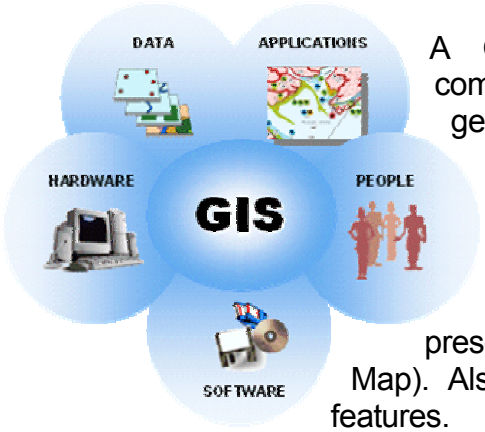
2.01 What is GIS?



A Geographic Information System (GIS) – is a computerized system for dealing with information about geographically located features.

Geographic information is embedded in over 80% of all the goods and services a municipality provides.

In a GIS one deals with geographic features, usually presented on top of some type of backdrop map (a Base Map). Also included are the descriptive properties of these features.

In a GIS, the features are indicated as points, lines, and polygons or as small squares in a grid. Attribute information regarding these features may also be attached. For example, features representing schools may have attribute information attached to them such as enrolment and teacher/pupil ratio.

With GIS, a number of operations and analytical processes can be performed both on the geographic data and on the tabular / attribute data.

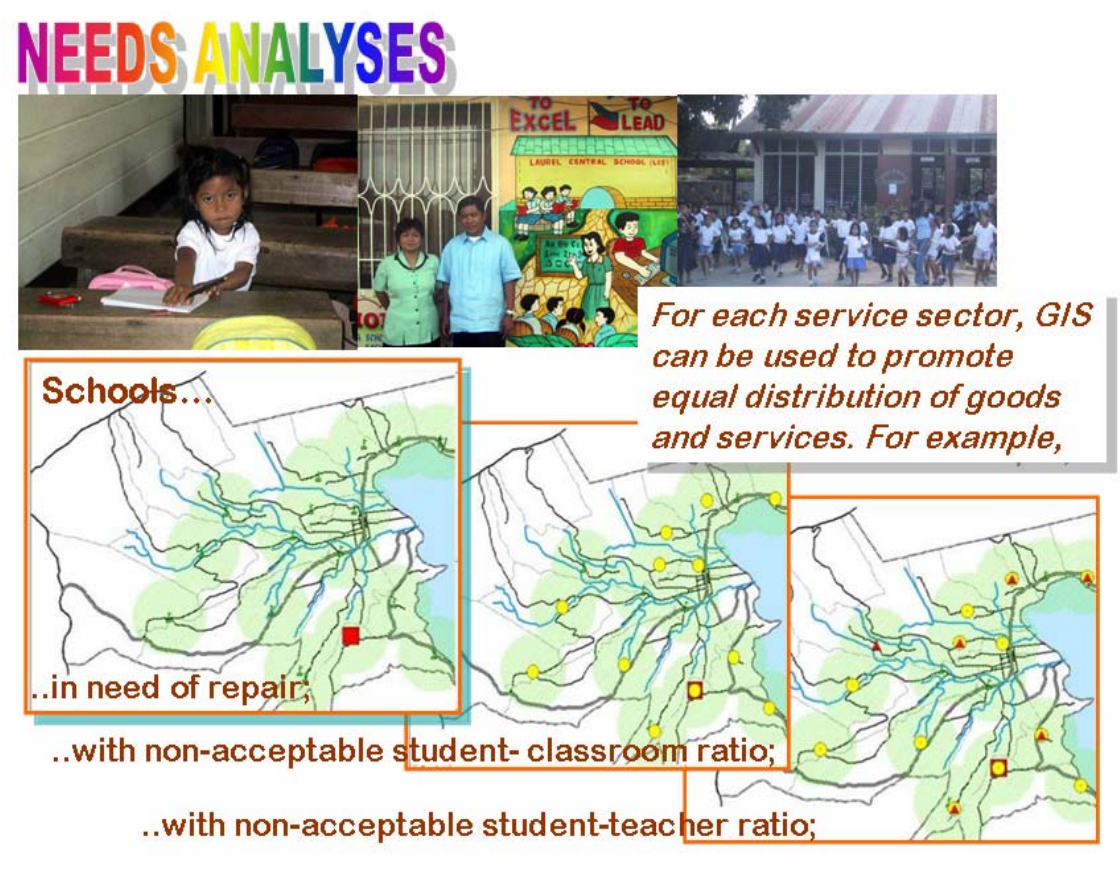
In its simplest form, GIS can be used to create a map for the user on demand; in its more complex form, it becomes a database with millions of pieces of data that are geographically related, and can be displayed in a format that the user may select to make complex interrelationships visually understandable.

