Reproduction in fungi occurs by spore formation. The decomposition of matter and the recycling of nutrients is well known. The majority of fungi are saprophytes in soil and facultatively anaerobic; no strictly anaerobic fungi are known. All fungi are chemo heterotrophs, requiring organic compounds for energy and carbon. They cannot make their own food, and because of these and other differences, fungi differ from plants in several distinct ways. Compare what you have learned about cell wall composition in fungi and plants. The cell walls of plants are composed of cellulose, whereas the cell wall of almost all fungi contain chitin; in addition, plants are autotrophs, whereas fungi are heterotrophs. They cannot make their own food, and because of these and other differences, fungi are now classified in their own kingdom. However, because fungi were once classified plants, the main groups of the kingdom fungi are divisions rather than phyla (Strauss and Lisowski, 2003). All fungi are chemo heterotrophs, requiring organic compounds for energy and carbon. Fungi are aerobic or facultatively anaerobic; no strictly anaerobic fungi are known. The majority of fungi are saprophytes in soil and water; there they are primarily decomposers of materials. Like bacteria, fungi contribute significantly to the decomposition of matter and the recycling of nutrients. Reproduction in fungi occurs by spore formation. These spores, however, are quite different from bacterial endospores (Tortora, Funke, and Case, 1992). Fungi touch our lives in many ways; they, together with the bacteria, are the decomposers of the world, breaking down vast quantities of dead organic matter that would otherwise accumulate and make the earth uninhabitable. Through their activities, the minerals contained within the dead bodies of plants and animals are made available for recycling through the ecosystem. Their role as decomposers has its dark side, however, because they also cause spoilage of bread, fruits, vegetables, and other foodstuffs, and the deterioration of other goods, fabrics, paper, lumber, and other valuable products. Some fungi are parasitic on or in animals, including humans; many skin diseases, including athlete’s foot, are caused by fungi and there several serious diseases of the lungs caused by fungi (McFadden and Keeton, 1998).

Six (6) species were identified under the family Tricholomataceae, namely, gymnopus aceratus found in barangay talolora, Marasmus oreades found in Barangay Sangay, Marasmus plicatus found in barangay Sangay, Pluteus
Auricularia found in barangay talolora and Volvariella spp found in Barangay Sangay.

Musngi, et al. (2005) reported that most taxonomic work in macro fungi in the Philippines has focused on the general descriptions of Basidiomycota. They also stated that several local researchers in the Philippines have tried to document the different macro fungi that inhabit the mountainous areas of the country. They described four species of Auricularia species were noted as follows: rain tree (Samanea Saman L.), Coconut (Cocos Nucifera L.), ipil-ipil (Leucaena Leucocephala L.), mahogany (Swietenia Mahogany L.), Mango (Mangifera indica L.), and rubber tree (Hevea Brasiliensis L.). Among these host trees, rain trees supported the highest number of Auricularia species identified.

Macrofungi are those fungi that form large fructifications visible without the aid of a microscope. This artificial but convenient grouping is hereby defined to include fungal families or genera where the majority of included species produce fruit bodies greater than 1 centimeter in diameter. Unlike micro fungi, which are made conspicuous by the diseases, decay, and moulding they cause, macro fungi are the ones most likely to either be pollution indicators or threaten beneficial species (Readhead, 1997).

**METHODOLOGY**

This study was conducted in the island of San Antonio, Northern Samar. The Municipality of San Antonio is one of the 24 municipalities of the province of Northern Samar. The island is geographically located in the western section of the province of Northern Samar. Going to San Antonio takes about an hour and a half travel from Catarman via the Municipality of Victoria by taking the bus going to the cities of Tacloban or Calbayog. From the municipality of Victoria one takes the motorboat to cross the channel to Dalupiri Island, where the municipality of San Antonio is situated. The mainland of Samar is located in the east, in the west is the municipality of Capul, while on the northern part is San Bernardino Strait and on its southern part, the Samar Sea located. San Antonio is composed of 10 barangays, 3 of which are within the town proper. The island is one of the tourist destinations in Northern Samar, because of its beautiful view, fresh air, white sand beaches, and crystal clear water. The shape of this island is elongated; the topography of San Antonio is alluvium-hill of low relief, level to gently sloping. All barangays of San Antonio are situated along the coast. Cebuano is the language spoken by 66% of the residents, while Nenorte Samarnon language is spoken by 34% of the population. The total land area of San Antonio is 2,828.10 hectares (Municipal Planning and Development Council [MPDC], 2012)

