43" N 125°43'47.78" E		
SIB-SNI-13 Purok 5-B 8°53'13.81" N 125°43'22.51" E		
SIB-SNI-14 Purok 5-B 8°53'9.17" N 125°43'21.94" E		
SIB-SNI-15 Residential area in Purok 5-B 8°53'16.98" N 125°43'23.16" E		
SIB-SNI-16 Purok 6 8°53'3.52" N 125°43'18.34" E		
SIB-SNI-17 Purok 6 8°53'2.15" N 125°43'14.7" E		
SIB-SNI-18 Purok 6 8°53'0.53" N 125°43'12.22" E		

SIB-SNI-19 Purok 6 8°52'55.09" N 125°43'7.46" E		No reported case of flooding.
SIB-SNI-20 Purok 6 8°52'51.06" N 125°43'2.78" E		
SIB-SNI-21 Purok 6 8°52'46.45" N 125°42'59.9" E		
SIB-SNI-22 Residential area in Purok 6 8°53'5.75" N 125°43'21.22" E		
Barangay San Vicente		
SIB-VIN-1369 Settlement and structures on Wawa River flood plain in Purok 5 8°48'18.8" N 125°42'22.3" E	Very High	<p>Located on a flood plain on the west flank of Wawa River, this area has experienced flash flood depths reaching 6.00m. Active scouring of river banks indicate migration of river channel which may later affect nearby structures such as government buildings and houses.</p> <p>Recommendations: Future habitation and construction of government/private structures in known/identified flood-prone areas are discouraged. Advise for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of river dikes may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.</p>
SIB-VIN-1370 Settlement and structures on Wawa River flood plain in Purok 5 8°48'18.2" N 125°42'21.6" E		
SIB-VIN-1364 Maharlika Highway on Wawa River flood plain in Purok 4 8°48'27.4" N 125°42'8.6" E	High	<p>Located on a flood plain on the west flank of Wawa River, this area is highly susceptible to flash flood during heavy and prolonged rains. Active scouring of river banks indicate migration of river channel which may later affect nearby structures such as government buildings and houses.</p> <p>Recommendations: Future habitation and construction of government/private structures in known/identified flood-prone areas are discouraged. Advise for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of river dikes may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.</p>
SIB-VIN-1366 Settlement and structures on Wawa River flood plain in Purok 5 8°48'24.7" N 125°42'16.5" E	High	
SIB-VIN-1367 Settlement and structures on Wawa River flood plain in Purok 5 8°48'24" N 125°42'18.7" E	High	
SIB-VIN-1372 Maharlika Highway on Wawa River flood plain in Purok 4 8°48'28.1" N 125°42'7" E	High	

SIB-VIN-1392 Settlement and structures on Wawa River flood plain in Purok 3 8°48'43.1" N 125°42'3.4" E	High	Located at the slopes of a gully. No reported case of flooding.
SIB-VIN-1393 Settlement and structures on Wawa River flood plain in Purok 3 8°48'44.4" N 125°42'3.9" E	High	
SIB-VIN-1362 Settlement along dirt road going to Purok 3 8°48'32" N 125°41'59.1" E		
SIB-VIN-1373 Waiting Shed in Purok 4 8°48'29.3" N 125°42'2.4" E		
SIB-VIN-1376 Settlement along dirt road going to Barangay Ilihan in Purok 7 8°48'19.7" N 125°41'57.6" E		
SIB-VIN-1377 Settlement along dirt road going to Barangay Ilihan in Purok 7 8°48'15.8" N 125°41'57.6" E		
SIB-VIN-1378 Settlement along dirt road going to Barangay Ilihan in Purok 7 8°48'9.7" N 125°41'54.5" E		
SIB-VIN-1383 Settlement along Maharlika Highway in Purok 2 8°48'33.2" N 125°41'51.7" E		
SIB-VIN-1384 Settlement along dirt road going to Barangay Kauswagan in Purok 2 8°48'33.8" N 125°41'47.3" E		
SIB-VIN-1385 Settlement along dirt road going to Barangay Kauswagan in Purok 2 8°48'33.7" N 125°41'40.9" E		

SIB-VIN-1390 Settlement along dirt road going to Purok 3 in Purok 3 8°48'37.9" N 125°42'1" E		Located at the slopes of a gully. No reported case of flooding.
SIB-VIN-1391 Settlement along dirt road going to Purok 3 in Purok 3 8°48'41" N 125°42'1.9" E		
SIB-VIN-1395 San Vicente Multi-Purpose Hall 8°48'35.5" N 125°41'59.9" E		
SIB-VIN-1396 San Vicente Health Center 8°48'36.2" N 125°41'59.8" E		
Barangay Santa Cruz		
SIB-STC-353 Residential area, Wawa river bank in Purok 4 8°54'59.7" N 125°43'21.26" E	Moderate	Residential area located along/near the flood plain. Recommendations: Observe for rapid increase/decrease in creek/river water levels, possibly accompanied by increased turbidity (soil content). Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rainfall. Observe proper easement along bodies of water. Avoid construction of important infrastructures within the identified flood prone areas. Relocate houses to safer ground away from the identified flood prone areas.
SIB-STC-1794 Brgy. Road 8°54'46.2" N 125°44'17.9" E		No reported case of flooding.
SIB-STC-1841 Brgy. Road 8°54'46.3" N 125°44'17.8" E		
SIB-STC-1842 Brgy. Road 8°54'43.3" N 125°44'15.1" E		
SIB-STC-344 Day Care Center, residential area 8°54'46.48" N 125°43'21.04" E		
SIB-STC-345 Sta. Cruz Brgy. Hall 8°54'47.59" N 125°43'19.78" E		
SIB-STC-346 Sta. Cruz Elementary School 8°54'45.86" N 125°43'23.38" E		

SIB-STC-347 Back of Sta. Cruz Elementary School 8°54'44.53" N 125°43'24.24" E		No reported case of flooding.
SIB-STC-348 Residential area in Purok 1 8°54'49.61" N 125°43'25.9" E		
SIB-STC-349 CBFM nursery 8°54'55.22" N 125°43'26.87" E		
SIB-STC-350 River bank in Purok 1 8°54'56.74" N 125°43'26.29" E		
SIB-STC-351 Residential area in Purok 1 8°54'48.67" N 125°43'22.08" E		
SIB-STC-352 Open field in Purok 1 8°54'46.98" N 125°43'34.03" E		
Barangay Santa Maria		
SIB-STM-01 Purok 1 8°53'52.62" N 125°41'6.54" E		No reported case of flooding.
SIB-STM-02 Purok 1 8°53'57.95" N 125°41'5.57" E		
SIB-STM-03 Purok 1 8°54'1.8" N 125°41'5.46" E		
SIB-STM-04 Barangay Hall 8°53'46.28" N 125°41'5.89" E		
SIB-STM-05 Sta. Maria Elementary School 8°53'47.8" N 125°41'6.97" E		
SIB-STM-06 Residential area in Purok 2 8°54'13.18" N 125°40'43.46" E		
SIB-STM-07 Purok 2 8°54'10.3" N 125°40'46.38" E		

SIB-STM-08 Purok 2 8°54'10.91" N 125°40'50.38" E		No reported case of flooding.
SIB-STM-09 Purok 2 8°54'13.1" N 125°40'52.39" E		
SIB-STM-10 Residential area in Purok 2 8°54'12.28" N 125°40'55.81" E		
SIB-STM-11 Residential area in Purok 2 8°54'15.34" N 125°40'57.43" E		
SIB-STM-12 Purok 2 8°54'13.75" N 125°40'59.63" E		
SIB-STM-13 Purok 2 8°54'11.95" N 125°41'3.3" E		
SIB-STM-14 Residential area in Purok 2 8°54'8.32" N 125°41'1.75" E		
SIB-STM-15 Residential area in Purok 2 8°54'4.28" N 125°41'4.63" E		
SIB-STM-16 Residential area in Purok 2 8°54'5.65" N 125°41'2.83" E		
SIB-STM-17 Landslide area in Purok 2 8°54'17.28" N 125°40'58.12" E		
SIB-STM-18 Residential area in Purok 3 8°54'0.18" N 125°41'18.17" E		
SIB-STM-19 Purok 3 8°53'53.88" N 125°41'13.85" E		
SIB-STM-20 Purok 3 8°53'46.61" N 125°41'14.46" E		

SIB-STM-21 Residential area in Purok 3 8°53'42.43" N 125°41'12.98" E		No reported case of flooding.
SIB-STM-22 Landslide area in Purok 3 8°53'41.75" N 125°41'12.34" E		
SIB-STM-23 Purok 4 8°54'18" N 125°41'50.57" E		
SIB-STM-24 Purok 4 8°54'16.92" N 125°41'41.24" E		
SIB-STM-25 Purok 4 8°54'15.98" N 125°41'30.91" E		
SIB-STM-26 Purok 4 8°54'6.73" N 125°41'20.04" E		
Barangay Sinai		
SIB-SIN-370 Brgy. Road 8°46'52.32" N 125°41'20.87" E		No reported case of flooding.
SIB-SIN-371 Brgy. Road 8°46'47.82" N 125°41'14.71" E		
SIB-SIN-372 Brgy. Road 8°46'39.97" N 125°41'1.86" E		
SIB-SIN-373 Brgy. Road 8°46'50.52" N 125°40'53.29" E		
SIB-SIN-374 Brgy. Road 8°47'2.9" N 125°40'51.64" E		
SIB-SIN-375 Brgy. Road 8°47'17.45" N 125°40'44.26" E		
SIB-SIN-376 Brgy. Road in Purok 1 8°47'31.81" N 125°40'31.8" E		

SIB-SIN-377 Residential area, Agricultural area in Purok 1 8°47'29.04" N 125°40'19.16" E		No reported case of flooding.
SIB-SIN-378 Brgy. Road, Agricultural area in Purok 1 8°47'21.91" N 125°40'13.19" E		
SIB-SIN-379 Residential area, Brgy. Road in Purok 3 8°47'13.81" N 125°39'57.06" E		
SIB-SIN-380 Residential area, Brgy. Hall 8°47'14.68" N 125°39'55.84" E		
SIB-SIN-381 Residential area, Brgy. Road in Purok 6 8°47'18.24" N 125°39'55.76" E		
SIB-SIN-382 Fish pond in Purok 6 8°47'25.48" N 125°39'55.01" E		
SIB-SIN-383 Brgy. Road in Purok 8 8°47'33.11" N 125°39'56.77" E		
SIB-SIN-384 Residential area in Purok 5 8°47'2.36" N 125°39'36.83" E		
SIB-SIN-385 Residential area, Sinai Elementary School 8°47'14.17" N 125°39'59.4" E		
SIB-SIN-386 Residential area, fish pond in Purok 2 8°47'20.87" N 125°40'11.1" E		
SIB-SIN-387 Brgy. Road, Agricultural area in Purok 1 8°47'34.08" N 125°40'28.56" E		
SIB-SIN-388 Municipal Dump Site 8°47'18.78" N 125°40'42.78" E		

Barangay Tabon-tabon		
SIB-TAB-1501 Bridge in Purok 3 8°53'39.4" N 125°39'57.4" E	High	<p>Located near the riverbank of Sibagat River, this area has experienced flash flood depths reaching 1.00m.</p> <p>Recommendations: Future habitation and construction of government/private structures in known/identified flood-prone areas are discouraged. Advise for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of bridge and river dikes may be considered subject to a more engineering geological study as to its general applicability in the area of concern.</p>
SIB-TAB-1502 Bridge in Purok 3 8°53'35.6" N 125°39'58.3" E		
SIB-TAB-1492 Dirt road going to Barangay Sta. Maria in Purok 3 8°53'35.5" N 125°39'58.6" E	High	<p>Located on the riverbank of Sibagat River, this area has experienced flash flood depths reaching 2.00m.</p> <p>Recommendations: Future habitation and construction of government/private structures in known/identified flood-prone areas are discouraged. Advise for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of bridge and river dikes may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.</p>
SIB-TAB-1448 Maharlika Highway in Purok 2 8°54'41.7" N 125°38'53.6" E		<p>Located on an elevated terrain. No reported case of flooding.</p>
SIB-TAB-1453 Maharlika Highway in Purok 2 8°54'31.5" N 125°39'1.8" E		
SIB-TAB-1458 Maharlika Highway in Purok 9 8°54'25.3" N 125°39'8" E		
SIB-TAB-1462 Maharlika Highway in Purok 9 8°54'20.6" N 125°39'13.4" E		
SIB-TAB-1468 Maharlika Highway in Purok 9 8°54'15.6" N 125°39'18.1" E		
SIB-TAB-1470 Settlement on the west flank of Maharlika Highway in Purok 9 8°54'14.9" N 125°39'17.7" E		
SIB-TAB-1473 Settlement on the west flank of Maharlika Highway in Purok 9 8°54'14" N 125°39'16.3" E		

SIB-TAB-1474 Barangay Road near Multi-purpose hall in Purok 1 8°54'12.6" N 125°39'21" E		Located on an elevated terrain. No reported case of flooding.
SIB-TAB-1475 Barangay Road near Multi-purpose hall in Purok 1 8°54'12.4" N 125°39'21.2" E		
SIB-TAB-1478 Tabon-tabon Elementary School 8°54'9.8" N 125°39'25.1" E		
SIB-TAB-1479 Tabon-tabon Elementary School 8°54'8.7" N 125°39'25.9" E		
SIB-TAB-1480 Tabon-tabon Elementary School °54'9.1" N 125°39'24.8" E		
SIB-TAB-1486 Purok 5 settlement 8°53'59.1" N 125°39'36.5" E		
SIB-TAB-1497 Dirt road going to Barangay Sta. Maria in Purok 7 8°53'55.6" N 125°40'9.6" E		
SIB-TAB-1498 Dirt road going to Barangay Sta. Maria in Purok 7 8°53'59.4" N 125°40'9.1" E		
SIB-TAB-1514 Maharlika Highway in Purok 4 8°53'21.3" N 125°39'4.8" E		
SIB-TAB-1518 Maharlika Highway in Purok 1 8°54'9.3" N 25°39'20.6" E		
Barangay Tag-uyango		
SIB-TGY-13 Agricultural area with houses near Wawa River in Purok 5 8°49'20.8" N	High	The proximity of this area to Wawa River makes it highly susceptible to flooding. Recommendation: Observe for rapid increase in river/creek water level, possibly accompanied by increased turbidity (soil/rock content)

125°41'46.3" E		and evacuate whenever necessary.
SIB-TGY-14 Agricultural area with houses near Wawa River in Purok 5 8°49'16.4" N 125°41'47" E	High	
SIB-TGY-18 Residential area in Purok 3 8°49'9.5" N 125°42'19.7" E	High	
SIB-TGY-19 Residential area in Purok 3 8°49'6.2" N 125°42'23.1" E	High	
SIB-TGY-20 Residential area in Purok 3 8°49'3.4" N 125°42'25.7" E	High	
SIB-TGY-09 Agricultural area/houses in Purok 6 8°49'22.4" N 125°41'49" E	Moderate	
SIB-TGY-10 Agricultural area/houses in Purok 6 8°49'25.2" N 125°41'48.8" E	Moderate	
SIB-TGY-11 Agricultural area/houses in Purok 6 8°49'29.5" N 125°41'49.2" E	Moderate	
SIB-TGY-12 Agricultural area with houses near Wawa River in Purok 5 8°49'27.1" N 125°41'47.8" E	Moderate	The proximity of this area to Wawa River makes it moderately susceptible to flooding. Recommendation: Observe for rapid increase in river/creek water level, possibly accompanied by increased turbidity (soil/rock content) and evacuate whenever necessary.
SIB-TGY-15 Agricultural area with houses near Wawa River in Purok 5 8°49'7.7" N 125°41'52.4" E	Moderate	
SIB-TGY-16 Residential area in Purok 4 8°48'59.5" N 125°42'1.3" E	Moderate	
SIB-TGY-17 Residential area in Purok 4 8°48'58.5" N 125°42'2.7" E	Moderate	

SIB-TGY-23 Residential area in Purok 1 8°49'13.7" N 125°42'14.9" E	Moderate	The proximity of this area to Wawa River makes it moderately susceptible to flooding.
SIB-TGY-24 Residential area in Purok 1 8°49'14.1" N 125°42'15.7" E	Moderate	Recommendation: Observe for rapid increase in river/creek water level, possibly accompanied by increased turbidity (soil/rock content) and evacuate whenever necessary.
SIB-TGY-01 Agricultural area in Purok 8 8°49'21.8" N 125°42'39.4" E		No reported case of flooding.
SIB-TGY-02 Agricultural area in Purok 8 8°49'23.4" N 125°42'46.2" E		
SIB-TGY-03 Agricultural area in Purok 8 8°49'24.4" N 125°42'49.1" E		
SIB-TGY-04 Agricultural area in Purok 8 8°49'20.9" N 125°42'54" E		
SIB-TGY-05 Agricultural area in Purok 7 8°49'28.7" N 125°43'7.6" E		
SIB-TGY-06 Agricultural area in Purok 7 8°49'30.5" N 125°43'8.1" E		
SIB-TGY-07 Agricultural area in Purok 7 8°49'21.1" N 125°41'58.9" E		
SIB-TGY-08 Agricultural area in Purok 7 8°49'19.8" N 125°41'51.6" E		
SIB-TGY-21 Residential area in Purok 2 8°49'12.7" N 125°42'18.9" E		
SIB-TGY-22 Residential area in Purok 2 8°49'14.9" N 125°42'16.8" E		

Barangay Villangit

<p>SIB-VLT-03 Sibagat river in Purok 2 8°51'34.92" N 125°43'53.04" E</p>	<p>Very High</p>	<p>Water volume of southwest flowing Sibagat river increases during perilous weather conditions. Flood water does not reach the residential areas.</p> <p>Recommendations: Develop an early warning system. Observe for rapid increase/decrease of water levels of river, possibly accompanied with increased turbidity (soil content). Observe for sunken or displaced road surfaces. Avoid habitation near the river.</p>
<p>SIB-VLT-01 Purok 2 8°51'32.8" N 125°43'51.74" E</p>		<p>No reported case of flooding.</p>
<p>SIB-VLT-02 Residential area in Purok 2 8°51'31" N 125°43'49.51" E</p>		
<p>SIB-VLT-04 Residential area/waiting shed in Purok 1 8°51'34.52" N 125°43'48" E</p>		
<p>SIB-VLT-05 Villangit Elementary School 8°51'31.93" N 125°43'46.38" E</p>		
<p>SIB-VLT-06 Residential area in Purok 1 8°51'33.01" N 125°43'44.87" E</p>		
<p>SIB-VLT-07 Purok 1-A 8°51'28.76" N 125°43'36.62" E</p>		
<p>SIB-VLT-08 Purok 1-A 8°51'27.79" N 125°43'43.1" E</p>		
<p>SIB-VLT-09 Open area in Purok 1-A 8°51'32.33" N 125°43'39.43" E</p>		
<p>SIB-VLT-10 Residential area in Purok 1-A 8°51'34.24" N 125°43'37.63" E</p>		
<p>SIB-VLT-11 Barangay Hall 8°51'30.31" N 125°43'33.71" E</p>		
<p>SIB-VLT-12 Residential area/waiting shed in Purok 1-A 8°51'28.98" N 125°43'34.07" E</p>		

SIB-VLT-13 Purok 1-A 8°51'26.89" N 125°43'32.41" E		No reported case of flooding.
SIB-VLT-14 Purok 4 8°51'21.38" N 125°43'31.19" E		
SIB-VLT-15 Purok 4 8°51'16.56" N 125°43'28.24" E		
SIB-VLT-16 Purok 4 8°51'11.92" N 125°43'25.21" E		
SIB-VLT-17 Residential area in Purok 4 8°51'7.96" N 125°43'19.63" E		
SIB-VLT-18 Residential area in Purok 4-A 8°51'2.05" N 125°43'16.5" E		
SIB-VLT-19 Purok 4-A 8°50'56.08" N 125°43'13.55" E		
SIB-VLT-20 Purok 4-A 8°50'46.21" N 125°43'11.78" E		
SIB-VLT-21 Purok 5 8°50'38.69" N 125°43'2.71" E		
SIB-VLT-22 Purok 5 8°50'35.34" N 125°42'57.02" E		
SIB-VLT-23 Purok 5 8°50'37.43" N 125°42'51.3" E		
SIB-VLT-24 Residential area in Purok 5 8°50'26.09" N 125°42'51.41" E		

PHOTOS

Barangay Afqa



Photo showing the escarpment with vertical displacement of 0.5 to 1.5 meters and about 30 meters long found in the proposed relocation site for the residents affected by the road widening. (Geographical Location: 8° 52' 41" N 125° 39' 23.3" E)



Above is a photo of San Isidro Elementary School located on top of 20-meter steep slope. Shallow landslides found at the base of the slope. (Geographical Location: 8° 52' 22.8" N 125° 38' 33.1" E)



Left photo is a landslide along segment of Maharlika Highway with a length of approximately 15 meters. To the right is a photo of a house affected by the landslide. (Geographical Location: 8° 52' 6.3" N 125° 39' 38.1" E)

Barangay Anahawan



Photos. Tilted bedded sedimentary rocks exposed along the road cut in Anahawan Elementary School (a) and minor landslide along the access road to Purok 5 (b).