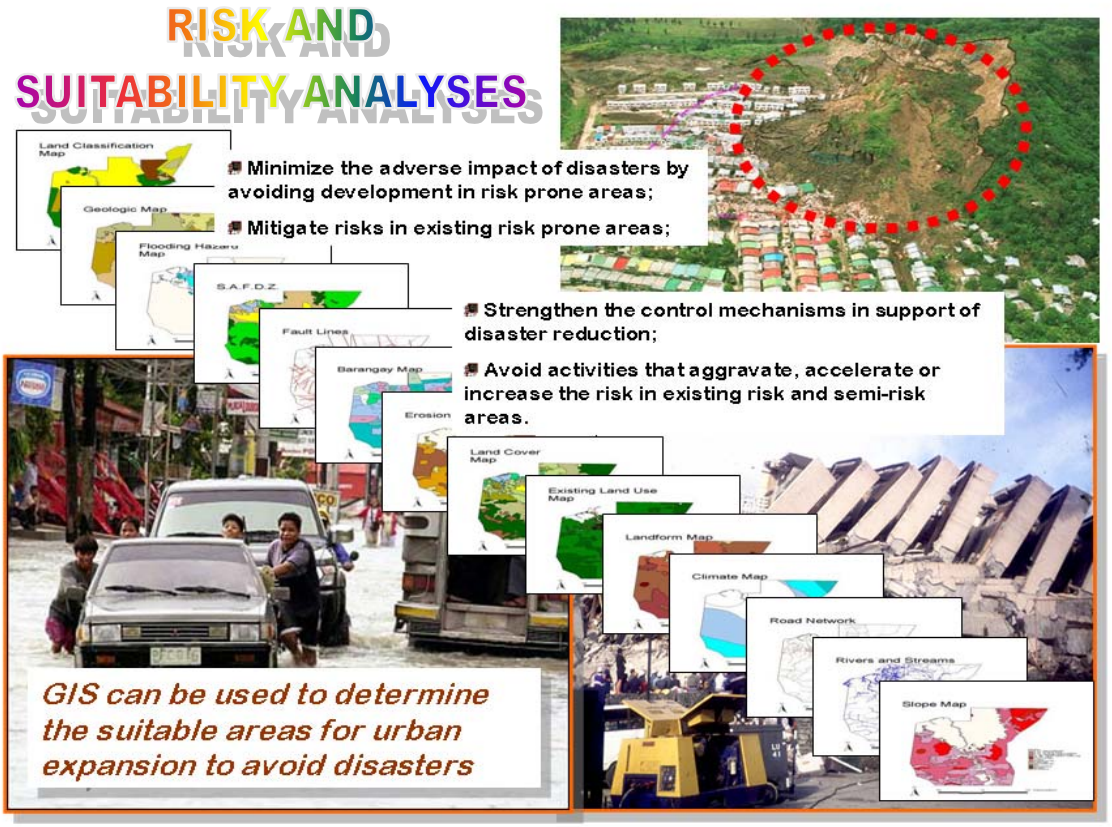
GIS is not only a software but is a system that includes the hardware, data, including the users and the organization needed to manage the data.

GIS Can Be Utilized in Many Situations such as Needs Analyses and Risk and Suitability Analyses

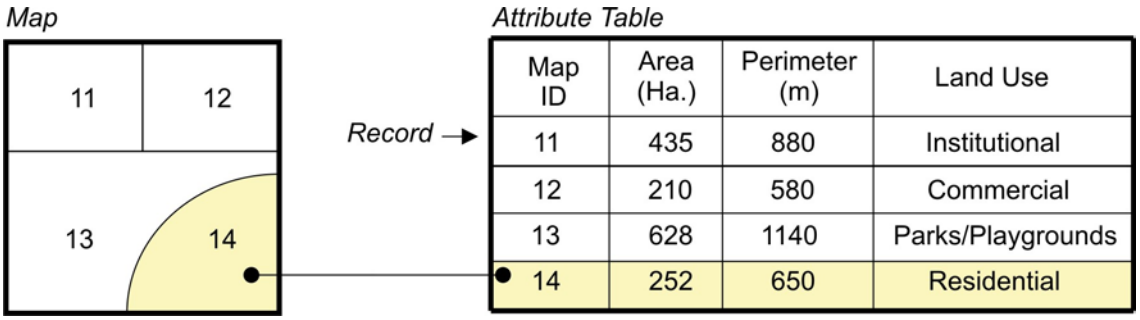
Among the various uses of GIS relative to CLUP are:

- Management, analysis and presentation of information, in map form;
- Show location, distribution, and qualitative information on services, facilities, infrastructure, and other sectoral aspects that are useful in sectoral studies, needs determination, and planning for provision of services. For example, it can show the distribution of public health centers, the types and capability of roads in the municipality/city, and other objects with a defined location;
- To identify hazardous areas in a municipality/city and overlay with the population density map in order to determine the risk factor as well as the suitability of the area for urban development vis-à-vis land management policies.


NEEDS ANALYSES
TO EXCEL
TO LEAD
LAUREL CENTRAL SCHOOL (LCS)
For each service sector, GIS can be used to promote equal distribution of goods and services. For example,
Schools...
..in need of repair;
..with non-acceptable student- classroom ratio;
..with non-acceptable student-teacher ratio;


RISK AND SUITABILITY ANALYSES
Minimize the adverse impact of disasters by avoiding development in risk prone areas;
Mitigate risks in existing risk prone areas;
Strengthen the control mechanisms in support of disaster reduction;
Avoid activities that aggravate, accelerate or increase the risk in existing risk and semi-risk areas.
Land Classification Map
Geologic Map
Flooding Hazard Map
S.A.F.D.Z.
Fault Lines
Barangay Map
Erosion
Land Cover Map
Existing Land Use Map
Landform Map
Climate Map
Road Network
Rivers and Streams
Slope Map
GIS can be used to determine the suitable areas for urban expansion to avoid disasters

Geographic information is information about all those features that are possible to locate to a position. In other words, GIS is a tool to link features with geographic location, mostly presented on a map, together with other types of information such as tables and templates, texts, images, drawings or video sequences.



Map ID	Area (Ha.)	Perimeter (m)	Land Use
11	435	880	Institutional
12	210	580	Commercial
13	628	1140	Parks/Playgrounds
14	252	650	Residential

GIS as Everybody's Tool

Computer-assisted systems to capture, store, analyze and present geographic information have been available since the mid-80's. However, even if many groups were interested in the technology, it has not been predominantly used due to the high cost of these systems, and the high technical skills required. In recent years, this situation has changed as GIS systems have become more user-friendly and affordable, thus opening up the technology for wider use.