**Barangay Dalupirirt** is a sampling site located at the western part of the island facing the municipality of Capul. It is a rocky, mountainous area with grasslands used to pasture animals such as cows and carabaos. Coconut plantation is one of the main sources of income through the production of copra. Another source of income is fishing that contribute much to their livelihood. The barangay can be reached through motorcycle or biking from the town paper. It is considered as the second largest barangay because its total land area is 441.49 hectares (MPDC, 2012).

**Barangay San Nicholas** is a sampling sites next to barangay Dalupirirt, which is more or less 1 kilometer away, and is bounded by the cemetery of Barangay Dalupirirt. This place is also a rocky and woody, mountainous area with different species of trees present which are the habitat of birds and other living organisms. Fishing and copra production are the main sources of income of the residents. Its total land area is 190.96 hectares (MPDC, 2012).

**Barangay Rizal** is a sampling site next to Barangay Nicolas, located also at the western part of the island of San Antonio facing the municipality of Capul. This barangay is not totally big. An underground cave that contains fresh water is found in an area which is an elevated portion of this barangay. This serves as the sources of water for the residents and is also the source of water for the other barangays through the "Photovoltaic (solar) Pumping System", a project of the Philippine – Australian Community Assistance Program (PACAP) and the Northern Samar Multi-Purpose Cooperative (NSDWCC).

**Barangay Manraya** is a sampling site located at the northwest part of the island next to Barangay Rizal, facing the Municipality of San Vicente, and is located beside the rocky mountainous area. It can be reached through motorcycle within 15 minutes from the town proper. Fishing and copra production are the main income of the residents and its total land area is 365.16 hectares (MPDC, 2012).

**Barangay Pillar** is a sampling site located at the southern end part of the island. Rice fields and lots planted to different kinds of vegetables and fruits are situated here because of the good quality of its soil. The government resource conservation project in the municipality, the fish sanctuary, is located here. Fishing, rice plating, and copra production are the main livelihood of the residents, and its total land area is 263.90 hectares (MPDC, 2012).

**Barangay Burabod** is the sampling site located at the southeast part of the island facing the Municipality of San Isidro, which is mountainous part of the island. Big houses and other establishments are situated here because some residents are businessmen. Fishing and copra production are also the main livelihood of the residents and its total land area is 175.44 hectares (MPDC, 2012).

**Ward I, Ward II, and Ward III** are the 3 sampling sites located in the town proper, facing to the Municipality of Victoria on the mainland of Samar.

Ward I is located at the north part of the town proper near to Barangay Vinistahan. The Catholic Church, market, and an unfinished airport are situated here. Fishing and motorboat building are the main sources of income of the residents. The total land area of Ward I is 299.53 hectares (MPDC, 2012).
Ward II is the center for business in the town proper because of different business establishments and big houses. The total land area of Ward II is 72.75 hectares (MPDC, 2012).

Ward III is located at the south side of the town proper with a road going to Barangay Burabod. Many beach resorts are situated here. The District Hospital is located here and on the other side of the mountain, farms planted to different kinds of vegetables and fruits are located. Fishing and copra production are the main sources of income of the people here, with a total land area of 465.88 hectares (MPDC, 2012).

During the collection, sample specimens were removed from the substrate using a knife, but before picking the specimen, a digital camera was used to photograph each specimen directly from where it is located. Specimens were handled carefully to avoid damage and destruction of useful identification characteristics. The collected macro fungi species was placed in closed containers so that important features were not lost and they would not dry out. An interview with some of the local residents of the study area was conducted in order to gather information on the economic uses of these macro fungi present in the locality.