Barangay Banagbanag



Common land feature on Barangay Banagbanag showing farm lands on undulating to moderately steep terrain.



Banagbanag Elementary School and surrounding settlements.

Barangay Del Rosario



Clockwise: Residential area situated along a rugged terrain; Purok 1B, Purok 3, Purok 5, and access road within a steep terrain along Purok 2

Barangay El Rio



Wawa River along Purok 5.



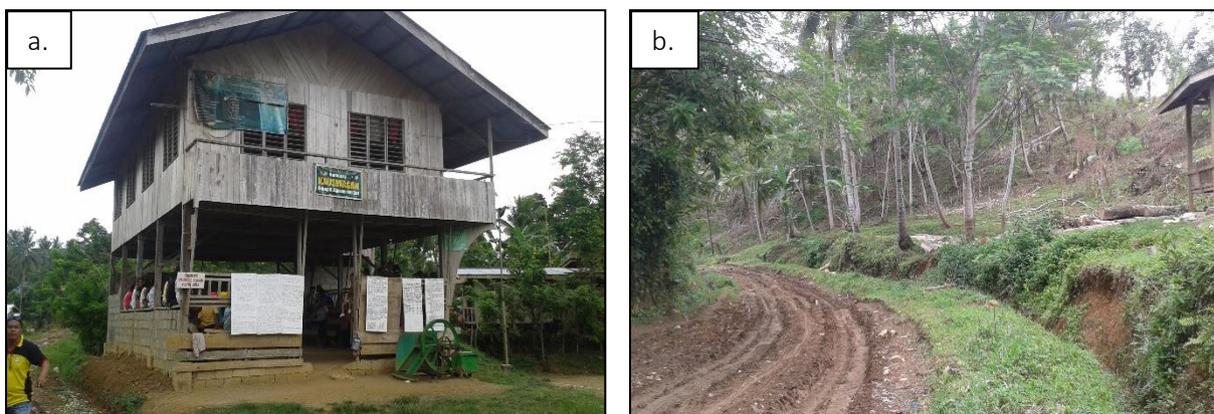
Developing tension cracks located at the upper slopes of Purok 4B.

Barangay Ilihan



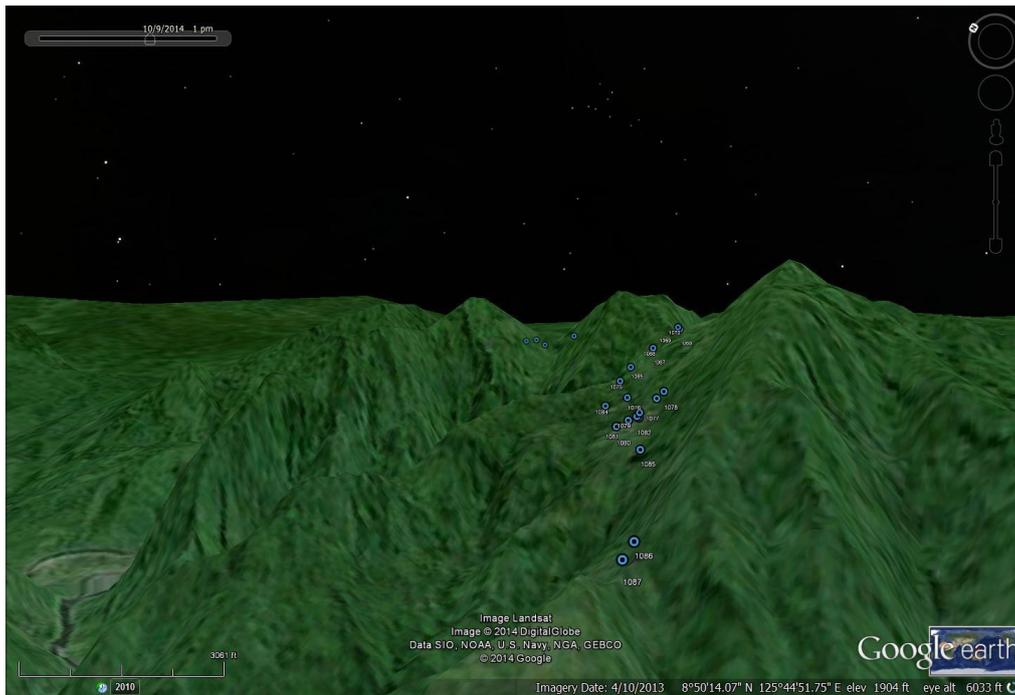
Photos.Active road gravelling and drainage construction in Barangay Ilihan (a) and Sinay Creek in Purok 6. Google generated image showing the old river channel along segment of Wawa River in Purok 4 (c).

Barangay Kauswagan



Photos.Kauswagan Barangay Hall (a). Falcata plantation in Purok 1 (b).

Barangay Kioya

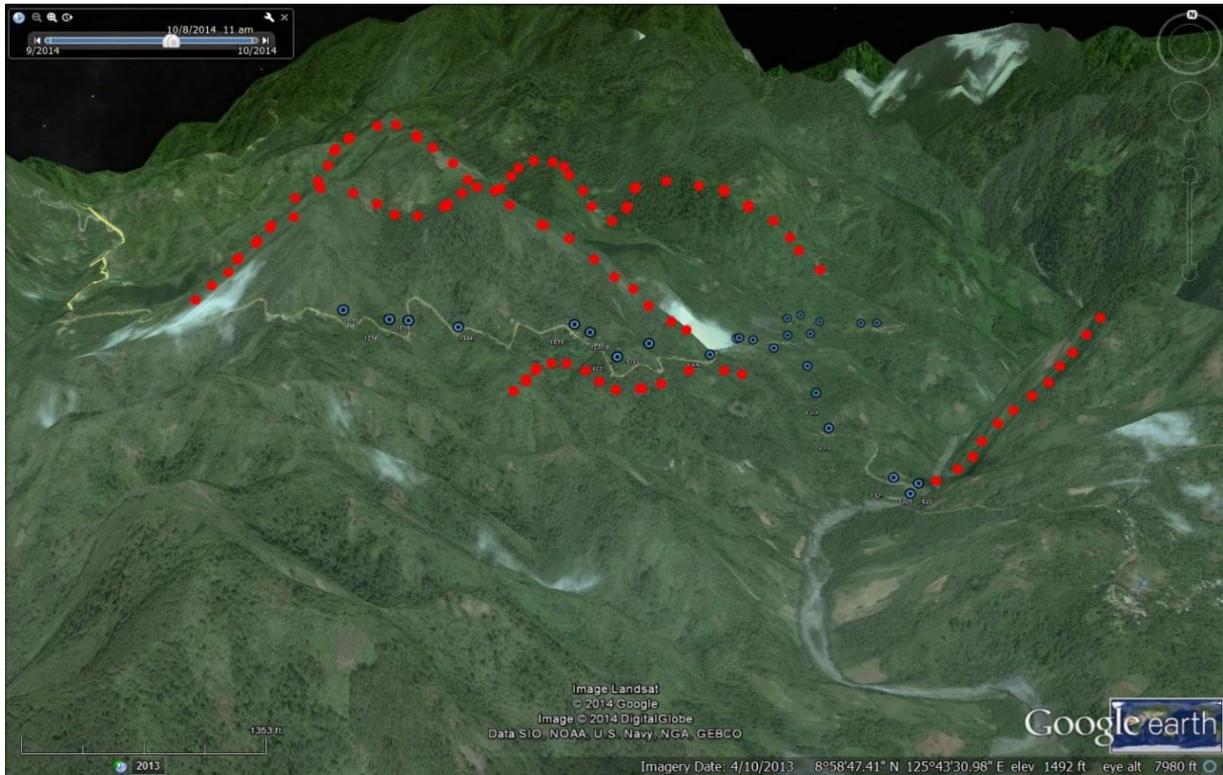


The blue icons indicate the locations taken in Barangay Kioya. The entire barangay is located along a steep to very steep slope, approximately 400-500 meters high. All the residents are advised to relocate immediately. There are no safe spots or a place conducive for habitation in this area.

Barangay Kolambugan



The area is located on a steep to very steep, relatively elevated slope, approximately 500 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Presence of mass movement is observed due to soil creep and subtle disintegration of overlying sedimentary units. (At Purok 4 with GPS location: 8° 58' 59.9" N 125° 43' 19.2" E)



This digital photo describes the over-all geohazards situation of Barangay Kolambugan. The blue icons indicate the GPS locations that were taken around/along the barangay area, while the red dots, those that form semi-circular shape tracing the mountain ridges, represent the areas that are highly to moderately susceptible to landslide.

Barangay Magkalape



Photographs of minor landslide area mapped along the road in Purok 1.



Images of residential area along steep slopes in Purok 1 and Purok 3.

Barangay Magsaysay



Photos. Magsaysay Barangay Hall (a) and segment of Wawa River in Purok 1 showing varied boulder size bed loads (b).

Barangay Mahayahay



These photos shows series of tension cracks about 300-meter long with a vertical displacement of 0.5 to 1 meter found in Purok 6 are possibly associated by regional tectonism. (Geographical Location: 8° 50' 35.5" N 125° 40' 29.4" E)



This photo shows shallow landslide found along the barangay road going to Purok 6 which is possibly associated with regional tectonism (Geographical Location: 8° 50' 43.8" N 125° 40' 42.6" E)

Barangay New Tubigon

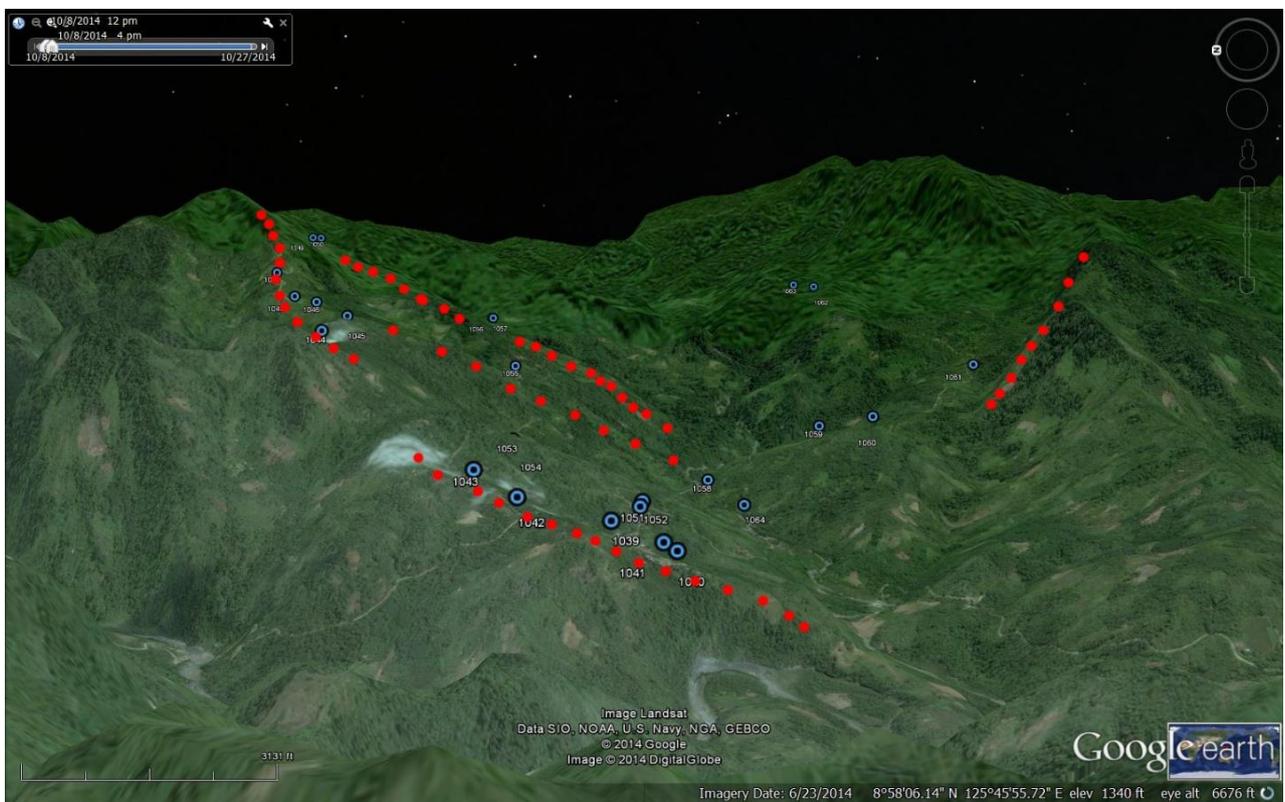


Old steel and wooden bridge along Andanan River showing river banks with active scouring.



Debris slide with rock fall at Purok 2. These mass movements are common on ridge areas characterized by very steep slope profile.

Barangay Padiay



The picture above depicts the over-all geohazards situation in Barangay Padiay. The blue icons represent the GPS locations of where they were taken. These locations, inhabited by local residents, are subjected to a significant geohazards susceptibility. The red dots tracing the mountain ridges, on the other hand, are the areas with susceptibility ratings to landslide; moderate to high.

Barangay Perez



Segment of an all-weather road where landslide has occurred associated with unmitigated road cut slope.



Segment of Pariay River showing the location of the damaged concrete bridge.

Barangay Poblacion



This is a photo of a 50 meters long and 6 meters deep landslide along the trail going to Purok 15. Several landslides are also found in the area which is possibly associated by the movement of the Philippine Fault. (Geographical Location: 8° 49' 58" N 125° 42' 3.4" E)



This is a photo of 8 meters deep landslide which occurs during typhoon Agaton and destroyed the road in Purok 15. These landslides that are found in the area are possibly associated by the Philippine Fault. (Geographical Location: 8° 50' 3.1" N 125° 42' 30.9" E)



A barangay official of Poblacion shows the flood height of 1.4 meters during typhoon Agaton which lasts for two to three days. (Geographical Location: 8° 49' 17.8" N 125° 41' 43.4" E)

Barangay San Isidro



Clockwise: Residential area along low undulating ground at Purok 1, Purok 2 and main access road that is situated near the base of slope in Purok 5B.

Barangay San Vicente



Wawa River along Barangay San Vicente. Yellow dashed line indicates previous flash flood level.



Looking southwest along section of concrete road going to Barangay Ilihan. This area is susceptible to soil creep and localized debris slides.

Barangay Santa Cruz



Photos.View of Purok 4 on the other side of Wawa River (a) and Sta. Cruz Elementary School (b).

Barangay Santa Maria



Sta. Maria Elementary School at Purok 1 situated near a low but moderately sloping terrain



Barangay office at Purok 1 is positioned along a moderately sloping ground and is also at the base of a steep terrain (left) and residential area at Purok 3 along steep sloping ground.

Barangay Sinai



Photos. Sibagat Municipal Dump Site located in Sinai (a) and fish pond project of the barangay and associated organization (b).

Barangay Tabon-tabon



Headward erosion located near Barangay Tabontabon proper.



Subsidence/landslide along Maharlika Highway.

