Community GIS for Conservation Awareness

Experience from Nepal

ESRI International User Conference
12-16 July, 2010, San Diego

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Outline:

• Community GIS
  – Concepts and framework

• Case Study:
  – Background
  – Operational framework
Where is my house?
My farm land was there and swiped by last year flood.
How we can understand the GIS maps
Concept:

- Local knowledge and multiple realities of space and environment - mental maps
- GIS knowledge - maps and database
- GIS in Society – varies in different societal context
Concept:

- GIS literacy
- Knowledge gap - GIS community and local community
- GIS adaptation in society
- Community approach
Concept:

• Process to transfer the GIS knowledge in the society

• Two way communication- local community and GIS community

• Community GIS Center
Conceptual Framework:

• Geographic Problems

• Community Sphere
  – local people, mental maps, local government authority

• GIS Sphere
  – GIS Professional, Geo-database, academia research institute

• Community GIS Center
Conceptual Framework:

- **Local People**
  - Narratives stored in mental maps

- **GIS Professionals**
  - Presented in maps and geo-database

- **Community Space**
  - Geographic Problems

- **GIS Space**
  - Geographic Problems

The diagram illustrates the relationship between local people and GIS professionals, with narratives stored in mental maps presented in maps and geo-databases, and geographic problems being shared between the two spaces.
Conceptual Framework:

Local People → Community GIS Center → GIS Professionals

Narratives stored in mental maps

Presented in maps and geo-database

Community Space

Geographic Problems

GIS Space
Conceptual Framework:

• Enhance the spatial thinking of local community

• Community GIS Center: bridge the knowledge gap

• Local people and GIS professional- role and responsibility
Case Study

Pilot Project
Background:

• Decentralization- After 1990
• Community base development approach
• decision making process in local community
• Need of GIS application in community
• Biodiversity Conservation
Program Area
Program Area:

Chitwan National Park:

- World Heritage Site
- Wildlife habitat
- Ramsar site
Objective:

• Develop a community GIS tools for:
  – Visualization of biodiversity resource
  – Update biodiversity resource information by local people

• Support to conservation initiatives from local to national level
Involvement:

- **GIS Sphere**
  - SCGIS Nepal
  - WBC Nepal/EGP IUCN Netherlands
  - ESRI Conservation Program
  - Planet Action/Spot Image

- **Community Sphere**
  - 30 local conservation group
  - Local people
  - Local government authority

- **Society for Community GIS Center (CGC-Chitwan)**
Operational Framework
Preparatory Phase:

- Identification of local problems
- Selection of local organization and community group
- Formulation of Community GIS Group
- Establishment of Community GIS Center
Community Groups:

WBC Nepal
Beeshazar and Associated Lakes
Ramsar Site

Local Partners
- Recent Partners
- Proposed Partners
1. Chepang Community Group
2. Tikwar Bufferzone Community Forest User Group
3. Murahar Community Group
5. Handicraft Group
6. Hotel Association
7. Mirga Kunga Bufferzone User Committee
8. Beeshazar Conservation Committee
9. Thane Colotine Center
10. Bird Education Society
11. Baghmara Bufferzone Community Forest Group
12. Janakauri Community Forest Group
13. Jhoomar Women Co-operative Group
14. Nava Jyoti Bufferzone Community Forest Group
15. Barandabhar Bufferzone User Committee
16. Paithani Bufferzone User Committee
17. Community Forest User Group
18. Dairi Community Group
19. Khagari Irrigation Management Committee
20. Community Forest User Group
21. Dairi Community Group
22. Bose Community Group
23. Dairi Community Group
24. Community Forest User Group
25. Kumal Community Group
26. Majhi Community Group
27. Green Society
28. Community Forest User Group
29. Community Forest User Group

Beeshazar Lake
Beeshazar Wetland Complex

Chitawan National Park
Capacity Building:

- Collection of community maps
- Map reading
- Basic GIS training
- Base map preparation
Capacity Building:

• Collect of community maps
Capacity Building:

- Map reading training for nature guide
Capacity Building:

Community GIS Training For Wetland Conservation
Beeshazar and Associated Lakes–Ramsar Site
26–29 Jan. 2008
Sauraha, Chitwan, Nepal.

Organized by:
- Society for Wetlands & Biodiversity Conservation, Nepal
- WBC Nepal
- SCGIS-Nepal
- EGP MLC

The Netherlands
Capacity Building:

• base map preparation

• GPS Survey of wetlands
Implementation:

• Inventory of biodiversity resources
• Data compilation
• Map preparation and dissemination
• Update monthly biodiversity status
Outcomes:

- Increased GIS literacy in Community
- Conversion of mental maps in GIS maps
- Collection of daily wildlife mobility
- Decision making tools local conservation plan
- Possibility to replicate in other national parks