Identification of the specimens
The preserved specimen was sorted for ease of classification and identification. For preferences, some web pages about macro fungi in the internet, books, and other unpublished work were used in the preliminary identification of the collected samples. Verification of preliminary identification was done by an expert on macro fungi species. Available books and references about macro fungi were used to aid the final identification of the specimen that were collected. The books that were used are, to name a few: Guide to the Grassland Plants (Quimio, 1983); Illustrated Philippine Fungi (UP Los Banos, 1988), Eyewitness Handbook on Mushrooms (lassoe, 1998), Common Mushroom of the Northwest (Sept, 2006) and Edible Mushrooms (Wikipedia, 2005). The specimens were classified and authenticated by an expert of the College of Science, University of Eastern Philippines, University Town, Northern Samar.

RESULTS AND DISCUSSION
Distribution of Macrofungi in the Island of San Antonio, Northern Samar
They were twenty six (26) macro fungi species which were present and distributed in ten (10) sampling sites of San Antonio, Northern Samar. The species composition of macro fungi in San Antonio, Northern Samar is presented in Table 1. A total of 26 species were identified and belonged to two (2) Phyla: Basidiomycota and Ascomycota, five (5) classes: Agaricomycetes, Basidiomycetes, Heterobasidiomycetes, Pezizomycetes and Tremellomycete, six (6) orders: Agaricales, Auriculares, Pezizales, Phallales, Polyporales, and Tremellales fifteen (15) families: Agaricaceae, Amanitaceae, Auriculariaceae, Cortinariaceae, Ganodermataceae, Hapalopilaceae, Helvellaceae, Hydnangiaceae, Marasmiaceae, Merylliciaceae, Phallaceae, Pseudohyphodontaceae, Polyporaceae, Tramellaceae and Trycholomataceae; and twenty two (22) genera: Amanita, Apulloclitocybe, Auricularia, Bjerkandera, Cephalinus, Cotinarius, Fomes, Ganoderma, Helvella, Inmustulicybe, Inocybe, Laccaria, Lycoperdon, Marasmius, Phallus, Phenoperus, Pleurocybella, Podocypha, Polyporus, Spongepellis, Tramella and Trametes.

Table 1. The Distribution of Macrofungi in the Island of San Antonio, Northern Samar

| Family/Species | Vinkotihan | Deligat | San Nicolas | Rizal | Maracay | Piler | Bambrod | Ward I | Ward II | Ward III |
|----------------|------------|---------|-------------|-------|--------|------|--------|--------|---------|---------|
| GARCACEAE: Aer Lingus campanulata (Bourd.) | ✓ | x | ✓ | x | x | ✓ | ✓ | x | x |
| MANITACEAE: Maritimus sp. | ✓ | ✓ | ✓ | x | x | x | x | x | x |
| URICULARIOACEAE: Morchella militaris (Bourd.) | ✓ | ✓ | ✓ | x | x | x | x | x | x |
| ORTHINARIACEAE: Mycena rubriceps (Hall) | x | x | x | x | x | x | x | x | x |
| ORTHINARIACEAE: Morchella corlythae (Bourd.) | x | x | x | x | x | x | x | x | x |
| ANDOSMATACEAE: Laccaria bicolor (Ering) | ✓ | ✓ | ✓ | x | x | x | x | x | x |
| ANDOSMATACEAE: Laccaria bicolor (Ering) | ✓ | ✓ | ✓ | x | x | x | x | x | x |
| APAULOPCLACEAE: Inonotus obliquus (Bull.) | ✓ | x | x | x | x | x | x | x | x |
| APAULOPCLACEAE: Inonotus obliquus (Bull.) | ✓ | x | x | x | x | x | x | x | x |
| ELVILLACEAE: Laccaria bicolor (Bourd.) | ✓ | ✓ | x | x | x | x | x | x | x |
| YONANGIACEAE: Agaricus bispora (Karst) | ✓ | x | x | ✓ | ✓ | x | ✓ | x | x |
### Distribution of Macrofungi species found in the island of San Antonio, Northern Samar