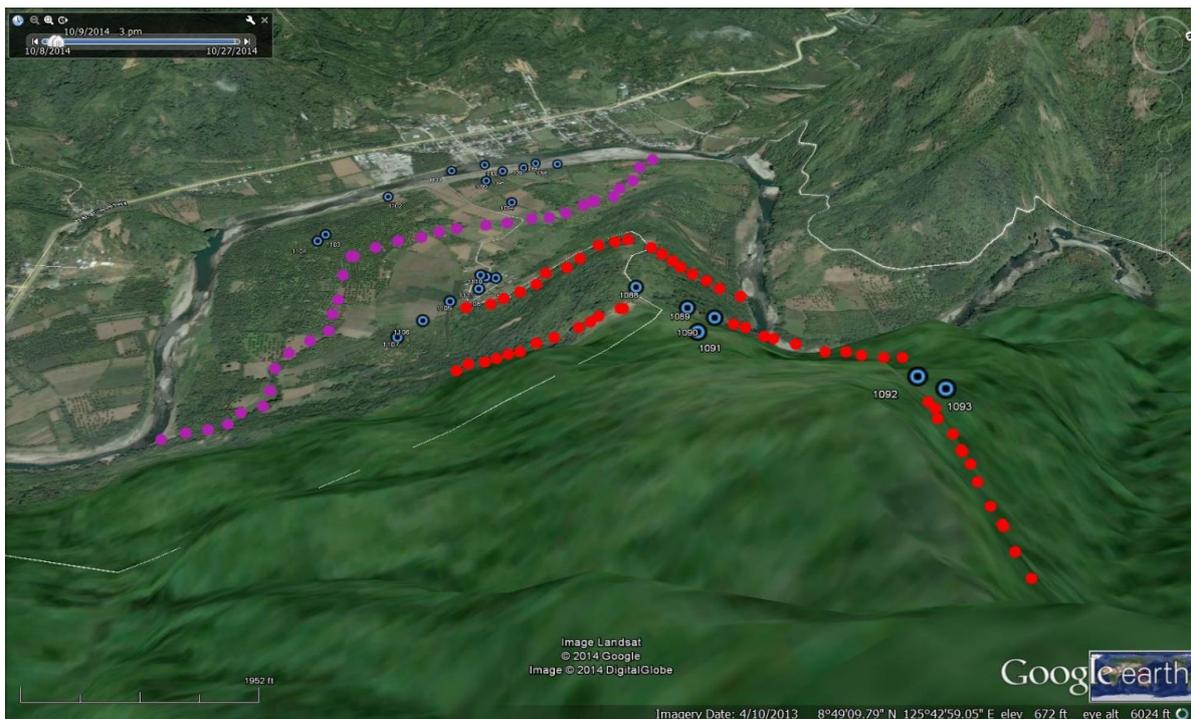


Damages to school building caused by tension cracks and ground movement.

Barangay Tag-uyango



The chairman of Barangay Tag-Oyango pointing on a tension crack extending 100M along the barangay road in Purok 8. (With a GPS location $8^{\circ} 49' 21.8'' N/125^{\circ} 42' 39.4'' E$)



The figure above is a google earth generated image showing the typical terrain of Barangay Tag-Oyango. The blue dots represent the GPS stations of the residential areas. The red and violet dots are traces of mountain ridges and areas that are susceptible to landslide.

Barangay Villangit



Villangit Elementary School at Purok 1 is situated near the base of a very steep slope.



Some of the images from residential area at Purok 4A situated along moderately sloping ground and residential area at Purok 5 positioned near the base of a low but steep sloping terrain.



LANDSLIDE/FLOOD THREAT ADVISORY

Date: October 1, 2014

To: **Brgy. Chairman Aurelio P. Dacera**
 Barangay Afga
 Municipality of Sibagat
 Province of Agusan Del Sur

Dear Sir/Madam:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. The following are the results and recommendations following the assessment:

Location	Flood Susceptibility rating	Remarks/Recommendations
Sibagat River 8° 52' 59.8" N 125° 39' 54.9" E	Very High	Channelized flooding can be frequently experienced in the months of December to February. Flood height reaches as high as 2.5 meters from the river channel. Recommendations: Observe for rapid increase/decrease in river/creek water level, possibly accompanied by increased turbidity (soil/rock content). Discourage future habitation and construction of government structures in known/ identified flood prone areas
Near Sibagat River 8° 53' 0.2" N 125° 39' 51.7" E	High	Worst flooding recorded happened during typhoon Agaton. Flood level reaches about 1.1m high. Recommendations: Observe for rapid increase/decrease in river/creek water level, possibly accompanied by increased turbidity (soil/rock content). Discourage future habitation and construction of government structures in known/ identified flood prone areas
Near Sibagat River 8° 53' 0.4" N 125° 39' 52" E	Moderate	Worst flooding recorded happened during typhoon Agaton. Flood level reaches about 0.5m high. Recommendations: Observe for rapid increase/decrease in river/creek water level, possibly accompanied by increased turbidity (soil/rock content). Discourage future habitation and construction of government structures in known/ identified flood prone areas
Location	Landslide Susceptibility rating	Remarks/Recommendations

<p>Agricultural area of Purok 11 8° 52' 40.2" N 125° 39' 19.7" E</p>	<p>High</p>	<p>Several settlements that are situated on top of a steep hill in Purok 11 are very prone to landslide. Shallow debris slides are seen at the mid slope.</p> <p>Recommendations: Discourage future habitation and construction of government building that might add additional load to the steep slope. Organize disaster preparedness and rescue training for barangay officials and residents of the barangay.</p>
<p>Agricultural area of Purok 11 8° 52' 41" N 125° 39' 23.3" E Proposed relocation area 8° 52' 40.7" N 125° 39' 21.3" E</p>	<p>High</p>	<p>The area is characterized by gently undulating slopes. Several ground rupture is observed in the area which is probably associated by the traces of the Philippine Fault Zone.</p> <p>Recommendations: Discourage future habitation and construction of government building that might add additional load to the steep slope. Organize disaster preparedness and rescue training for barangay officials and residents of the barangay.</p>
<p>Purok 12 waiting shed 8° 52' 2.2" N 125° 38' 29.9" E Purok 14-A waiting shed 8° 52' 39.2" N 125° 37' 44.7" E Purok 13, Purok proper 8° 52' 59.8" N 125° 37' 14.1" E</p>	<p>High</p>	<p><i>The Purok proper is situated on a plateau and is bounded by steeply undulating slopes where landslides are most likely to occur.</i></p> <p>Recommendations: Organize disaster preparedness and rescue training for barangay officials and residents of the barangay.</p>
<p>San Isidro Elementary School 8° 52' 23.1" N 125° 38' 31.3" E Purok 14-B 8° 52' 22.8" N 125° 38' 33.1" E</p>	<p>High</p>	<p>The San Isidro Elementary School is situated on top of a steep slope which makes it prone to landslide.</p> <p>Recommendations: Organize disaster preparedness and rescue training for barangay officials and residents of the barangay.</p>
<p>Purok 14-B waiting shed 8° 52' 22.7" N 125° 38' 34.7" E Purok 10 waiting shed 8° 52' 47.6" N 125° 38' 28.5" E</p>	<p>High</p>	<p>The Purok proper is situated on a plateau and is bounded by steeply undulating slopes where landslides are most likely to occur.</p> <p>Recommendations: Organize disaster preparedness and rescue training for barangay officials and residents of the barangay.</p>
<p>Purok 9 waiting shed 8° 51' 59.6" N 125° 39' 53.9" E Along Maharlika Highway, Purok 8 8° 52' 5.3" N 125° 39' 38.5" E Along Maharlika Highway, Purok 8 8° 52' 16.6" N 125° 39' 27.5" E</p>	<p>High</p>	<p>Instability of the slope on the eastern side of the Maharlika Highway manifested by tilted trees at the mid slope and shallow debris slides which are observed at the base of the slope.</p> <p>Recommendations: Discourage future habitation and construction of government building that might add additional load to the steep slope. Organize disaster preparedness and rescue training for barangay officials and residents of the barangay.</p>

<p>Along Maharlika Highway, Purok 8 8° 52' 6.3" N 125° 39' 38.1" E</p>	<p>High</p>	<p>Very steep landslide along the eastern side of Maharlika Highway where one house fell during the said event.</p> <p>Recommendations: Discourage future habitation and construction of government building that might add additional load to the steep slope. Organize disaster preparedness and rescue training for barangay officials and residents of the barangay.</p>
<p>Purok 8 waiting shed 8° 52' 6.3" N 125° 39' 35.6" E</p>	<p>High</p>	<p>Residences near Purok8 waiting shed that are situated on the eastern side of Maharlika Highway are very prone to landslide due to the instability of the slope.</p> <p>Recommendations: Discourage future habitation and construction of government building that might add additional load to the steep slope. Organize disaster preparedness and rescue training for barangay officials and residents of the barangay.</p>



Photo showing the escarpment with vertical displacement of 0.5 to 1.5 meters and about 30 meters long found in the proposed relocation site for the residents affected by the road widening. **(Geographical Location: 8° 52' 41" N 125° 39' 23.3" E)**



Above is a photo of San Isidro Elementary School located on top of 20-meter steep slope. Shallow landslides found at the base of the slope. **(Geographical Location: 8° 52' 22.8" N 125° 38' 33.1" E)**



Left photo is a landslide along segment of Maharlika Highway with a length of approximately 15 meters. To the right is a photo of a house affected by the landslide. **(Geographical Location: 8° 52' 6.3" N 125° 39' 38.1" E)**

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality Disaster Risk Reduction and Management Council to plan for any emergency.

Thank you very much.

Very truly yours,



JESSE P. SEGURA

GMAT-SRDP Consultancy Inc. MGB Team Leader

Received by: ERNESTO

Date: 5-1-15



LANDSLIDE/FLOOD THREAT ADVISORY

Date: October 9, 2014

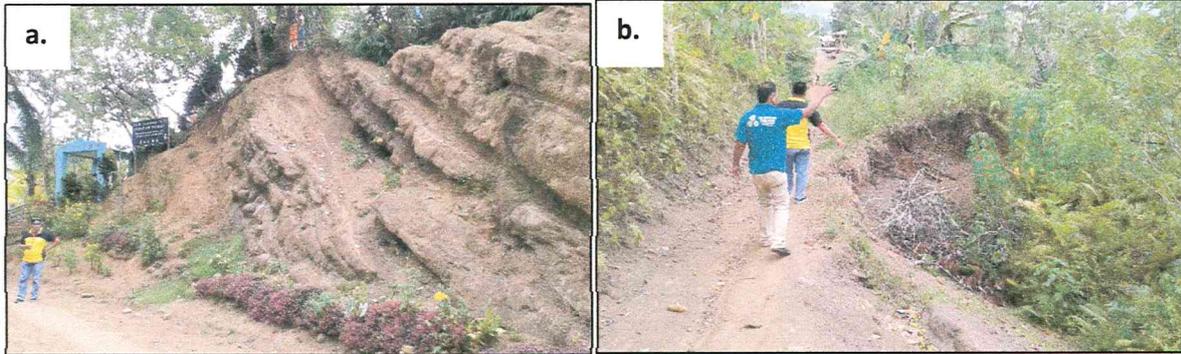
To: Brgy. Chairman Joel S. Quitarano
 Barangay Anahawan
 Municipality of Sibagat
 Province of Agusan del Sur

Dear Sir:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. Herewith are the results and recommendations following the assessment:

Location	Landslide Susceptibility Rating	Remarks/Recommendations
Brgy. Road, residential area in Purok 5 125°39'55.04" E 8°50'9.56" N	High	The area is characterized by highly rolling topography with locally steep slopes underlain by tilted and highly weathered sedimentary rocks. Road traverses along steep flanks with high landslide susceptibility.
Brgy. Road, residential area in Purok 5 125°39'56.02" E 8°50'10.03" N	High	Recommendations: Discontinue building of houses adjacent to slopes identified with active landslide. Existing houses should be relocated to safer ground as landslide is aggravated during rainy season. Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
Brgy. Road in Purok 5 125°39'53.57" E 8°50'8.05" N	High	The area is characterized by highly rolling topography with locally steep slopes underlain by tilted interbedded sedimentary rocks. Steep road cut along school perimeter. Road traverses along steep flanks with high landslide susceptibility.
Brgy. Road, residential area, School 125°39'40.14" E 8°50'41.82" N	High	Recommendations: Children should avoid staying or playing near/along road cut during break time. Install warning signages. Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
Brgy. Road, residential area, Brgy. Hall 125°39'39.28" E 8°50'37.46" N	High	The area is characterized by highly rolling topography with locally steep slopes. Residential areas are located on top of a ridge with steep slopes about 50 meters to the western flank. Road traverses along steep flanks with high landslide susceptibility.

Brgy. Road, residential area in Purok 7 125°39'38.74" E 8°50'33.58" N	High	Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
Brgy. Road, residential area in Purok 7 125°39'38.02" E 8°50'30.16" N	High	
Brgy. Road, residential area in Purok 6 125°39'37.84" E 8°50'25.62" N	High	
Brgy. Road, residential area in Purok 6 125°39'38.2" E 8°50'24.97" N	High	
Brgy. Road, residential area in Purok 6 125°39'37.84" E 8°50'28.79" N	High	
Brgy. Road 125°40'34.28" E 8°50'36.85" N	High	The area is characterized by highly rolling topography with locally steep slopes. Road traverses along steep flanks with high landslide susceptibility. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
Brgy. Road 125°40'16.43" E 8°50'42.79" N	High	
Brgy. Road 125°40'9.37" E 8°50'37.25" N	High	
Brgy. Road 125°40'0.77" E 8°50'43.01" N	High	
Brgy. Road in Purok 1 125°39'36.07" E 8°50'13.02" N	High	
Brgy. Road in Purok 1 125°39'39.35" E 8°50'9.31" N	High	
Brgy. Road in Purok 1 125°39'40.68" E 8°50'6.07" N	High	
Brgy. Road in Purok 5 125°39'45.07" E 8°50'4.06" N	High	
Brgy. Road, residential area in Purok 5 125°39'43.06" E 8°49'54.05" N	High	
Brgy. Road in Purok 4 125°40'6.17" E 8°50'42.25" N	High	
Brgy. Road, Agricultural area 125°40'25.39" E 8°50'36.85" N	High	



Photos. Tilted bedded sedimentary rocks exposed along the road cut in Anahawan Elementary School (a) and minor landslide along the access road to Purok 5 (b).

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality/City Disaster Risk Reduction and management Council to plan for any emergency.

Thank you very much.

Very truly yours,

Jesse P. Segura
GMAT-SRDP-MGB Team Leader

Received by: ERNESTO O. SOMBRANO

Date: 5-5-15



LANDSLIDE/FLOOD THREAT ADVISORY

Date: October 8, 2014

To: Brgy. Chairman Rodrigo D. Comcom
 Barangay Banagbanag
 Municipality of Sibagat
 Province of Agusan del Sur

Dear Sir:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. The following are the results and recommendations following the assessment:

Location	Landslide Susceptibility Rating	Remarks/Recommendations
125°44'51.8" E 8°55'43.3" N	Moderate	<p>Located on a plateau like feature, this area is characterized by undulating terrain 20°-35° slope, and composed of intercalated sandstone and limestone. Numerous plantations of Falcata, banana, and corn are found in this area. This area is likely susceptible to soil creep and localized debris slides.</p> <p>Recommendation: Monitor and report for presence of mass movement.</p>
125°45'1.8" E 8°55'30.5" N		
125°45'1.8" E 8°55'30.5" N		
125°45'4.6" E 8°55'30.1" N		
125°44'50.8" E 8°55'15.2" N		
125°44'48.8" E 8°54'48.5" N		
125°44'44.5" E 8°54'45.2" N		
Waiting Shed 125°44'43.6" E 8°54'44.4" N		
Waiting Shed 125°44'41.4" E 8°54'41.9" N		
Tambagoko Creek 125°45'58.6" E 8°54'35.4" N 125°45'58" E 8°54'35.7" N	Moderate	<p>Located along Tambagoko River, this river channel is characterized by very steep to moderate profile composed of limestone. This area is susceptible to debris and rock slide triggered by flash floods due to scouring/removal of material at the base of the slope.</p> <p>Recommendations: Future habitation and construction of government/private structures in known/identified landslide-prone areas are discouraged. Installation of bridge and river dikes may</p>

		be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.
Dirt road from Barangay New Tubigon going to Barangay Perez	Moderate	Located at a plateau like feature, this area is characterized by undulating terrain with slope of 20° to 35°, and composed of intercalated sandstone and limestone. Numerous plantations of Falcata, banana, and corn are found in this area. This area is likely susceptible to soil creep and localized debris slides. Recommendation: Monitor and report for presence of mass movement.
Location	Flood Susceptibility Rating	Remarks/Recommendations
Tambogoko Creek 125°45'58.6" E 8°54'35.4" N	Very High	Located along Tambogoko River, this area has experienced flash flood depths reaching 2.5m along the river channel. Recommendations: Future habitation and construction of government/private structures in known/identified flood-prone areas are discouraged. Advise for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of bridge and river dikes may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.
Tambogoko Creek 125°45'58" E 8°54'35.7" N	Very High	



Common land feature on Barangay Banagbanag showing farm lands on undulating to moderately steep terrain.



Banagbanag Elementary School and surrounding settlements.

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality Disaster Risk Reduction and Management Council to plan for any emergency.

Thank you very much.

Very truly yours,

RAINIER B. MATUSALEM
GMAT- SRDP Consultancy Inc.-MGB Team Member

NOTED:

JESSE P. SEGURA
GMAT-SRDP Consultancy Inc.-MGB Team Leader

Received by: ERNESTO O. SOMBAN
Date: 5-5-15



LANDSLIDE/FLOOD THREAT ADVISORY

Date: October 9, 2014

To: **Brgy. Chairman Franklin L. Domdom**
Barangay Del Rosario
Municipality of Sibagat
Province of Agusan del Sur

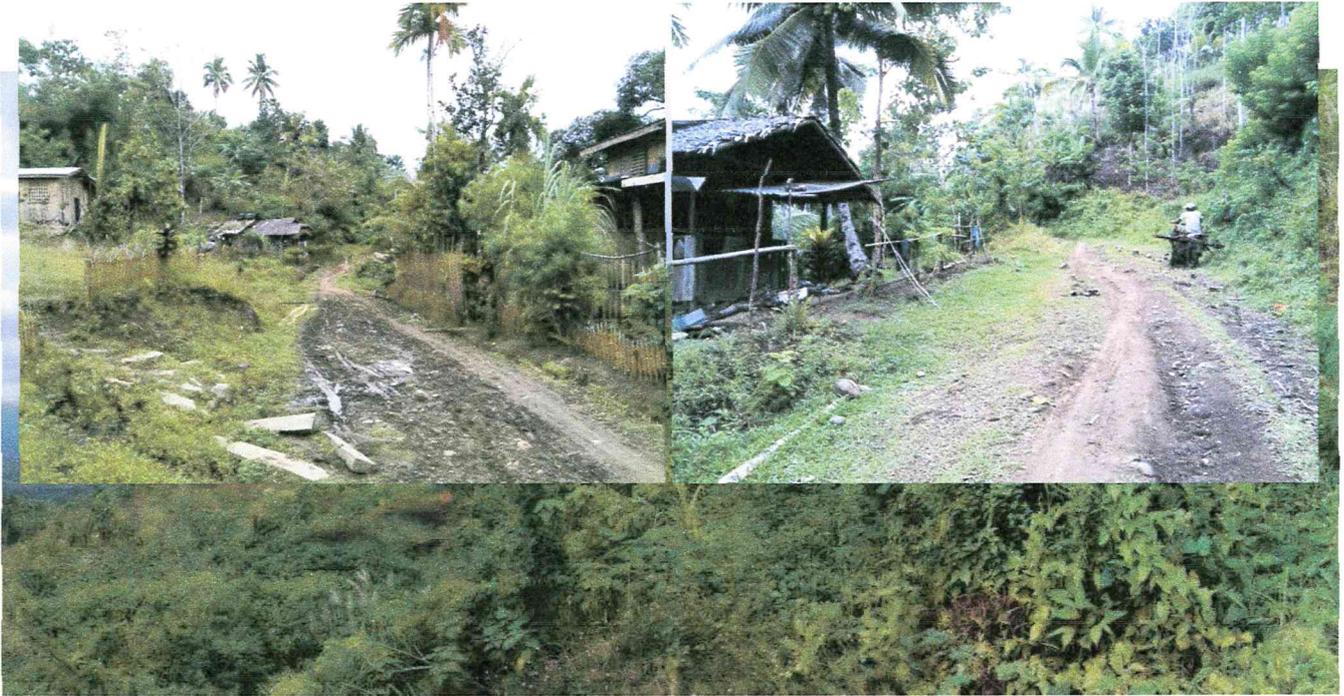
Dear Sir:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. The following are the results and recommendations following the assessment:

Location	Landslide Susceptibility Rating	Remarks/Recommendations
Purok 3 125°42'26.64" E 8°51'59.4" N	Very High	A vast landslide area that caused the collapse of the main access road and a house was mapped. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Del Rosario on geohazard situation. Avoid construction of houses near slope areas.
Purok 1-A 125°42'16.78" E 8°51'13.18" N	High	<i>Del Rosario Elementary School is situated near a steeply sloping ground.</i> Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Del Rosario on geohazard situation. Avoid construction of houses near slope areas.
Purok 3 125°42'23.87" E 8°51'43.45" N	High	Residential area situated along steeply sloping terrain. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Del Rosario on geohazard situation. Avoid construction of houses near slope areas.

Purok 5 125°42'57.53" E 8°52'34.36" N	High	<p>Main access road at the area is situated along steeply sloping ground.</p> <p>Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Del Rosario on geohazard situation. Avoid construction of houses near slope areas.</p>
Purok 5 125°42'41.26" E 8°52'22.08" N		
Purok 5 125°42'30.56" E 8°52'22.26" N		
Purok 5 125°42'23.26" E 8°52'18.26" N		
Purok 5 125°42'28.76" E 8°52'13.51" N		
Purok 3 125°42'27.22" E 8°52'7.68" N		
Purok 3 125°42'28.01" E 8°51'52.09" N		
Purok 3 125°42'24.08" E 8°51'38.3" N		
Purok 1-B 125°42'24.95" E 8°51'31.93" N		
Purok 1-B 125°42'21.89" E 8°51'25.99" N		
Purok 2 125°42'10.3" E 8°51'5.87" N		
Purok 2 125°42'3.96" E 8°50'52.19" N		
Purok 5 125°43'2.32" E 8°52'27.23" N	High	<p>Residential area is situated along steeply sloping terrain.</p> <p>Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Del Rosario on geohazard situation. Avoid construction of houses near slope areas.</p>
Purok 5 125°42'51.08" E 8°52'21.43" N		
Purok 1-B 125°42'18.83" E 8°51'22.86" N		
Purok 2 125°42'9.47" E 8°50'56.22" N		

An approximately 200 meter wide landslide area at Purok 3 was mapped affecting the barangay access road. The event took place during Typhoon Agaton.



Clockwise: Residential area situated along a rugged terrain; Purok 1B, Purok 3, Purok 5, and access road within a steep terrain along Purok 2

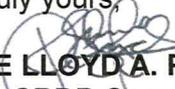
"MINING SHALL BE PRO-PEOPLE AND PRO-ENVIRONMENT IN SUSTAINING WEALTH CREATION AND IMPROVED QUALITY OF LIFE"

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality Disaster Risk Reduction and Management Council to plan for any emergency.

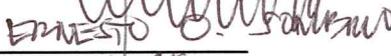
Thank you very much.

Very truly yours,


LLEWE LLOYD A. POLINAR
GMAT-SRDP Consultancy Inc.-MGB Team Member

NOTED:


JESSE P. SEGURA
GMAT-SRDP Consultancy Inc.-MGB Team Leader

Received by: 
Date: 5-5-15



LANDSLIDE/FLOOD THREAT ADVISORY

Date: September 30, 2014

To: Brgy. Chairman Jogie A. Ormega
 Barangay El Rio
 Municipality of Sibagat
 Province of Agusan del Sur

Dear Madam:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. The following are the results and recommendations following the assessment:

Location	Landslide Susceptibility Rating	Remarks/Recommendations
Minor earthslide on the upper slope of Purok 4B 125°40'7" E 8°51'37.6" N	High	Located at the upper slopes of Purok 4B. Multiple developing tension cracks have been mapped characterized by 0.10 to 0.30m vertical by 0.10m horizontal displacement, 25.00m long, and oriented 80° dipping towards 76 azimuth (northwest). Recommendations: Monitor for presence of further mass movement. Establish warning signage. Proper grading and engineering of slopes may be considered as long term solution subject to a more detailed engineering geological study as to its general applicability in the area of concern.
Tension cracks on the upper slopes of Purok 4B 125°40'6.3" E 8°51'36.5" N		
Tension cracks on the upper slopes of Purok 4B 125°40'5.6" E 8°51'35.8" N		
Tension cracks on the upper slopes of Purok 4B 125°40'5.1" E 8°51'36.1" N		
Maharlika Highway 125°40'28" E 8°51'35" N	High	Located along Maharlika Highway and characterized by very steep 42° slopes and bedded sedimentary rock units. Localized debris slides have occurred in this area due to its very steep profile and bedded rock unit oriented 58° dipping towards Maharlika Highway (44 azimuth/NE) is prone to localized rock slide. Recommendations: Stabilize slope edges of road cut. Monitor for presence of mass movement. Establish warning signage. Installation of steel mesh or shotcrete may be considered as long term solution subject to a more
Maharlika Highway 125°40'32.1" E 8°51'34.1" N		
Maharlika Highway 125°40'33.3" E 8°51'27.6" N		
Maharlika Highway 125°40'34.6" E 8°51'20.2" N		

Maharlika Highway 125°40'37.9" E 8°51'17.2" N		detailed engineering geological study as to its general applicability in the area of concern.
Maharlika Highway 125°40'36.7" E 8°51'18.5" N		
Maharlika Highway 125°40'9" E 8°51'53.6" N	High	<p>Located along Maharlika Highway and characterized by rolling terrain. A 105.00m wide earth slide (measured at head) occurred recently characterized by multiple tension cracks and 0.5m to 0.10m scarps.</p> <p>Recommendations: Stabilize slope edges of road cut. Monitor for presence of further mass movement. Establish warning signage. Proper grading and engineering of slopes may be considered as long term solution subject to a more detailed engineering geological study as to its general applicability in the area of concern.</p>
Maharlika Highway 125°40'9" E 8°51'53.5" N		
Maharlika Highway 125°40'5.6" E 8°51'54" N		
Maharlika Highway 125°40'6.1" E 8°51'52.9" N		
Maharlika Highway 125°40'5.3" E 8°51'52" N		
Location	Flood Susceptibility Rating	Remarks/Recommendations
Settlement near Wawa River 125°40'27.7" E 8°51'44.9" N	High	<p>Located on the riverbank of Wawa River, this area has experienced flash flood depths reaching 4.00m.</p> <p>Recommendations: Future habitation and construction of government/private structures in known/identified flood-prone areas are discouraged. Advise for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of bridge and river dikes may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.</p>
Settlement near Wawa River 125°40'28.4" E 8°51'45.5" N	Very High	<p>Located on the riverbank of Wawa River, this area has experienced flash flood depths reaching 4.00m.</p> <p>Recommendations: Future habitation and construction of government/private structures in known/identified flood-prone areas are discouraged. Advise for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of bridge and river dikes may be considered subject to a more engineering geological study as to its general applicability in the area of concern.</p>



Wawa River along Purok 5.



Developing tension cracks located at the upper slopes of Purok 4B.

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality Disaster Risk Reduction and Management Council to plan for any emergency.

Thank you very much.

Very truly yours,



RAINIER B. MATUSALEM
GMAT- SRDP Consultancy Inc.-MGB Team Member

NOTED:



JESSE P. SEGURA
GMAT-SRDP Consultancy Inc.-MGB Team Leader

Received by: ERNESTO O. SOMERIN

Date: 5-15-15



LANDSLIDE/FLOOD THREAT ADVISORY

Date: September 29, 2014

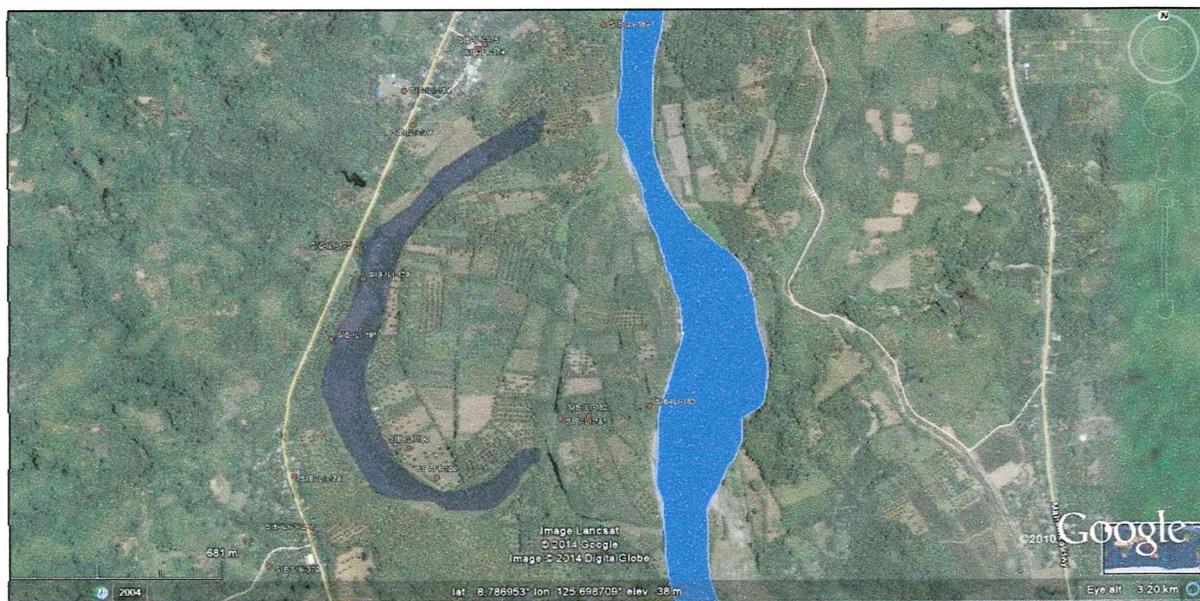
To: **Francisco P. Garlit**
 Barangay Ilihan
 Municipality of Sibagat
 Province of Agusan del Sur

Dear Sir:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. Herewith are the results and recommendations following the assessment:

Location	Landslide Susceptibility Rating	Remarks/Recommendations
Proposed Central MRF 125°40'55.6" E 8°47'46.97" N	Moderate	The area is characterized by moderately rolling topography with locally steep slopes underlain by tilted/folded interbedded mudstone, siltstone and sandstone. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
Location	Flood Susceptibility Rating	Remarks/Recommendations
Agricultural field 125°41'36.85" E 8°47'0.64" N	Very High	Located along the flood plain of an old river channel created from channel migration. Area is presently utilized for agriculture. Recommendations: Observe for rapid increase/decrease in creek/river water levels, possibly accompanied by increased turbidity (soil content). Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rainfall. Observe proper easement along bodies of water. Avoid construction of important infrastructures within the identified flood prone areas.
Agricultural field, Creek 125°41'48.59" E 8°47'6.18" N		
Agricultural field 125°41'51.25" E 8°47'6.4" N		
Agricultural field 125°41'26.72" E 8°47'13.87" N		
Agricultural field, Wawa River 125°41'57.19" E 8°47'7.4" N	Very High	Located along the flood plain of an old river channel created from channel migration. Recommendations: Observe for rapid increase/decrease in creek/river water levels, possibly accompanied by increased turbidity (soil content). Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and

		prolonged rainfall. Observe proper easement along bodies of water. Avoid construction of important infrastructures within the identified flood prone areas.
Agricultural field 125°41'50.5" E 8°47'51.29" N	Very High	<p>Located along the flood plain presently utilized as agricultural area.</p> <p>Recommendations: Observe for rapid increase/decrease in creek/river water levels, possibly accompanied by increased turbidity (soil content). Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rainfall. Observe proper easement along bodies of water. Avoid construction of important infrastructures within the identified flood prone areas.</p>
Agricultural field, Wawa River 125°41'54.2" E 8°47'45.78" N		
Agricultural field, Wawa River 125°41'52.92" E 8°47'43.67" N		
Agricultural field 125°41'34.12" E 8°47'3.42" N		
Sinay Creek, Bridge 125°41'24.94" E 8°46'55.99" N	High	<p>Sinay bridge.</p> <p>Recommendations: Observe for rapid increase/decrease in creek/river water levels, possibly accompanied by increased turbidity (soil content). Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rainfall. Observe proper easement along bodies of water. Avoid construction of important infrastructures within the identified flood prone areas and along/near river banks.</p>



Photos. Active road graveling and drainage construction in Barangay Ilihan (a) and Sinay Creek in Purok 6. Google generated image showing the old river channel along segment of Wawa River in Purok 4 (c).

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality/City Disaster Risk Reduction and management Council to plan for any emergency.

Thank you very much.

Very truly yours,



Jesse P. Segura
GMAT-SRDP-MGB Team Leader

Received by: Ernesto O. Solano

Date: 5-5-15



LANDSLIDE/FLOOD THREAT ADVISORY

Date: October 9, 2014

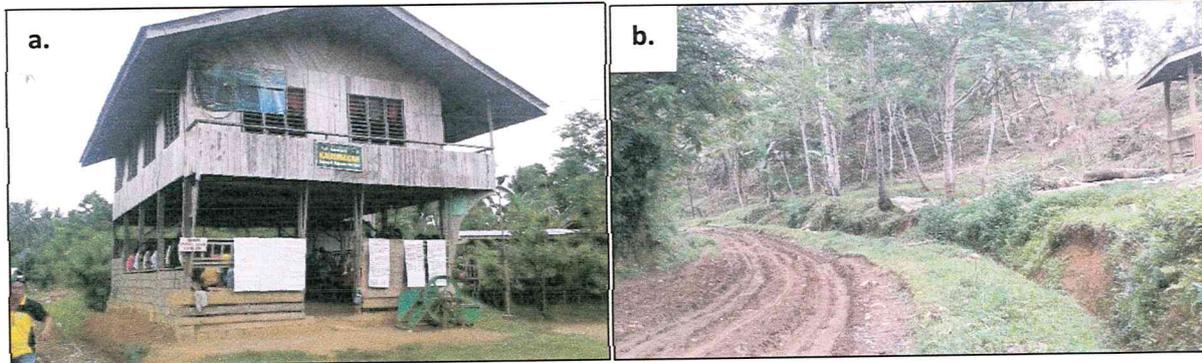
To: Brgy. Chairman Zosima E. Baguinang
 Barangay Kauswagan
 Municipality of Sibagat
 Province of Agusan del Sur

Dear Madam:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. Herewith are the results and recommendations following the assessment:

Location	Landslide Susceptibility Rating	Remarks/Recommendations
Brgy. Road 125°41'45.92" E 8°48'32.8" N	High	The area is characterized by highly rolling topography with locally steep slopes underlain by tilted/folded interbedded mudstone, siltstone and sandstone. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
Brgy. Road 125°40'58.3" E 8°48'15.05" N	High	The area is characterized by highly rolling topography with locally steep slopes. Road traverses along steep flanks with high landslide susceptibility.
Brgy. Road 125°41'0.1" E 8°48'13.25" N		Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
Residential area, Falcata plantation 125°40'35.54" E 8°48'39.71" N	High	The residential area is characterized by highly rolling topography with locally steep slopes.
Residential area, Brgy. road 125°40'35.04" E 8°48'37.58" N		Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
Residential area, Brgy. road 125°40'38.17" E 8°48'29.05" N		

Residential area, Brgy. road 125°40'43.54" E 8°48'22.1" N		
Kauswagan Primary School 125°40'52.75" E 8°48'19.84" N	High	The school area is characterized by highly rolling topography with locally steep slopes.
Kauswagan Brgy. Hall, residential area 125°40'35.65" E 8°48'33.12" N	High	Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.



Photos. Kauswagan Barangay Hall (a). Falcata plantation in Purok 1 (b).

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality/City Disaster Risk Reduction and management Council to plan for any emergency.

Thank you very much.