| Family                | Scientific Name | Presence | AbSENT |
|-----------------------|-----------------|----------|--------|
| Marasmiaceae          | *Ganoderma lucidum* (Curtis) | x        | x      |
|                       | *Ganoderma adspersum* (Schulzer) | x        | x      |
|                       | *Pleurocybella porrigens* (Pers.) | x        | x      |
|                       | *Phallus indusiatus* (Vent) | x        | x      |
|                       | *Lycoperdon mammiforme* (Pers.) | x        | x      |
| Polyporaceae          | *Pycnoporus cinnabarinus* (Jacq) | x        | x      |

*Total: 25 Species*
Scientific Name: Trametes ellegans (Spreng)

Scientific Name: Cortinarius corrugatus (Peck)

Scientific Name: Phallus multicolor (Berk)

Scientific Name: Auricularia polytricha (Mont)

Scientific Name: Podoscypa petalodes (Berk)

Scientific Name: Fomes formentarius (L)

Scientific Name: Trametis hirsute (Wulfen)

Scientific Name: Trametis trogii (berk)
Scientific Name:
Bjerkandera adusta (Willd)

Scientific Name:
Spongipellis pachydon (Pers)

Scientific Name:
Laccaria laccata (Scop)

Scientific Name:
Polyporus arcularius (Batsch)

Scientific Name:
Infundibulicybe (Clitocybe) gibba (Pers)

Scientific Name:
Inocybe rimoso (Bull)

Scientific Name:
Ampulloclitocybe (Clitocybe) clavipes (Pers)

Scientific Name:
Coprinus lagopus (Fr)

Scientific Name:
Marasmitus scorodonitus (Fr)

Scientific Name:
Amanita sp. (Pers)
Scientific Name: Helvella lacunasa (Fr.)  
Scientific Name: Tramella fuciformis (Berk)

The graph illustrated the composition of macrofungi based on family. A total of fifteen (15) families of macrofungi were identified and collected in ten (10) sampling sites. The family Polyporaceae ranked first with six (6) species and was followed by six (6) families namely: Cortinariaceae, Ganodermataceae, Hapalopilaceae, Marasmiaceae, Phallaceae, and Trycholomataceae with two (2) species; the remaining families were Agaricaceae, Amanitaceae, Auriculariaceae, Helvellaceae, Hydnangiaceae, Meruliaceae, Psathyrellaceae, and Trametellaceae with only one (1) species.

Table 2. The Kinds of substrate where macrofungi are found

| Family/Species | A | B | C | D | E |
|----------------|---|---|---|---|---|
| Agaricaceae   |   |   |   |   |   |
| Lycoperdon muscorum (Berk.) | ✓ |   |   |   |   |
| Amanitaceae   |   |   |   |   |   |
| Amanita sp. (Pers.) |   |   | ✓ |   | ✓ |
| Auriculariaceae |   |   |   |   |   |
| Auricularia polyrieha (Mont.) |   | ✓ |   |   |   |
| Cortinariaceae |   |   |   |   |   |
| Inocybe rimosa (Bull.) | ✓ | ✓ |   |   |   |
| Coniophorus carrucaetus (Peck.) |   | ✓ |   |   |   |
| Ganodermataceae |   |   |   |   |   |
| Ganoderma lucidum (Curtin.) |   | ✓ |   |   |   |
| Ganoderma ussuriense (Shunt.) |   | ✓ |   |   |   |
| Hapalopilaceae |   |   |   |   |   |
| Bremmera adusta (Wild.) | ✓ | ✓ |   |   |   |
| Spongiporia puchydotos (Pers.) | ✓ | ✓ |   |   |   |
| Helvellaceae   |   |   |   |   |   |
| Helvella lacunasa (Fr.) |   | ✓ | x |   | ✓ |
| Hydnangiaceae |   |   |   |   |   |
| Laccaria laccata (Scop.) | ✓ |   |   |   |   |
| Marasmiaceae |   |   |   |   |   |
| Marasmius scorodonia (Fr.) |   | ✓ |   |   |   |
| Pleurocystis parrigeons (Pers.) | ✓ | ✓ |   |   |   |
| Meruliaceae |   |   |   |   |   |
| Polyscyphus peltados (Berk.) | ✓ |   |   |   |   |
| Phallaceae |   |   |   |   |   |
| Phallus indusiata (Vent.) |   | ✓ |   |   |   |
| Phallus multicolor (Berk.) |   | ✓ |   |   |   |
Kinds of Substrate
The macrofungi in the study were mostly found on dead wood, soil, coconut husk, decaying banana trunks, and tree branches.