Very truly yours,



Jesse P. Segura
GMAT-SRDP-MGB Team Leader

Received by: Ernesto O. Sombano

Date: 5-5-14



LANDSLIDE/FLOOD THREAT ADVISORY

Date: October 9, 2014

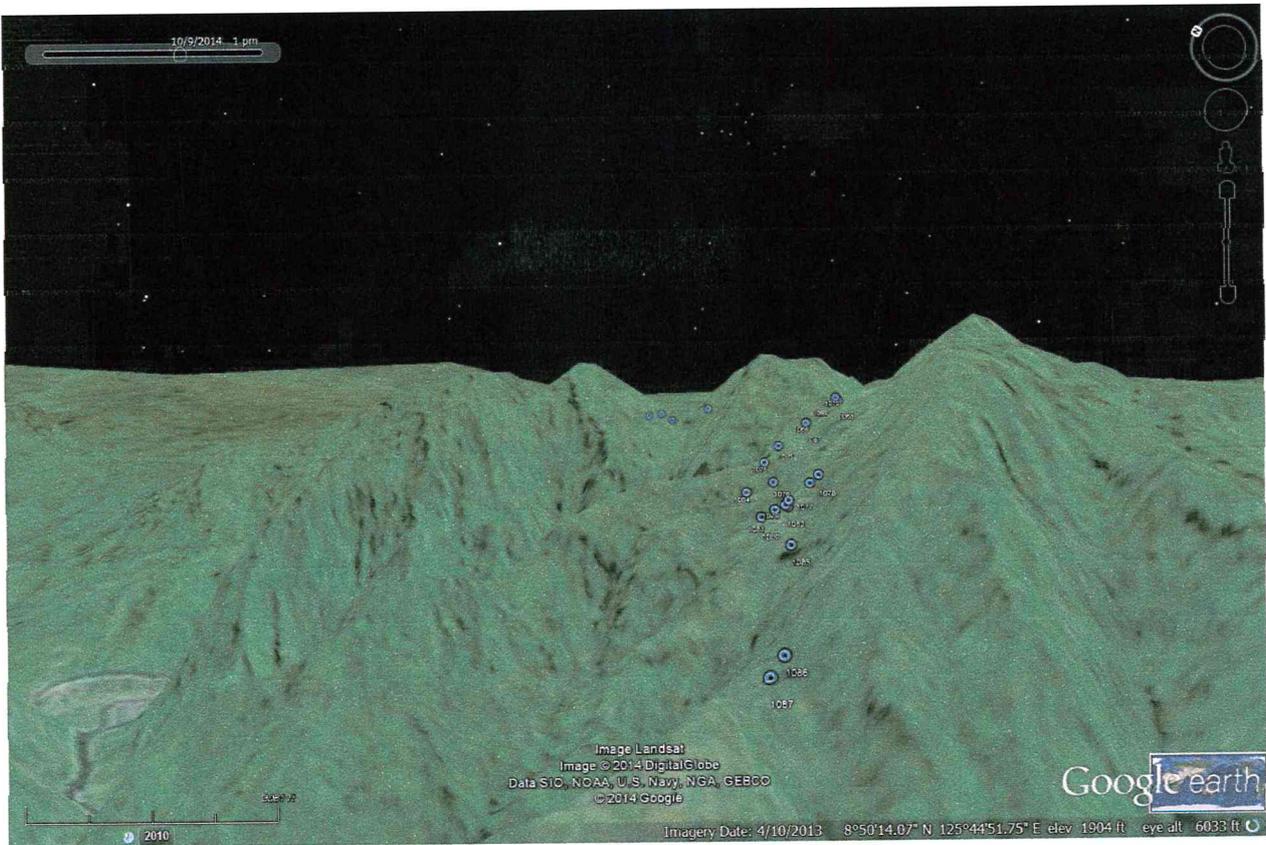
To: Brgy. Chairman Alejandro Cabarubias
Barangay Kioya
Municipality Sibagat
Province of Agusan del Sur

Dear Sir/Madam:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. Herewith are the results and recommendations following the assessment:

Location	Landslide Susceptibility rating	Remarks/Recommendations
Purok 38° 49' 40.6" N125° 44' 26.3" E	Very High	<p>The area is located on a steep to very steep, relatively elevated slope, approximately 400 meters high. The slope is mantled by a thick layer of loose soil materials underlain by moderately weathered sedimentary units making it highly susceptible to landslide. Soil creep and tilted trees is very much evident. Moreover, tension cracks were observed on the slopes above the barangay area.</p> <p>Recommendations: Residents are highly advised to relocate immediately.</p>
Purok 38° 49' 36.9" N125° 44' 28.4" E	Very High	
Purok 38° 49' 36.9" N125° 44' 28.4" E	Very High	
Purok 78° 49' 34.7" N125° 44' 37.1" E	Very High	
Purok 78° 49' 36.7" N125° 44' 41.5" E	Very High	
Purok 78° 49' 36.8" N125° 44' 41.6" E	Very High	
Purok 78° 50' 4.2" N125° 44' 49.2" E	Very High	
Purok 58° 50' 19" N125° 45' 2.5" E	Very High	
Purok 58° 50' 20.7" N125° 45' 1.3" E	Very High	

Purok 58° 50' 23.4" N125° 45' 1" E	Very High	
Purok 38° 49' 39.6" N125° 44' 19" E	Very High	
Purok 38° 49' 36.3" N125° 44' 14.6" E	Very High	
Purok 48° 49' 29.4" N125° 44' 11.3" E	Very High	
Purok 18° 49' 28.5" N125° 44' 12.2" E	Very High	
Purok 18° 49' 31.2" N125° 44' 7.9" E	Very High	
8° 49' 33.7" N	High	<p>The area is located on a steep to very steep, relatively elevated slope, approximately 400 meters high. The slope is mantled by a thick layer of loose soil materials underlain by moderately weathered sedimentary units making it highly susceptible to landslide. Soil creep and tilted trees is very much evident. Moreover, tension cracks were observed on the slopes above the barangay area.</p> <p>Recommendations: Residents are highly advised to relocate immediately.</p>
Purok 28° 49' 40.2" N125° 44' 13.8" E	High	
Purok 28° 49' 26.2" N125° 43' 56.3" E	High	
Purok 68° 49' 16.7" N125° 43' 31.5" E	High	
Purok 68° 49' 16.7" N125° 43' 27.7" E	High	
8° 49' 31.8" N	Moderate	<p>The area is located on a low-lying, gently sloping terrain. However, a steep to very steep, relatively elevated slope, approximately 550 meters high, is observed more than a hundred meters away from which the point was taken. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Soil creep and tilted trees is very much evident. Moreover, tension cracks were observed on the slopes above the barangay area.</p> <p>Recommendations: The area is still highly discouraged for habitation and construction of government structures.</p>
Purok 28° 49' 30.9" N125° 44' 6.3" E	Moderate	
Purok 28° 49' 30.3" N125° 44' 5.7" E	Moderate	



The blue icons indicate the locations taken in Barangay Kioya. The entire barangay is located along a steep to very steep slope, approximately 400-500 meters high. All the residents are advised to relocate immediately. There are no safe spots or a place conducive for habitation in this area.

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality Disaster Risk Reduction and Management Council to plan for any emergency.

Thank you very much.

Very truly yours,

JESSE P. SEGURA
 GMAT-SRDP Consultancy Inc.-MGB Team Leader

Received by: ERNESTO Q. SORIANO
 Date: 5-22-14



LANDSLIDE/FLOOD THREAT ADVISORY

Date: October 8, 2014

To: **Brgy. Chairman Morales I. Carlos**
Barangay Kolambugan
Municipality of Sibagat
Province of Agusan del Sur

Dear Sir/Madam:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. Herewith are the results and recommendations following the assessment:

Location	Landslide Susceptibility rating	Remarks/Recommendations
Purok 1 8° 59' 35.9" N 125° 43' 53.6" E	High	<p>The area is located on a steep to very steep, relatively elevated slope, approximately 500 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Presence of mass movement is observed due to soil creep and subtle disintegration of overlying sedimentary units.</p> <p>Recommendations: Residents are highly advised to relocate immediately.</p>
Purok 1 8° 59' 40.8" N 125° 43' 58.2" E	High	
Purok 1 8° 59' 49" N 125° 43' 54.5" E	High	
Purok 6 9° 0' 2.3" N 125° 43' 58.2" E	High	
Purok 6 9° 0' 0.1" N 125° 44' 1.9" E	High	
Purok 6 8° 59' 56.7" N 125° 44' 9.7" E	High	
Purok 6 8° 59' 56.1" N 125° 44' 12.7" E	High	
Purok 2 8° 59' 25.8" N 125° 43' 50.5" E	High	
Purok 2 8° 59' 22.2" N 125° 43' 56" E	High	

Purok 2 8° 59' 15.7" N 125° 43' 56.9" E	High
Purok 2 8° 59' 8" N 125° 43' 58.3" E	High
Purok 78° 59' 0.7" N125° 44' 7.4" E	High
Purok 78° 59' 1" N125° 44' 11.2" E	High
Purok 78° 58' 58" N125° 44' 9.4" E	High
Purok 38° 59' 12.5" N125° 43' 39.5" E	High
Purok 38° 58' 58.4" N125° 43' 30.4" E	High
Purok 48° 58' 53.6" N125° 43' 26.1" E	High
Purok 48° 58' 58.3" N125° 43' 21.7" E	High
Purok 48° 58' 59.9" N125° 43' 19.2" E	High
Purok 48° 58' 56.8" N125° 43' 2.4" E	High
Purok 58° 58' 52.5" N125° 42' 56.3" E	High
Purok 58° 58' 49.9" N125° 42' 54.3" E	High
Purok 58° 58' 49.1" N125° 42' 48" E	High

ATTACHMENTS



The area is located on a steep to very steep, relatively elevated slope, approximately 500 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Presence of mass movement is observed due to soil creep and subtle disintegration of overlying sedimentary units. (At Purok 4 with GPS location: 8° 58' 59.9" N 125° 43' 19.2" E)



This digital photo describes the over-all geohazards situation of Barangay Kolambugan. The blue icons indicate the GPS locations that were taken around/along the barangay area, while the red dots, those that form semi-circular shape tracing the mountain ridges, represent the areas that are highly to moderately susceptible to landslide.

"MINING SHALL BE PRO-PEOPLE AND PRO-ENVIRONMENT IN
SUSTAINING WEALTH CREATION AND IMPROVED QUALITY OF LIFE"

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality Disaster Risk Reduction and Management Council to plan for any emergency.

Thank you very much.

JAVA

Very truly yours,



JESSE P. SEGURA
GMAT-SRDP Consultancy Inc.-MGB Team Leader

Received by: ERNESTO J. SEGURA

Date: F S T



LANDSLIDE/FLOOD THREAT ADVISORY

Date: October 08, 2014

To: Brgy. Chairman Candido O. Tayong
Barangay Magkalape
Municipality of Sibagat
Province of Agusan del Sur

Dear Sir:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. The following are the results and recommendations following the assessment:

Location	Landslide Susceptibility Rating	Remarks/Recommendations
Purok 4 125°43'25.21" E 8°51'11.92" N	Very High	Landslide area mapped along the road.
Purok 4-A 125°43'16.5" E 8°51'2.05" N	Very High	Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Magkalape on geohazard situation. Avoid construction of houses near slope areas.
Purok 4-A 125°43'13.55" E 8°50'56.08" N	Very High	
Purok 5 125°43'2.71" E 8°50'38.69" N	High	
Purok 4 125°43'19.63" E 8°51'7.96" N	High	Residential area situated along steeply sloping ground. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Magkalape on geohazard situation. Avoid construction of houses near slope areas.

Purok 5 125°42'51.3" E 8°50'37.43" N	High	<p>Main access road going to the area is situated along steeply sloping terrain.</p> <p>Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Magkalape on geohazard situation. Avoid construction of houses near slope areas.</p>
Purok 5 125°42'51.41" E 8°50'26.09" N	High	
125°42'24.91" E 8°54'31.18" N	High	
125°42'22.14" E 8°54'35.39" N	High	
125°42'6.41" E 8°54'33.41" N	High	
125°42'2.45" E 8°54'34.31" N	High	
125°41'57.19" E 8°54'33.62" N	High	
125°42'41.33" E 8°54'4.75" N	High	
125°42'42.3" E 8°54'10.58" N	High	
125°42'42.59" E 8°54'15.34" N	High	
125°42'41.58" E 8°54'20.16" N	High	
125°42'39.31" E 8°54'24.44" N	High	
125°41'52.19" E 8°54'32.58" N	High	
125°41'49.6" E 8°54'28.91" N	High	
125°41'47.04" E 8°54'24.05" N	High	
125°41'52.66" E 8°54'22.97" N	High	
Purok 4-A 125°43'11.78" E 8°50'46.21" N	High	<p>Residential area is situated along steeply sloping ground.</p> <p>Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Magkalape on geohazard situation. Avoid construction of houses near slope areas.</p>
Purok 5 125°42'57.02" E 8°50'35.34" N	High	
125°42'42.95" E 8°54'1.28" N	High	
125°41'56.51" E 8°54'21.1" N	High	
125°41'58.56" E 8°54'20.38" N	High	



Photographs of minor landslide area mapped along the road in Purok 1.



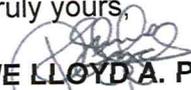
Images of residential area along steep slopes in Purok 1 and Purok 3.

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality Disaster Risk Reduction and Management Council to plan for any emergency.

Thank you very much.

Very truly yours,


LLEWE LLOYD A. POLINAR
 GMAT- SRDP Consultancy Inc.-MGB Team Member

NOTED:

~~_____~~
JESSE P. SEGURA
 GMAT-SRDP Consultancy Inc.-MGB Team Leader

Received by: EMERSON D. JOMBANO
 Date: 1-5-14

"MINING SHALL BE PRO-PEOPLE AND PRO-ENVIRONMENT IN
 SUSTAINING WEALTH CREATION AND IMPROVED QUALITY OF LIFE"



LANDSLIDE/FLOOD THREAT ADVISORY

Date: October 8, 2014

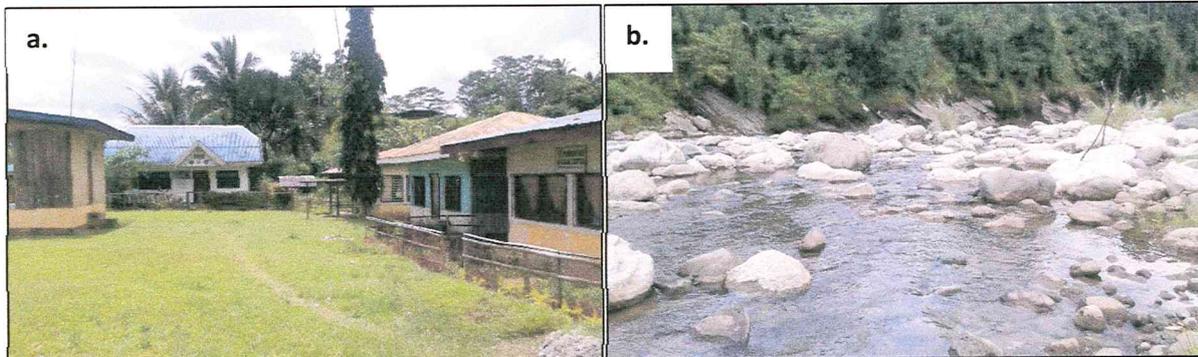
To: Brgy. Chairman Leoncito A. Alkoy
 Barangay Magsaysay
 Municipality of Sibagat
 Province of Agusan del Sur

Dear Sir:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. Herewith are the results and recommendations following the assessment:

Location	Landslide Susceptibility Rating	Remarks/Recommendations
Hanging bridge approach 125°43'54" E 8°54'14.8" N	High	Hanging bridge approach. Steep river banks. Locally susceptible to landslide.
Hanging bridge approach 125°43'55.78" E 8°54'11.66" N		
Wawa River 125°43'54.44" E 8°54'13.97" N	High	Steep river banks. Locally susceptible to landslide. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities.
Brgy. Road 125°41'47.58" E 8°54'25.96" N	High	The area is characterized by highly rolling topography with locally active landslides underlain by tilted/folded interbedded mudstone, siltstone and sandstone. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.
Brgy. Road 125°40'57.4" E 8°54'15.19" N		
Location	Flood Susceptibility Rating	Remarks/Recommendations
Wawa River 125°43'54.44" E 8°54'13.97" N	Very High	Hanging bridge. Steep river banks. Recommendations: Observe for rapid increase/decrease in creek/river water levels, possibly accompanied by increased turbidity (soil content). Avoid crossing the river during inclement weather condition and occasions

		of heavy and prolonged rainfall as flash flood may occur. Observe proper easement along bodies of water. Avoid construction of important infrastructures within the identified flood prone areas and along/near river banks.
Wawa River 125°44'14.86" E 8°54'0.54" N	Very High	Right bank of Wawa River. Recommendations: Observe for rapid increase/decrease in creek/river water levels, possibly accompanied by increased turbidity (soil content). Avoid crossing the river during inclement weather condition and occasions of heavy and prolonged rainfall as flash flood may occur. Observe proper easement along bodies of water. Avoid construction of important infrastructures within the identified flood prone areas and along/near river banks.
Wawa River 125°44'16.26" E 8°54'1.22" N		
Wawa River 125°44'16.48" E 8°53'58.88" N		
Residential area 125°44'10.68" E 8°53'54.89" N	High	Right bank of Wawa River. Recommendations: Observe for rapid increase/decrease in creek/river water levels, possibly accompanied by increased turbidity (soil content). Avoid crossing the river during inclement weather condition and occasions of heavy and prolonged rainfall as flash flood may occur. Observe proper easement along bodies of water. Avoid construction of important infrastructures within the identified flood prone areas and along/near river banks.
Basin, Residential area 125°44'10.75" E 8°54'0.32" N	Moderate	Low lying area usually ponded during heavy and prolonged rainfall. Recommendations: Avoid construction of important infrastructures within the identified flood prone area. Water level may rise significantly and dangerous to children.



Photos. Magsaysay Barangay Hall (a) and segment of Wawa River in Purok 1 showing varied boulder size bed loads (b).

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality/City Disaster Risk Reduction and management Council to plan for any emergency.

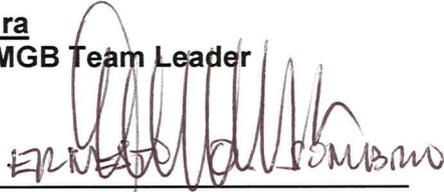
Thank you very much.

Very truly yours,



Jesse P. Segura
GMAT-SRDP-MGB Team Leader

Received by: _____



Date: _____

5 - 5 - 15



LANDSLIDE/FLOOD THREAT ADVISORY

Date: September 30, 2014

To: Brgy. Chairman Guillermo B. Benigian
Barangay Mahayahay
Municipality of Sibagat
Province of Agusan Del Sur

Dear Sir/Madam:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. The following are the results and recommendations following the assessment:

Location	Landslide Susceptibility rating	Remarks/Recommendations
Purok 6, Barangay Mahayahay 8° 50' 35.5" N 125° 40' 29.4" E 8° 50' 34.9" N 125° 40' 25.6" E 8° 50' 31.3" N 125° 40' 37.7" E 8° 50' 31.5" N 125° 40' 38.5" E 8° 50' 43.8" N 125° 40' 42.6" E	High	Ground rupture about 1 km away from the barangay proper is observed at the surface in Purok 6 (western portion of the barangay) which could possibly be associated by the traces of the Philippine Fault Zone. Recommendations: Discourage future habitation and construction of government structures in known/ identified landslide especially where the ground ruptures are observed. Constant communication and updates within the barangay and with nearby barangays about geohazard situations.



These photos shows series of tension cracks about 300-meter long with a vertical displacement of 0.5 to 1 meter found in Purok 6 are possibly associated by regional tectonism. (Geographical Location: 8° 50' 35.5" N 125° 40' 29.4" E)



This photo shows shallow landslide found along the barangay road going to Purok 6 which is possibly associated with regional tectonism (**Geographical Location: 8° 50' 43.8" N 125° 40' 42.6" E**)

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality Disaster Risk Reduction and Management Council to plan for any emergency.

Thank you very much.

Very truly yours,


JESSE P. SEGURA

GMAT-SRDP Consultancy Inc.-MGB Team Leader

Received by: ERNESTO O. SAMPANON

Date: 5-5-15



LANDSLIDE/FLOOD THREAT ADVISORY

Date: October 09, 2014

To: Brgy. Chairman Librador M. Felicilda
 Barangay New Tubigon
 Municipality of Sibagat
 Province of Agusan del Sur

Dear Sir:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. The following are the results and recommendations following the assessment:

Location	Landslide Susceptibility Rating	Remarks/Recommendations
Settlement near/at ridgeline 125°49'37.7" E 8°53'10.1" N 125°49'37.9" E 8°53'9.7" N 125°49'38" E 8°53'8.7" N 125°49'36.4" E 8°53'19.6" N 125°49'35.4" E 8°53'20.3" N 125°49'34" E 8°53'25.2" N 125°49'33.9" E 8°53'25.2" N	High	Located along the edge of a ridge, this area is characterized by 48°-60° slope, 1.00m thick soil, and composed of intercalated sandstone and siltstone. Numerous tension cracks and debris slide have been mapped in this area. Recommendation: Future habitation and construction of government/private structures in known/ identified landslide areas (areas/zones with very steep slopes) are discouraged.
Bridge boundary of Barangay New Tubigon and Barangay San Juan 125°49'39.9" E 8°52'30.3" N	High	Located at the junction of 3 headwater tributaries of Andanan River, this river channel is characterized by very steep profile composed of limestone. This area is highly susceptible to debris and rock slide triggered by flash floods due to scouring/removal of material at the base of the slope. Recommendations: Future habitation and construction of government/private structures in known/identified

		landslide-prone areas are discouraged. Monitor for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of bridge and river dikes may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.
<p>Purok 7 settlement near mountain peak</p> <p>125°48'20.1" E 8°54'43.2" N</p> <p>125°48'11.1" E 8°54'46.8" N</p> <p>125°47'58.2" E 8°54'44.2" N</p> <p>125°47'54" E 8°54'40.5" N</p> <p>125°47'42" E 8°54'29.2" N</p>	High	<p>Located at the base of a mountain peak, this area is highly susceptible to soil creep, debris and rock slides.</p> <p>Recommendations: Monitor and report for presence of mass movement. Future habitation and construction of government/private structures in known/ identified landslide areas (areas/zones with very steep slopes) are discouraged.</p>
Location	Flood Susceptibility Rating	Remarks/Recommendations
<p>Bridge boundary of Barangay New Tubigon and Barangay San Juan</p> <p>125°49'39.9" E 8°52'30.3" N</p>	Very High	<p>Located at the junction of 3 headwater tributaries of Andanan River, this area has experienced flash flood depths reaching 4.00m along river channel.</p> <p>Recommendations: Future habitation and construction of government/private structures in known/identified flood-prone areas are discouraged. Advise for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of bridge and river dikes may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.</p>



Old steel and wooden bridge along Andanan River showing river banks with active scouring.



Debris slide with rock fall at Purok 2. These mass movements are common on ridge areas characterized by very steep slope profile.

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality Disaster Risk Reduction and Management Council to plan for any emergency.

Thank you very much.

Very truly yours,

RAINIER B. MATUSALEM
GMAT- SRDP Consultancy Inc.-MGB Team Member

NOTED:

JESSE P. SEGURA
GMAT-SRDP Consultancy Inc.-MGB Team Leader

Received by:
Date: 5-7-15



LANDSLIDE/FLOOD THREAT ADVISORY

Date: October 8, 2014

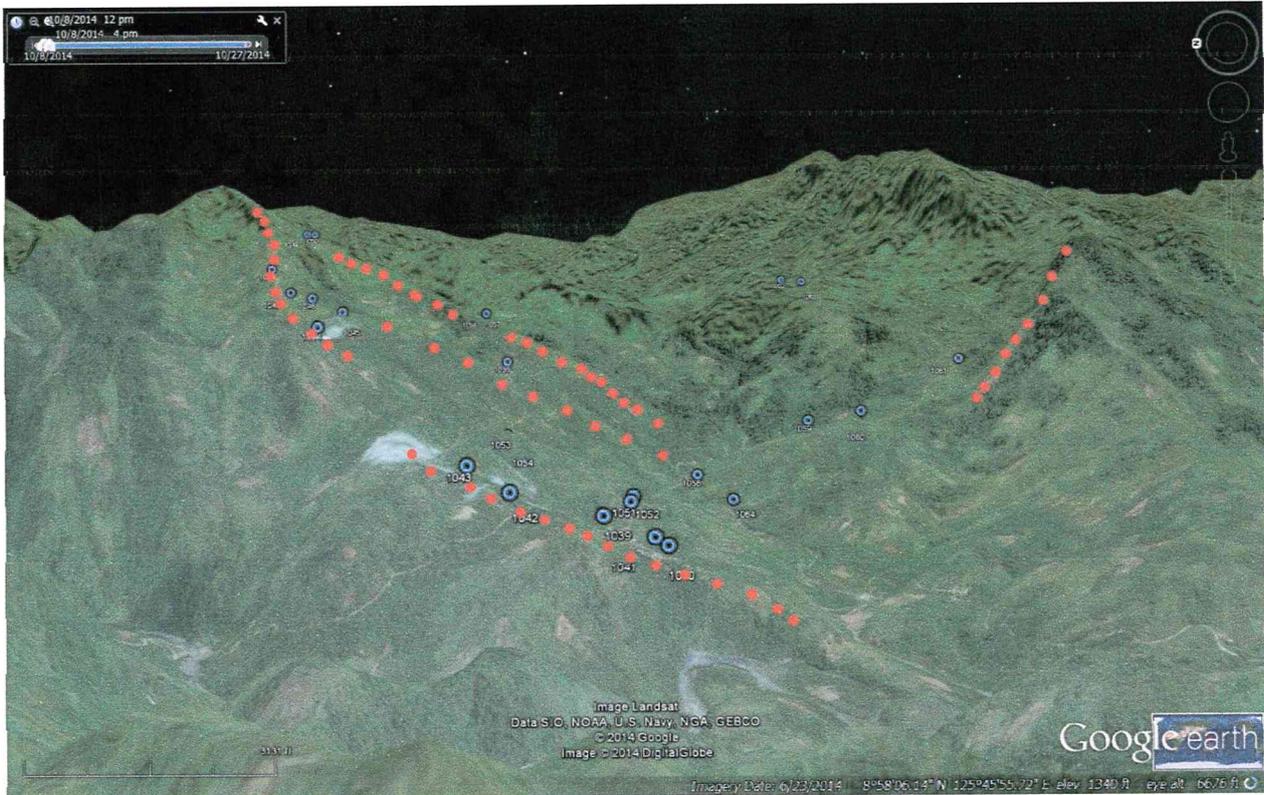
To: Brgy. Chairman Elver Pabiamo Salva
Barangay Padiay
Municipality of Sibagat
Province of Agusan del Sur

Dear Sir/Madam:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. Herewith are the results and recommendations following the assessment.

Location	Landslide Susceptibility rating	Remarks/Recommendations
Purok 9 8° 59' 0.5" N 125° 45' 12.1" E	High	<p>The area is located on a steep to very steep, relatively elevated slope, approximately 150-200 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Presence of mass movement is observed due to soil creep and subtle disintegration of overlying sedimentary units.</p> <p>Recommendations: Habitation on this area is highly discouraged.</p>
Purok 9 8° 59' 2.9" N 125° 45' 37.7" E	High	
Purok 7 8° 59' 11.1" N 125° 45' 47.9" E	High	
Purok 7 8° 59' 16.1" N 125° 45' 51" E	High	
Purok 7 8° 59' 22.4" N 125° 46' 1.1" E	High	
Purok 1 08° 59' 25.1" N 125° 46' 36.8" E	High	
Purok 1 08° 59' 25.1" N 125° 46' 43.5" E	High	
Purok 5 8° 58' 11.3" N 125° 44' 36.9" E	High	
Purok 5 8° 58' 11" N 125° 44' 39.3" E	High	

Purok 3 8° 58' 30.6" N 125° 45' 7.7" E	High
Purok 3 8° 58' 29.1" N 125° 45' 2.1" E	High
Purok 3 8° 58' 34.3" N 125° 45' 47.7" E	High
Purok 6 8° 58' 42.1" N 125° 46' 17.6" E	High
Purok 6 8° 58' 42.4" N 125° 46' 18.9" E	High
Purok 4 8° 57' 59.9" N 125° 45' 19.3" E	High
Purok 4 8° 57' 40.4" N 125° 45' 27.8" E	High
Purok 4 8° 57' 31.2" N 125° 45' 27.9" E	High
Purok 4 8° 57' 8.9" N 125° 45' 45.3" E	High
Purok 8 8° 57' 31.3" N 125° 46' 33.2" E	High
Purok 8 8° 57' 35.5" N 125° 46' 36.3" E	High
Purok 8 8° 57' 54.9" N 125° 45' 9.4" E	High



The picture above depicts the over-all geohazards situation in Barangay Padiay. The blue icons represent the GPS locations of where they were taken. These locations, inhabited by local residents, are subjected to a significant geohazards susceptibility. The red dots tracing the mountain ridges, on the other hand, are the areas with susceptibility ratings to landslide; moderate to high.

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality Disaster Risk Reduction and Management Council to plan for any emergency.

Thank you very much.

Very truly yours,

JESSE P. SEGURA
 GMAT-SRDP Consultancy Inc.-MGB Team Leader

Received by: Ernesto D. [Signature]
 Date: 5-15-11



LANDSLIDE/FLOOD THREAT ADVISORY

Date: October 8, 2014

To: Brgy. Chairman Jeones A. Temple
 Barangay Perez
 Municipality of Sibagat
 Province of Agusan del Sur

Dear Sir:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. The following are the results and recommendations following the assessment:

Location	Landslide Susceptibility Rating	Remarks/Recommendations
Dirt road going to Barangay Padiay 125°44'3.7" E 8°56'26" N	High	Located along the edge of a ridge, this area is characterized by 48°-60° slope, 1.00m thick soil, and composed of intercalated sandstone and siltstone. Numerous tension cracks and debris slide have been mapped in this area. Recommendation: Future habitation and construction of government/private structures in known/ identified landslide areas (areas/zones with very steep slopes) are discouraged.
Dirt road going to Barangay Padiay 125°44'3" E 8°56'21.1" N	High	
Dirt road going to Barangay Padiay 125°44'5.2" E 8°56'16.8" N	High	
Dirt road going to Barangay Padiay 125°44'40.6" E 8°56'12.6" N	High	
Dirt road going to Barangay Padiay 125°44'41.2" E 8°56'3" N	High	
Location	Flood Susceptibility Rating	Remarks/Recommendations
Dirt road going to Barangay Padiay 125°44'38.6" E 8°57'40.3" N	High	Located near the riverbank of Padiay River, this area is highly susceptible to flash floods during heavy and prolonged rainfall. A concrete bridge was constructed at this location characterized by series of RCP culverts and overlain by boulders and cement. Construction of the bridge caused the river channel to become shallower due to accumulation of debris that clogged the RCP culverts. This effect together with heavy and prolonged rainfall causes regular flooding in the area.
Dirt road going to Barangay Padiay 125°44'38.7" E 8°57'40.3" N		
Dirt road going to Barangay Padiay 125°44'37.9" E 8°57'40.4" N		

	<p>Recommendations: Future habitation and construction of government/private structures in known/identified flood-prone areas are discouraged. Monitor for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of bridge and river dikes may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.</p>
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Segment of an all-weather road where landslide has occurred associated with unmitigated road cut slope.



Segment of Pariay River showing the location of the damaged concrete bridge.

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality Disaster Risk Reduction and Management Council to plan for any emergency.

Thank you very much.

Very truly yours,



RAINIER B. MATUSALEM
GMAT- SRDP Consultancy Inc.-MGB Team Member

NOTED:



JESSE P. SEGURA
GMAT-SRDP Consultancy Inc.-MGB Team Leader

Received by: 
Date: 7-15-15



LANDSLIDE/FLOOD THREAT ADVISORY

Date: September 29, 2014

To: Brgy. Chairman Carmelito C. Barrientos
Barangay Poblacion
Municipality of Sibagat
Province of Agusan Del Sur

Dear Sir/Madam:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. The following are the results and recommendations following the assessment:

Location	Flood Susceptibility rating	Remarks/Recommendations
Wawa River, Purok 14 8° 49' 51.3" N 125° 41' 50.8" E	Very High	Worst flood recorded happened during typhoon Pablo and Agaton. A flood height of about 3-4 meters is experienced in areas 15m away from the riverbank. Recommendations: Installation of river wall along the riverbanks of Wawa River may be considered after an engineering geological study has been conducted to prevent from further bank erosion and to minimize the flooding. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains. Discourage future habitation in flood prone areas.
Junction between Sibagat and Wawa River 8° 49' 47.2" N 125° 41' 47.9" E	Very High	Junction of the two river systems, to the west is the Sibagat River and to the east is the Wawa River. Recommendations: Installation of river wall along the riverbanks of Wawa River may be considered after an engineering geological study has been conducted to prevent from further bank erosion and to minimize the flooding. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains. Discourage future habitation in flood prone areas
Creek in Purok 15 8° 50' 17.6" N 125° 42' 27.5" E	High	Worst flood height recorded in the unnamed creek reaches as high as 1.10 meters. Flooding is only restricted in its river channel. Recommendations: Observe for rapid increase/decrease in river/creek water level, possibly accompanied by increased turbidity (soil/rock content).

Residences in Purok 4 8° 49' 17.8" N 125° 41' 43.4" E Residences in Purok 4 8° 49' 18" N 125° 41' 43.3" E	High	The area is bounded by Hupas Creek to the west and Wawa River to the east. Combined due to river overflow puts the area at high risk of flooding. Recommendations: Installation of river wall along the riverbanks of Wawa River may be considered after an engineering geological study has been conducted to prevent from further bank erosion and to minimize the flooding. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains. Discourage future habitation in flood prone areas
Residences in Purok 14 8° 49' 51.3" N 125° 41' 50.2" E	High	The area is taken at approximately 20m away, flood heights of about 1 meter high. Worst flood recorded happened during typhoon Agaton and Pablo. Recommendations: Installation of river wall along the riverbanks of Wawa River may be considered after an engineering geological study has been conducted to prevent from further bank erosion and to minimize the flooding. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains. Discourage future habitation in flood prone areas.
Sibagat River 8° 49' 51.7" N 125° 41' 44" E	High	Flooding along Sibagat River is only restricted in the river channel. Worst flood recorded happened during typhoon Agaton and Pablo. Recommendations: Installation of river wall along the riverbanks of Wawa River may be considered after an engineering geological study has been conducted to prevent from further bank erosion and to minimize the flooding. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains. Discourage future habitation in flood prone areas.
Near the Junction of Sibagat and Wawa River 8° 49' 47.2" N 125° 41' 47.1" E	High	The area is taken near the junction of Sibagat River to the west and Wawa River to the east. Worst flood recorded happened during typhoon Agaton and Pablo. Recommendations: Installation of river wall along the riverbanks of Wawa River may be considered after an engineering geological study has been conducted to prevent from further bank erosion and to minimize the flooding. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains. Discourage future habitation in flood prone areas
Near Sibagat River 8° 49' 52.1" N 125° 41' 44.2" E	Moderate	Flooding along Sibagat River is only restricted in the river channel. Worst flood recorded happened during typhoon Agaton and Pablo. Recommendations: Installation of river wall along the riverbanks of Wawa River may be considered after an engineering geological study has been conducted to prevent from further bank erosion and to minimize the flooding. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains. Discourage future habitation in flood prone areas.
Along the barangay road in Purok 15 8° 50' 17.2" N 125° 42' 27.2" E	Moderate	0.5 meters flood height experienced in the area is due to the overflowing in of the nearby creek. Recommendations: Observe for rapid increase/decrease in river/creek water level, possibly accompanied by increased turbidity (soil/rock content).
Location	Landslide Susceptibility rating	Remarks/Recommendations
Along the barangay road in Purok 15 8° 50' 17.1" N 125° 42' 27" E Along the barangay road in Purok 15	High	The road is bounded to the north by steep slopes. Relict landslides and active soil creep were observed on some portion of the access road. Recommendations: Discourage future habitation and construction of government structures in known/ identified landslide prone areas such as at the base of the slope in Purok 15. Advise for pre-emptive

8° 50' 17.2" N 125° 42' 27.2" E		evacuation during inclement weather condition and occasions of heavy and prolonged rains.
Along the barangay road in Purok 15 8° 50' 14.2" N 125° 42' 25" E	High	Series of landslide along the barangay road which is caused by prolonged heavy rain. The first landslide is about 15m deep and 8m wide composed of highly weathered andesite while the other landslide is composed of alluvial deposits which are caused by riverbank erosion at the base of the slope during typhoon Agaton. Recommendations: Discourage future habitation and construction of government structures in known/ identified landslide prone areas such as at the base of the slope in Purok 15. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains.
Along the barangay road in Purok 15 8° 50' 13" N 125° 42' 25" E	High	Relict landslide along the barangay road. Tilted trees observed along the mid slope indicate soil creep. Recommendations: Discourage future habitation and construction of government structures in known/ identified landslide prone areas such as at the base of the slope in Purok 15. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains.
Along the barangay road in Purok 15 8° 50' 11.2" N 125° 42' 26.7" E	High	Very steep landslide about 10m high and 5m width is observed along the barangay road in Purok 15. Recommendations: Discourage future habitation and construction of government structures in known/ identified landslide prone areas such as at the base of the slope in Purok 15. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains.
Along the barangay road in Purok 15 8° 50' 5.8" N 125° 42' 29.7" E	High	A relict landslide forming a valley-like feature is observed along the barangay road. Instability of the slope is manifested by tilted trees in the mid slope as well as talus deposits observed at the base of the slope. Recommendations: Discourage future habitation and construction of government structures in known/ identified landslide prone areas such as at the base of the slope in Purok 15. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains.
Along the barangay road in Purok 15 8° 50' 3.1" N 125° 42' 30.9" E	High	An 8-meter deep landslide along the barangay road is the result of prolonged heavy rain during typhoon Agaton. Seepage is also observed at the base of the slope which makes erosion faster. Recommendations: Discourage future habitation and construction of government structures in known/ identified landslide prone areas such as at the base of the slope in Purok 15. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains.
Along the barangay road in Purok 15 8° 49' 48.2" N 125° 42' 24.2" E Along the barangay road in Purok 15 8° 49' 53.1" N 125° 42' 16" E Along the barangay road in Purok 15 8° 49' 53.1" N 125° 42' 10" E Along the barangay road in Purok 15 8° 49' 58" N	High	The road is bounded to the north by steep slopes. Relict landslides and active soil creep were observed on some portion of the access road. Recommendations: Discourage future habitation and construction of government structures in known/ identified landslide prone areas such as at the base of the slope in Purok 15. Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rains.

125° 42' 3.4" E Along the barangay road in Purok 14 8° 49' 59" N 125° 41' 58.4" E Along the barangay road in Purok 14 8° 49' 58.3" N 125° 41' 52.2" E		
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This is a photo of a 50 meters long and 6 meters deep landslide along the trail going to Purok 15. Several landslides are also found in the area which is possibly associated by the movement of the Philippine Fault. **(Geographical Location: 8° 49' 58" N 125° 42' 3.4" E)**



This is a photo of 8 meters deep landslide which occurs during typhoon Agaton and destroyed the road in Purok 15. These landslides that are found in the area are possibly associated by the Philippine Fault. (Geographical Location: 8° 50' 3.1" N 125° 42' 30.9" E)



A barangay official of Poblacion shows the flood height of 1.4 meters during typhoon Agaton which lasts for two to three days. (Geographical Location: 8° 49' 17.8" N 125° 41' 43.4" E)

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality Disaster Risk Reduction and Management Council to plan for any emergency.