Fourteen (14) species of macrofungi were found in dead wood. Eight (8) species were found in soil. One (1) species was found in both coconut husk and in decaying banana trunks and seven (7) species were found in the tree branches. Also, two (2) species were found in all sampling site.

Economic Use of Macrofungi
Based on the interview conducted, there were three (3) species that were locally considered or known as edible by the local residents, namely: 

Grifola frondosa or “kurakdot”,
Volvariella volvacea or “ulaping” and
Volvariella gloiocephala or “ligbos”, but this three (3) species of macrofungi were not present in identified sites during the sampling of the researchers. The twenty-six (26) species are known and familiar to the local residents but their uses or benefits are unknown.

CONCLUSION
The macro fungi species in the study area were mostly growing on the dead wood, soil, and tree branches, while few of them were growing in coconut husks and decaying banana trunks. The respondents are not familiar with the economic use or benefits derived from the macro fungi species found in the sampling sites.

References
[1] Alters, Sandra. 1996. Biology: Understanding Life. Mosby-Year Book, Inc. 11830 Westline Industrial Drive, St. Louis, Missouri 63146 WA.
[2] Arnesto, Lowela Lovely B., 2009, Taxonomic Classification of Fungi in Selected Barangays of Palapag, Northern Samar. College of Science, University of Eastern Philippines, University Town, Northern Samar
[3] Brooker, Robert J., Eric P. Wilmaêr, Linda E. Graham, And Peter D. Stiling . 2011, Biology, Fourth Edition McGraw-Hill Companies, Inc. 1221 Avenue of the Americas, NY, 10020, USA
[4] Esquillo, Juno Jade T, 2006, Taxonomic Classification of macro fungi in selected Barangays of Lavezares, Northern Samar. College of Science, University of Eastern Philippines , University Town, Northern Samar
[5] Miano, Mary Jane, 2010, Taxonomic Classification of Mushrooms in selected Barangays of Catarman, Northern Samar. College of Science, University of Eastern Philippines, University Town, Northern Samar
[6] Strauss, Erick and Marylin Lisowski, 2000, Biology: The Web of Life, Second Edition, Reprinted by Pearsons Education Asia Pte Ltd. 23 First lok Yang Road, Jurong, Singapore 629733
[7] Tortora, Gerard J., Berdell R. Funke, and Christine L. Case, 1992, Microbiology: An Introduction. Fourth Edition, Benjamin Cummings Publishing Company, 390 Bridge Parkway, Redwood City, California 94065
[8] Talaro, Kathleen Park 2005, Foundation in Microbiology, Sixth Edition, McGraw-Hill Companies Inc. 1221 Avenue of the Americas, NY, USA
[9] McFadden, Carol H., and William T. Keeton. 1998, Biology: An Exploration of life, Norton and Company Inc. 1221 Avenue of the Americas, NY, 10110. USA.
[10] Volk, Wesley A., and Margaret F. Wheeler, 1980, Basic Microbiology, Fourth Edition, JB Lippincott Company. Reprinted by: National Book Store, Inc, Metro Manila Philippines.