Thank you very much.

Very truly yours,


JESSE P. SEGURA

GMAT-SRDP Consultancy Inc.-MGB Team Leader

Received by: ERNESTO O. SOMBAN

Date: 5-17-15



LANDSLIDE/FLOOD THREAT ADVISORY

Date: October 09, 2014

To: Brgy. Chairman Carlos G. Mandag
Barangay San Isidro
Municipality of Sibagat
Province of Agusan del Sur

Dear Sir/Madam:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. The following are the results and recommendations following the assessment:

Location	Landslide Susceptibility Rating	Remarks/Recommendations
Purok 2 125°43'57.32" E 8°53'14.06" N	Very High	Progressive river bank erosion along the high bank at Sibagat river. Recommendations: Observe for and/or monitor for presence of mass movement, saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. San Isidro on geohazard situation. Avoid settlements near slope areas.
Purok 6 125°43'18.34" E 8°53'3.52" N	High	Main access road that leads to the area is situated along steeply sloping terrain. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. San Isidro on geohazard situation.
Purok 6 125°43'14.7" E 8°53'2.15" N	High	
Purok 6 125°43'12.22" E 8°53'0.53" N	High	
Purok 6 125°43'7.46" E 8°52'55.09" N	High	
Purok 6 125°43'2.78" E 8°52'51.06" N	High	
Purok 6 125°42'59.9" E 8°52'46.45" N	High	
Purok 6 125°43'21.22" E 8°53'5.75" N	High	

		and updates with Brgy. San Isidro on geohazard situation. Avoid settlements near slope areas.
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Clockwise: Residential area along low undulating ground at Purok 1, Purok 2 and main access road that is situated near the base of slope in Purok 5B.

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality Disaster Risk Reduction and Management Council to plan for any emergency.

Thank you very much.

Very truly yours,



LLEWE LLOYD A. POLINAR
GMAT- SRDP Consultancy Inc.-MGB Team Member

NOTED:



JESSE P. SEGURA
GMAT-SRDP Consultancy Inc.-MGB Team Leader

Received by: 
Date: 4-5-11



LANDSLIDE/FLOOD THREAT ADVISORY

Date: September 29, 2014

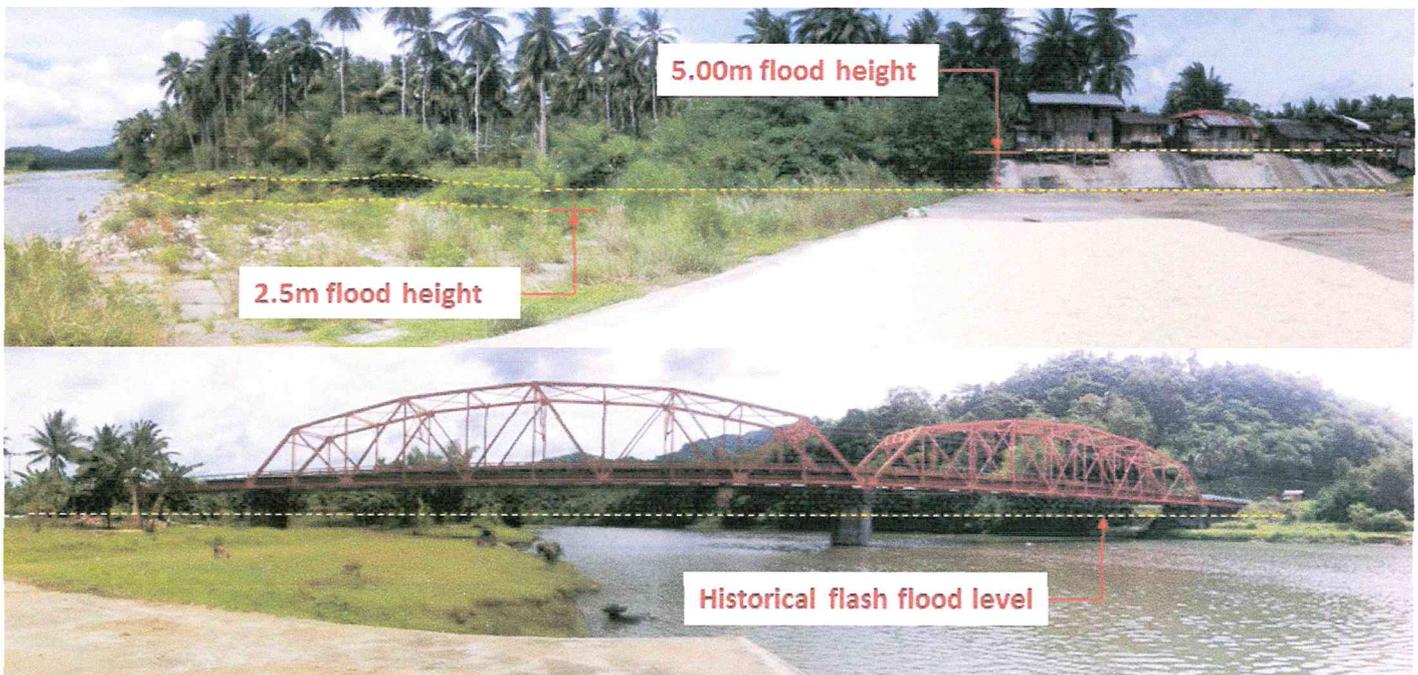
To: Brgy. Chairman Edgardo L. Castro Jr.
 Barangay San Vicente
 Municipality of Sibagat
 Province of Agusan del Sur

Dear Sir:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. The following are the results and recommendations following the assessment:

Location	Landslide Susceptibility Rating	Remarks/Recommendations
Settlement along dirt road going to Barangay Ilihan 125°41'57.6" E 8°48'19.7" N	High	Located at the base of a steep hill, this area is highly susceptible to debris and rock slides. Recommendations: Future habitation and construction of government/private structures in known/identified landslide-prone areas are discouraged. Monitor for presence of mass movement.
Settlement along dirt road going to Barangay Ilihan 125°41'57.6" E 8°48'15.8" N		
Settlement along dirt road going to Barangay Ilihan 125°41'54.5" E 8°48'9.7" N		
Location	Flood Susceptibility Rating	Remarks/Recommendations
Settlement and structures on Wawa River flood plain 125°42'22.3" E 8°48'18.8" N	Very High	Located on a flood plain on the west flank of Wawa River, this area has experienced flash flood depths reaching 6.00m. Active scouring of river banks indicate migration of river channel which may later affect nearby structures such as government buildings and houses. Recommendations: Future habitation and construction of government/private structures in known/identified flood-prone areas are discouraged. Advise for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of river dikes may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.
Settlement and structures on Wawa River flood plain 125°42'21.6" E 8°48'18.2" N		

Maharlika Highway on Wawa River flood plain 125°42'8.6" E 8°48'27.4" N	High	<p>Located on a flood plain on the west flank of Wawa River, this area is highly susceptible to flash flood during heavy and prolonged rains. Active scouring of river banks indicate migration of river channel which may later affect nearby structures such as government buildings and houses.</p> <p>Recommendations: Future habitation and construction of government/private structures in known/identified flood-prone areas are discouraged. Advise for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of river dikes may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.</p>
Settlement and structures on Wawa River flood plain 125°42'16.5" E 8°48'24.7" N		
Settlement and structures on Wawa River flood plain 125°42'18.7" E 8°48'24" N		
Maharlika Highway on Wawa River flood plain 125°42'7" E 8°48'28.1" N		
Settlement and structures on Wawa River flood plain 125°42'3.4" E 8°48'43.1" N		
Settlement and structures on Wawa River flood plain 125°42'3.9" E 8°48'44.4" N		



Wawa River along Barangay San Vicente. Yellow dashed line indicates previous flash flood level.



Looking southwest along section of concrete road going to Barangay Ilihan. This area is susceptible to soil creep and localized debris slides.

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality Disaster Risk Reduction and Management Council to plan for any emergency.

Thank you very much.

Very truly yours,

RAINIER B. MATUSALEM
GMAT- SRDP Consultancy Inc.-MGB Team Member

NOTED:

JESSE P. SEGURA
GMAT-SRDP Consultancy Inc.-MGB Team Leader

Received by:
Date: J - 5 - 11



LANDSLIDE/FLOOD THREAT ADVISORY

Date: October 9, 2014

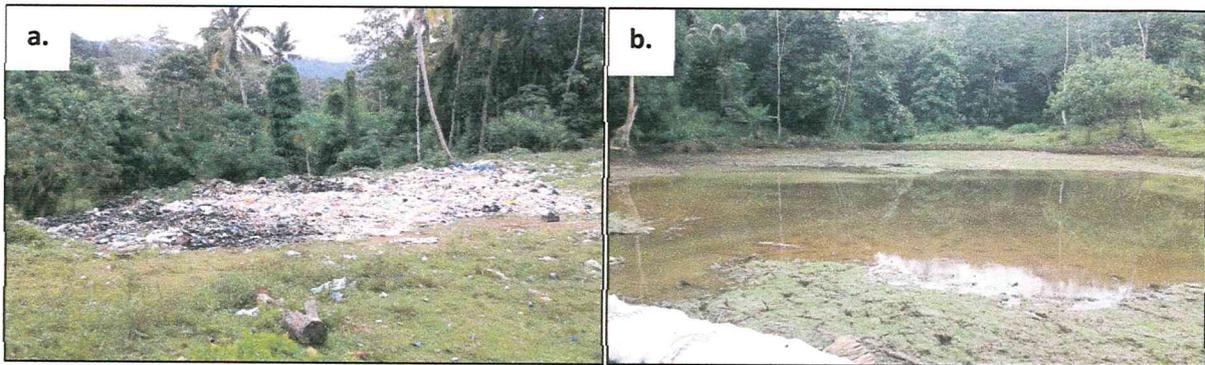
To: Brgy. Chairman Ruben N. Duamte
 Barangay Sinai
 Municipality of Sibagat
 Province of Agusan del Sur

Dear Sir:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. Herewith are the results and recommendations following the assessment:

Location	Landslide Susceptibility Rating	Remarks/Recommendations
Brgy. Road 125°41'1.86" E 8°46'39.97" N	High	<p>The area is characterized by highly rolling topography with locally steep slopes underlain by tilted/folded interbedded mudstone, siltstone and sandstone.</p> <p>Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.</p>
Brgy. Road 125°40'53.29" E 8°46'50.52" N	High	
Brgy. Road 125°40'51.64" E 8°47'2.9" N	High	
Brgy. Road 125°40'44.26" E 8°47'17.45" N	High	
Brgy. Road 125°40'31.8" E 8°47'31.81" N	High	
Brgy. Road 125°39'56.77" E 8°47'33.11" N	High	
Residential area 125°39'36.83" E 8°47'2.36" N	High	
Brgy. Road, Agricultural area 125°40'28.56" E 8°47'34.08" N	High	

<p>Municipal Dump Site 125°40'42.78" E 8°47'18.78" N</p>	<p>High</p>	<p>The area is characterized by highly rolling topography with locally steep slopes presently utilized as municipal dump site.</p> <p>Recommendations: Discontinue land utilization as dumpsite. The area is located along the slopes with no proper underground lining. Highly susceptible to ground water contamination associated with leachate generated from garbage. Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities. Avoid construction of new infrastructures along steep slopes.</p>
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Photos. Sibagat Municipal Dump Site located in Sinai (a) and fish pond project of the barangay and associated organization (b).

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality/City Disaster Risk Reduction and management Council to plan for any emergency.

Thank you very much.

Very truly yours,



Jesse P. Segura
GMAT-SRDP-MGB Team Leader

Received by: 

Date: 5-5-15



LANDSLIDE/FLOOD THREAT ADVISORY

Date: October 08, 2014

To: Brgy. Chairman Alfonso T. Gordo
 Barangay Sta. Maria
 Municipality of Sibagat
 Province of Agusan del Sur

Dear Sir/Madam:

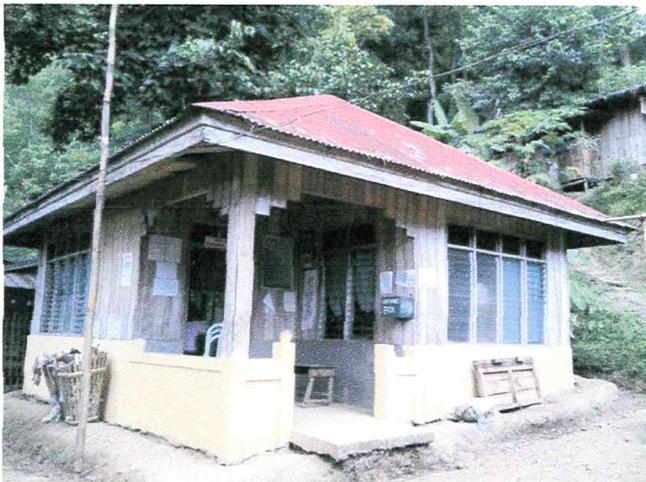
Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. The following are the results and recommendations following the assessment:

Location	Landslide Susceptibility Rating	Remarks/Recommendations
Purok 3 125°40'58.12" E 8°54'17.28" N	Very High	Landslide area mapped along the main access road.
Purok 4 125°41'12.34" E 8°53'41.75" N	Very High	Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Sta. Maria on geohazard situation. Avoid construction of houses near slope areas.
Purok 2 125°40'46.38" E 8°54'10.3" N	High	Main access road going to the area is situated along a steeply sloping ground. Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Sta. Maria on geohazard situation.
Purok 2 125°40'50.38" E 8°54'10.91" N	High	
Purok 2 125°40'52.39" E 8°54'13.1" N	High	
Purok 2 125°40'59.63" E 8°54'13.75" N	High	
Purok 3 125°41'13.85" E 8°53'53.88" N	High	
Purok 3 125°41'14.46" E 8°53'46.61" N	High	

Purok 2 125°41'3.3" E 8°54'11.95" N	High	<p>Main access road going to the area is situated along steeply sloping ground.</p> <p>Recommendations: Observe for and/or monitor for presence of mass movement and report to the MGB/municipal authorities (e.g., landslides, tension cracks). Observe for saturated ground or seeps and sunken or displaced road surfaces and report to the MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Sta. Maria on geohazard situation.</p>
Purok 1 125°41'5.57" E 8°53'57.95" N	High	
Purok 1 125°41'5.46" E 8°54'1.8" N	High	
Purok 4 125°41'50.57" E 8°54'18" N	High	
Purok 4 125°41'41.24" E 8°54'16.92" N	High	
125°41'30.91" E 8°54'15.98" N	High	
125°41'20.04" E 8°54'6.73" N	High	
Purok 1 125°41'6.54" E 8°53'52.62" N	High	<p>Residential area is situated at the slopes of a steeply sloping terrain.</p> <p>Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Sta. Maria on geohazard situation. Avoid construction of houses near slope areas.</p>
Purok 2 125°40'43.46" E 8°54'13.18" N	High	
Purok 2 125°40'55.81" E 8°54'12.28" N	High	<p>Residential area situated at the slopes of a steeply sloping terrain.</p> <p>Recommendations: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities. Develop an early warning system (e.g., signages). Constant communication and updates with Brgy. Sta. Maria on geohazard situation. Avoid construction of houses near slope areas.</p>
Purok 2 125°40'57.43" E 8°54'15.34" N	High	
Purok 2 125°41'1.75" E 8°54'8.32" N	High	
Purok 2 125°41'4.63" E 8°54'4.28" N	High	
Purok 3 125°41'2.83" E 8°54'5.65" N	High	
Purok 3 125°41'18.17" E 8°54'0.18" N	High	
Purok 4 125°41'12.98" E 8°53'42.43" N	High	



Sta. Maria Elementary School at Purok 1 situated near a low but moderately sloping terrain



Barangay office at Purok 1 is positioned along a moderately sloping ground and is also at the base of a steep terrain (left) and residential area at Purok 3 along steep sloping ground.

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

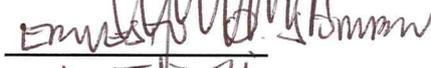
Your office is encouraged to contact your Municipality Disaster Risk Reduction and Management Council to plan for any emergency.

Thank you very much.

Very truly yours,


LLEWE LLOYD A. POLINAR
 GMAT- SRDP Consultancy Inc.-MGB Team Member

NOTED:
~~_____~~
JESSE P. SEGURA
 GMAT-SRDP Consultancy Inc.-MGB Team Leader

Received by: 
 Date: 5-27-11



LANDSLIDE/FLOOD THREAT ADVISORY

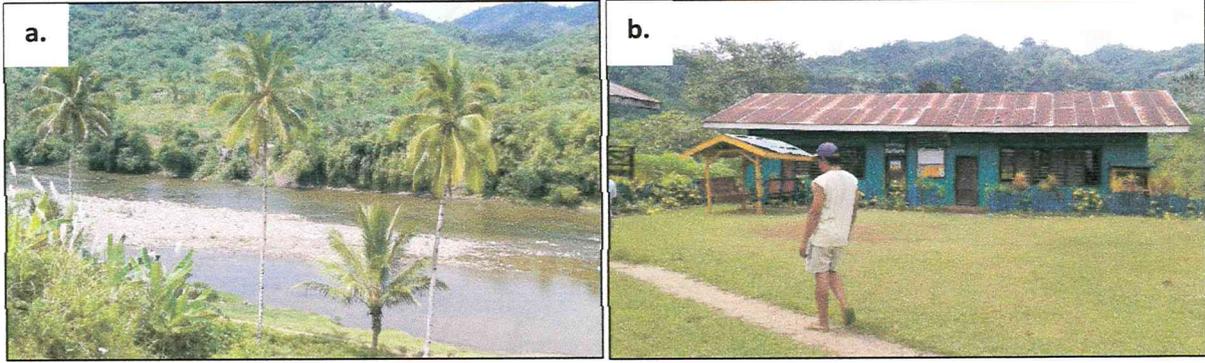
Date: October 8, 2014

To: Brgy. Chairman Eulito B. Fabian
 Barangay Sta. Cruz
 Municipality of Sibagat
 Province of Agusan del Sur

Dear Sir:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. Herewith are the results and recommendations following the assessment:

Location	Landslide Susceptibility Rating	Remarks/Recommendations
Residential area, Wawa river bank 125°43'21.26" E 8°54'59.7" N	High	Steep river banks. Locally susceptible to landslide. Recommendation: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and immediately report to MGB/municipal authorities.
Location	Flood Susceptibility Rating	Remarks/Recommendations
Residential area, Wawa river bank 125°43'21.26" E 8°54'59.7" N	Moderate	Residential area located along/near the flood plain. Recommendations: Observe for rapid increase/decrease in creek/river water levels, possibly accompanied by increased turbidity (soil content). Advise for pre-emptive evacuation during inclement weather condition and occasions of heavy and prolonged rainfall. Observe proper easement along bodies of water. Avoid construction of important infrastructures within the identified flood prone areas. Relocate houses to safer ground away from the identified flood prone areas.



Photos. View of Purok 4 on the other side of Wawa River (a) and Sta. Cruz Elementary School (b).

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality/City Disaster Risk Reduction and management Council to plan for any emergency.

Thank you very much.

Very truly yours,

Jesse P. Segura
GMAT-SRDP-MGB Team Leader

Received by: ERNESTO O. JERONIMO

Date: 5-5-14



LANDSLIDE/FLOOD THREAT ADVISORY

Date: October 01, 2014

To: Brgy. Chairman Mamelyn V. Vergara
Barangay Tabontabon
Municipality of Sibagat
Province of Agusan del Sur

Dear Madam:

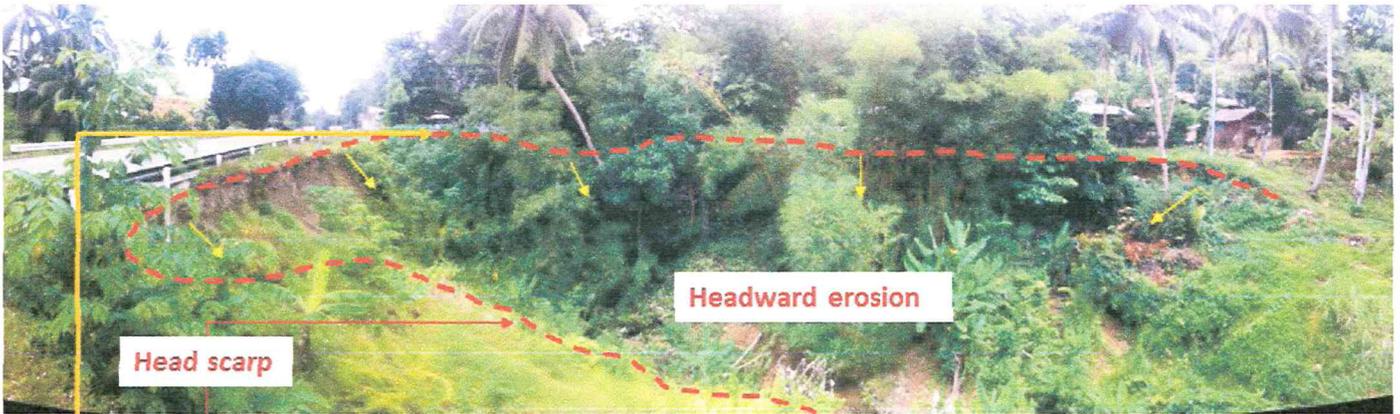
Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. The following are the results and recommendations following the assessment:

Location	Landslide Susceptibility Rating	Remarks/Recommendations
Maharlika Highway 125°39'20.6" E 8°54'9.3" N	Very High	Located along Maharlika Highway near Barangay Tabontabon proper. This collapsed portion on the eastern side of the highway is caused by head ward erosion. This erosion will continue to advance if not mitigated properly. Recommendations: Installation of riprap and/or re-engineering of drainages may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern. Future loading/habitation and construction of government/private structures in known/identified landslide areas (areas/zones with very steep slopes) are discouraged. Develop warning signage.
Barangay Road near Multi-purpose hall 125°39'21" E 8°54'12.6" N	Very High	Located few meters south of Barangay Tabontabon Multi-purpose Hall is a collapsed portion of barangay road caused by head ward erosion. This erosion will continue to advance if not mitigated properly.
Barangay Road near Multi-purpose hall 125°39'21.2" E 8°54'12.4" N		Recommendations: Installation of rock riprap and or reengineering of drainage pathways may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern. Future loading/habitation and construction of government/private structures in known/ identified landslide areas (areas/zones with very steep slopes) are discouraged.
Tabontabon Elementary School 125°39'25.1" E 8°54'9.8" N	Very High	Tabontabon Elementary School is at risk of further damage to buildings due to developing tension cracks. These tension cracks may develop into scarps of an earth/debris slide triggered by earthquake or heavy and prolonged rains. These structures have been mapped along hallways and within the classrooms.
Tabontabon Elementary School 125°39'25.9" E 8°54'8.7" N		Recommendation: Relocation of Tabontabon Elementary School to a safer ground must be considered as long term solution.

Tabontabon Elementary School 125°39'24.8" E 8°54'9.1" N		
Maharlika Highway 125°39'13.4" E 8°54'20.6" N	High	<p>Located along Maharlika Highway and characterized by undulating to steep terrain. Long developing tension crack approximately 170.00m long have been mapped along the western side of the highway.</p> <p>Recommendations: Proper grading and engineering of slope can be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern. Constant communication and updates within the barangay and with nearby barangays about geohazard situations. Monitor and report for presence of further mass movement (tension cracks, bulges, localized debris slides). Develop early warning signage.</p>
Maharlika Highway 125°38'53.6" E 8°54'41.7" N	High	<p>Located along Maharlika Highway and characterized by undulating to steep terrain. This earth slide is characterized by 65.00m wide, 30° slope. Several tension cracks and bulges have been noted in this area.</p> <p>Recommendations: Proper grading and engineering of slope or installation of retaining wall on the toe of the landslide may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern. Constant communication and updates within the barangay and with nearby barangays about geohazard situations. Monitor and report for presence of further mass movement (tension cracks, bulges, localized debris slides). Develop early warning signage.</p>
Maharlika Highway 125°39'8" E 8°54'25.3" N	High	<p>Located along Maharlika Highway and characterized by undulating to steep terrain. This earth slide is characterized by approximately 100.00m in width, 30° slope, 1.00m vertical displacement on scarps. Numerous tension cracks and bulges forming terracets have been noted in this area.</p> <p>Recommendations: Proper grading and engineering of slope or installation of retaining wall on the toe of the landslide may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern. Constant communication and updates within the barangay and with nearby barangays about geohazard situations. Monitor and report for presence of further mass movement (tension cracks, bulges, localized debris slides). Develop early warning signage.</p>
Maharlika Highway 125°39'1.8" E 8°54'31.5" N	High	<p>Located along Maharlika Highway and characterized by undulating to steep terrain. This portion of Maharlika Highway is at risk of collapse/damage due to loading and or lateral spreading/earth slide developing on the western side of the highway.</p> <p>Recommendations: Proper grading and engineering of slope or installation of retaining wall on the side of the road may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern. Constant communication and updates within the barangay and with nearby barangays about geohazard situations. Monitor and report for presence of further mass movement (tension cracks, bulges, localized debris slides). Develop early warning signage.</p>
Maharlika Highway 125°39'4.8" E 8°53'21.3" N	High	<p>Located along Maharlika Highway and characterized by very steep slopes and bedded sedimentary rock units. Localized debris/earth slides have occurred in this area due to its very steep profile.</p> <p>Recommendations: Monitor for presence of mass movement. Establish warning signage. Proper grading and engineering of slope or installation of retaining wall on the side of the road may be</p>

		considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.
Purok 5 settlement 125°39'36.5" E 8°53'59.1" N	High	Located on a dirt road along Purok 5. This area is majorly covered with mango, coconut, corn, and Falcata plantations. This area is highly susceptible to localized earth/debris slides triggered by heavy/prolonged rains and earthquake. Several tension cracks have been mapped characterized by 20.00 to 50.00m long, 0.10 to 0.20m horizontal separation, and 0.20 to 0.30m vertical displacement. Recommendations: Future loading/habitation and construction of government/private structures in known/identified landslide areas (areas/zones with very steep slopes) are discouraged. Constant communication and updates within the barangay and with nearby barangays about geohazard situations. Monitor and report for presence of further mass movement (tension cracks, bulges, localized debris slides). Develop early warning signage.
Dirt road going to Barangay Sta. Maria 125°40'9.6" E 8°53'55.6" N	High	Located on a dirt road going to Barangay Sta. Maria, this area is characterized by very steep slopes and covered with coconut and Falcata plantations. Localized debris slides, tension cracks, ground bulges, and tilted trees are common features in this area. Recommendations: Constant communication and updates within the barangay and with nearby barangays about geohazard situations. Future habitation and construction of government/private structures in known/identified landslide areas (areas/zones with very steep slopes) are discouraged. Stabilize slope edges of road cut. Monitor and report for presence of mass movement (tension cracks, bulges, localized debris slides). Develop early warning signage.
Dirt road going to Barangay Sta. Maria 125°40'9.1" E 8°53'59.4" N		
Maharlika Highway 125°39'18.1" E 8°54'15.6" N	High	Located on the western flank of Maharlika Highway and characterized by undulating terrain. This earth slide is characterized by approximately 80.00m in width, 25° slope, 1.00m vertical displacement on scarps. Numerous tension cracks and bulges forming terracets have been noted in this area. These structures have already inflicted damages to residents nearby. Recommendations: Future habitation and construction of government/private structures in known/ identified landslide areas (areas/zones with very steep slopes) are discouraged. Proper grading and engineering of slope may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern. Constant communication and updates within the barangay and with nearby barangays about geohazard situations. Monitor and report for presence of further mass movement (tension cracks, bulges, localized debris slides). Develop early warning signage.
Settlement on the west flank of Maharlika Highway 125°39'17.7" E 8°54'14.9" N		
Settlement on the west flank of Maharlika Highway 125°39'16.3" E 8°54'14" N		
Location	Flood Susceptibility Rating	Remarks/Recommendations
Dirt road going to Barangay Sta. Maria 125°39'58.6" E 8°53'35.5" N	High	Located on the riverbank of Sibagat River, this area has experienced flash flood depths reaching 2.00m. Recommendations: Future habitation and construction of government/private structures in known/identified flood-prone areas are discouraged. Advise for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of bridge and river dikes may be considered subject to a more detailed engineering geological study as to its general applicability in the area of concern.
Bridge 125°39'57.4" E 8°53'39.4" N	High	Located near the riverbank of Sibagat River, this area has experienced flash flood depths reaching 1.00m.

<p>Bridge 125°39'58.3" E 8°53'35.6" N</p>	<p>High</p>	<p>Recommendations: Future habitation and construction of government/private structures in known/identified flood-prone areas are discouraged. Advise for pre-emptive evacuation of residents during inclement weather condition and occasions of heavy and prolonged rains. Installation of bridge and river dikes may be considered subject to a more engineering geological study as to its general applicability in the area of concern.</p>
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Headward erosion located near Barangay Tabontabon proper.



Subsidence/landslide along Maharlika Highway.

"MINING SHALL BE PRO-PEOPLE AND PRO-ENVIRONMENT IN SUSTAINING WEALTH CREATION AND IMPROVED QUALITY OF LIFE"



Damages to school building caused by tension cracks and ground movement.

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality Disaster Risk Reduction and Management Council to plan for any emergency.

Thank you very much.

Very truly yours,


RAINIER B. MATUSALEM
GMAT- SRDP Consultancy Inc.-MGB Team Member

NOTED:


JESSE P. SEGURA
GMAT-SRDP Consultancy Inc.-MGB Team Leader

Received by: 
Date: 4-15-15



LANDSLIDE/FLOOD THREAT ADVISORY

Date: October 9, 2014

To: Brgy. Chairman Julieta A. Sotto
Barangay Tag-Oyango
Municipality of Sibagat
Province of Agusan del Sur

Dear Sir/Madam:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. Herewith are the results and recommendations following the assessment:

Location	Landslide Susceptibility rating	Remarks/Recommendations
Purok 3 8° 49' 9.5" N 125° 42' 19.7" E	High	The proximity of this area to Wawa River makes it highly susceptible to flooding. Recommendations: Observe for rapid increase in river/creek water level, possibly accompanied by increased turbidity (soil/rock content) and evacuate whenever necessary.
Purok 3 8° 49' 6.2" N 125° 42' 23.1" E	High	
Purok 3 8° 49' 3.4" N 125° 42' 25.7" E	High	
Purok 5 8° 49' 20.8" N 125° 41' 46.3" E	High	
Purok 5 8° 49' 16.4" N 125° 41' 47" E	High	
Purok 6 8° 49' 22.4" N 125° 41' 49" E	Moderate	
Purok 6 8° 49' 25.2" N 125° 41' 48.8" E	Moderate	
Purok 6 8° 49' 29.5" N 125° 41' 49.2" E	Moderate	
Purok 5 8° 49' 27.1" N 125° 41' 47.8" E	Moderate	

Purok 5 8° 49' 7.7" N 125° 41' 52.4" E	Moderate
Purok 4 8° 48' 59.5" N 125° 42' 1.3" E	Moderate
Purok 4 8° 48' 58.5" N 125° 42' 2.7" E	Moderate
Purok 1 8° 49' 13.7" N 125° 42' 14.9" E	Moderate
Purok 1 8° 49' 14.1" N 125° 42' 15.7" E	Moderate

Location	Landslide Susceptibility rating	Remarks/Recommendations
Purok 8 8° 49' 21.8" N 125° 42' 39.4" E	High	<i>The area is located on a steep to very steep, relatively elevated slope, approximately 120 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Presence of mass movement is observed due to soil creep and subtle disintegration of overlying sedimentary units.</i> Recommendations: Habitation on this area is highly discouraged.
Purok 8 8° 49' 23.4" N 125° 42' 46.2" E	High	<i>The area is located on a steep to very steep, relatively elevated slope, approximately 120 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Presence of mass movement is observed due to soil creep and subtle disintegration of overlying sedimentary units.</i> Recommendations: Habitation on this area is highly discouraged.
Purok 8 8° 49' 24.4" N 125° 42' 49.1" E	High	<i>The area is located on a steep to very steep, relatively elevated slope, approximately 120 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Presence of mass movement is observed due to soil creep and subtle disintegration of overlying sedimentary units.</i> Recommendations: Habitation on this area is highly discouraged.
Purok 8 8° 49' 20.9" N 125° 42' 54" E	High	<i>The area is located on a steep to very steep, relatively elevated slope, approximately 120 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Presence of mass movement is observed due to soil creep and subtle disintegration of overlying sedimentary units.</i> Recommendations: Habitation on this area is highly discouraged.
Purok 7 8° 49' 28.7" N 125° 43' 7.6" E	High	<i>The area is located on a steep to very steep, relatively elevated slope, approximately 120 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Presence of mass movement is observed due to soil creep and subtle disintegration of overlying sedimentary units.</i>

		Recommendations: Habitation on this area is highly discouraged.
Purok 7 8° 49' 30.5" N 125° 43' 8.1" E	High	The area is located on a steep to very steep, relatively elevated slope, approximately 120 meters high. The slope is composed entirely of weathered sedimentary materials making it highly susceptible to landslide. Presence of mass movement is observed due to soil creep and subtle disintegration of overlying sedimentary units. Recommendations: Habitation on this area is highly discouraged.
Purok 2 8° 49' 12.7" N 125° 42' 18.9" E	Moderate	A gently rolling slope was observed with thick layer of loosen soil materials making it moderately susceptible to landslide. Recommendations: Residents living in this area need to apply mitigating measures immediately. Mitigating measures to be applied may be the following: benching or riprapping of bench, and planting of trees.
Purok 2 8° 49' 14.9" N 125° 42' 16.8" E	Moderate	A gently rolling slope was observed with thick layer of loosen soil materials making it moderately susceptible to landslide. Recommendations: Residents living in this area need to apply mitigating measures immediately. Mitigating measures to be applied may be the following: benching or riprapping of bench, and planting of trees.



The chairman of Barangay Tag-Oyango pointing on a tension crack extending 100M along the barangay road in Purok 8. (With a GPS location 8° 49' 21.8" N/125° 42' 39.4" E)



The figure above is a google earth generated image showing the typical terrain of Barangay Tag-Oyango. The blue dots represent the GPS stations of the residential areas. The red and violet dots are traces of mountain ridges and areas that are susceptible to landslide.

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality Disaster Risk Reduction and Management Council to plan for any emergency.

Thank you very much.

Very truly yours,

JESSE P. SEGURA
GMAT-SRDP Consultancy Inc.-MGB Team Leader

Received by: Ernesto O. Combarom
Date: _____



LANDSLIDE/FLOOD THREAT ADVISORY

Date: October 09, 2014

To: Brgy. Chairman Anastacia G. Opaon
Barangay Villangit
Municipality of Sibagat
Province of Agusan del Sur

Dear Madam:

Please be advised that the Geohazards Mapping and Assessment Team (GMAT) of the SRDP Consultancy Inc. - Mines and Geosciences Bureau (MGB) has conducted landslide and flood hazard assessment in your barangay. The following are the results and recommendations following the assessment:

Location	Landslide Susceptibility Rating	Remarks/Recommendations
Purok 1-A 125°43'37.63" E 8°51'34.24" N	High	<i>Residential area a near a very steep high ground.</i> Recommendation: Observe for and/or monitor for presence of mass movement (e.g., landslides, tension cracks), saturated ground or seeps and sunken or displaced road surfaces and report to MGB/municipal authorities.
Location	Flood Susceptibility Rating	Remarks/Recommendations
Purok 2 125°43'53.04" E 8°51'34.92" N	Very High	Water volume of southwest flowing Sibagat river increases during perilous weather conditions. Flood water does not reach the residential areas. Recommendations: Develop an early warning system. Observe for rapid increase/decrease of water levels of river, possibly accompanied with increased turbidity (soil content). Observe for sunken or displaced road surfaces. Avoid habitation near the river.



Villangit Elementary School at Purok 1 is situated near the base of a very steep slope.



Some of the images from residential area at Purok 4A situated along moderately sloping ground and residential area at Purok 5 positioned near the base of a low but steep sloping terrain.

Kindly advise your affected constituents to initiate readiness and measures for these identified geohazards. This susceptibility rating was arrived at as of this field assessment. It should be noted that the rating could advance (e.g. from low to moderate, moderate to high) as mass movement progresses. Hence, SRDP-MGB constantly recommends strict and continuous implementation of the SRDP-MGB recommendations for the barangay.

Your office is encouraged to contact your Municipality Disaster Risk Reduction and Management Council to plan for any emergency.

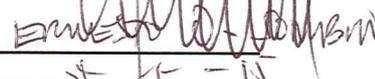
Thank you very much.

Very truly yours,


LLEWE LLOYD A. POLINAR
 GMAT- SRDP Consultancy Inc.-MGB Team Member

NOTED:


JESSE P. SEGURA
 GMAT-SRDP Consultancy Inc.-MGB Team Leader

Received by: 
 Date: