

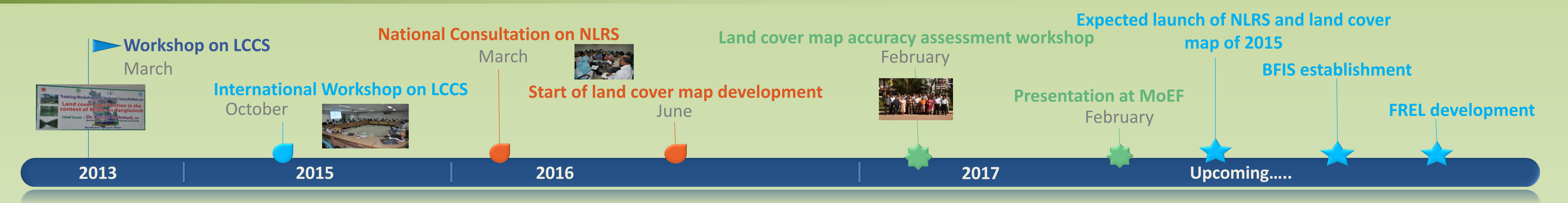


National Land Representation System of Bangladesh

Introduction:

National Land Representation System (NLRs) has been developed with the help of experts from a number of government organizations which is the first ever attempt at national level to harmonize all possible land cover classes of Bangladesh. This system will eliminate heterogeneity of geographical dataset, specifically arising from inconsistency in classification systems used by different organizations . NLRs is a standardized land classification system based on ISO standard (ISO 19144-2) Land Cover Meta Language (LCML), developed by Global Land Cover Network (GLCN- a joint initiative between FAO, UNEP and IAO). A national land cover map (2015) for Bangladesh has been produced using NLRs which is being used for Bangladesh Forest Inventory (BFI) for sustainable natural resource management.

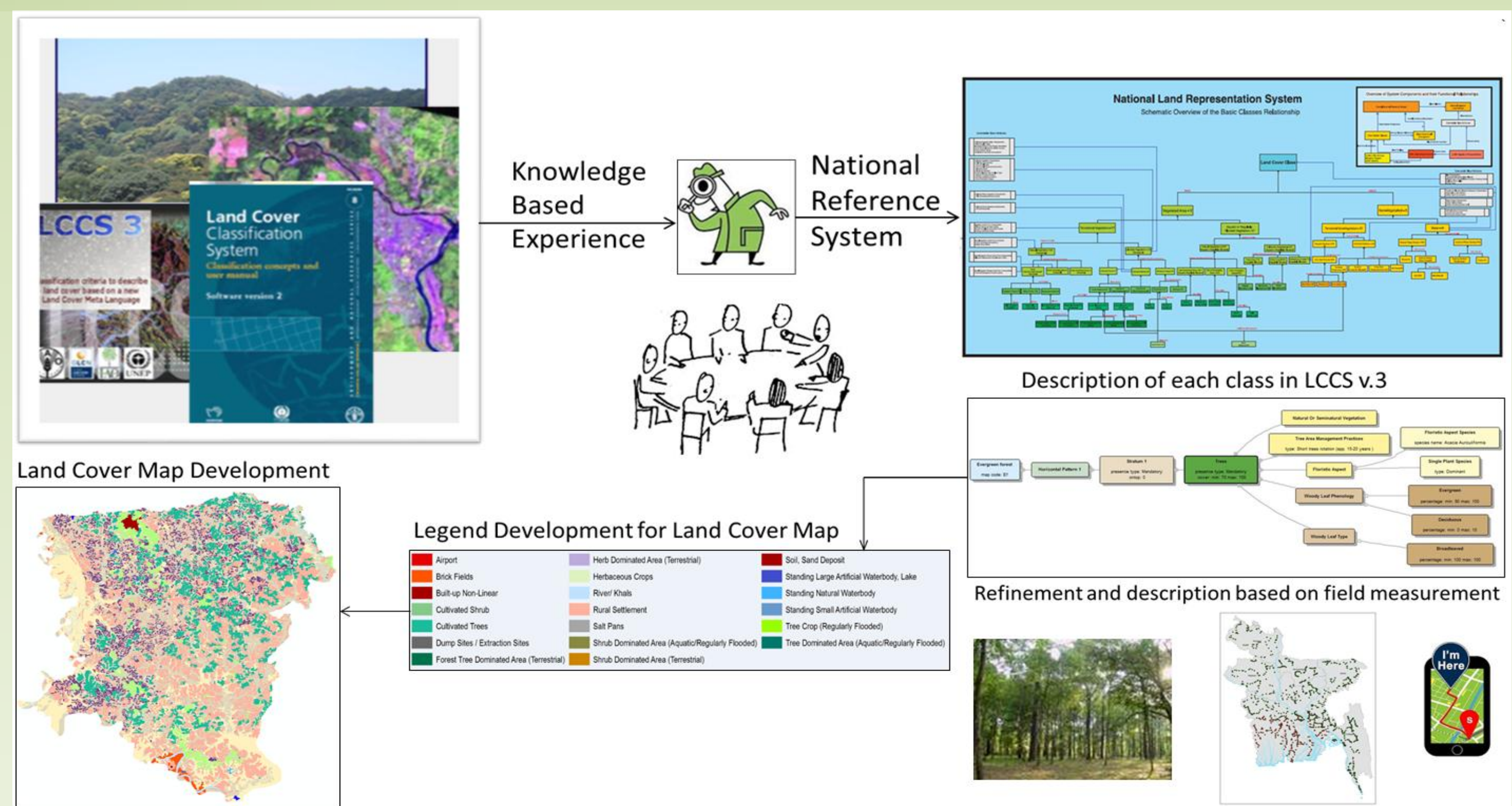
Timeline for System Development:



Methods:

Overall Procedure

- Collection of legends from three existing national land cover/use maps.
- Field data collection from 144 locations using 'Open Foris Collect' tool.
- Satellite Image acquisition- SPOT 6/7 (6 m resolution, multispectral ortho (level 3), max. 10% cloud coverage), Landsat 8 and Sentinel 2.
- Consultation with 15 national organization on NLRs.
- Legend Development for land cover classes.
- Satellite image analysis and interpretation.
- Land cover Mapping.
- Accuracy assessment of the land cover map.



Result:

NLRs

- NLRs is stratified into 7 distinct level Each of these levels come from one master category and are further granulated for identifying more distinct land cover
- Levels of NLRs are based on attributes like, presence of vegetation, vegetation physiognomy and structure, leaf phenology, types of natural and artificial water bodies, cropping activities etc.
- 'Terrestrial Vegetation' class has been found to have more sub-classes than others which emphasizes on the details of the features.

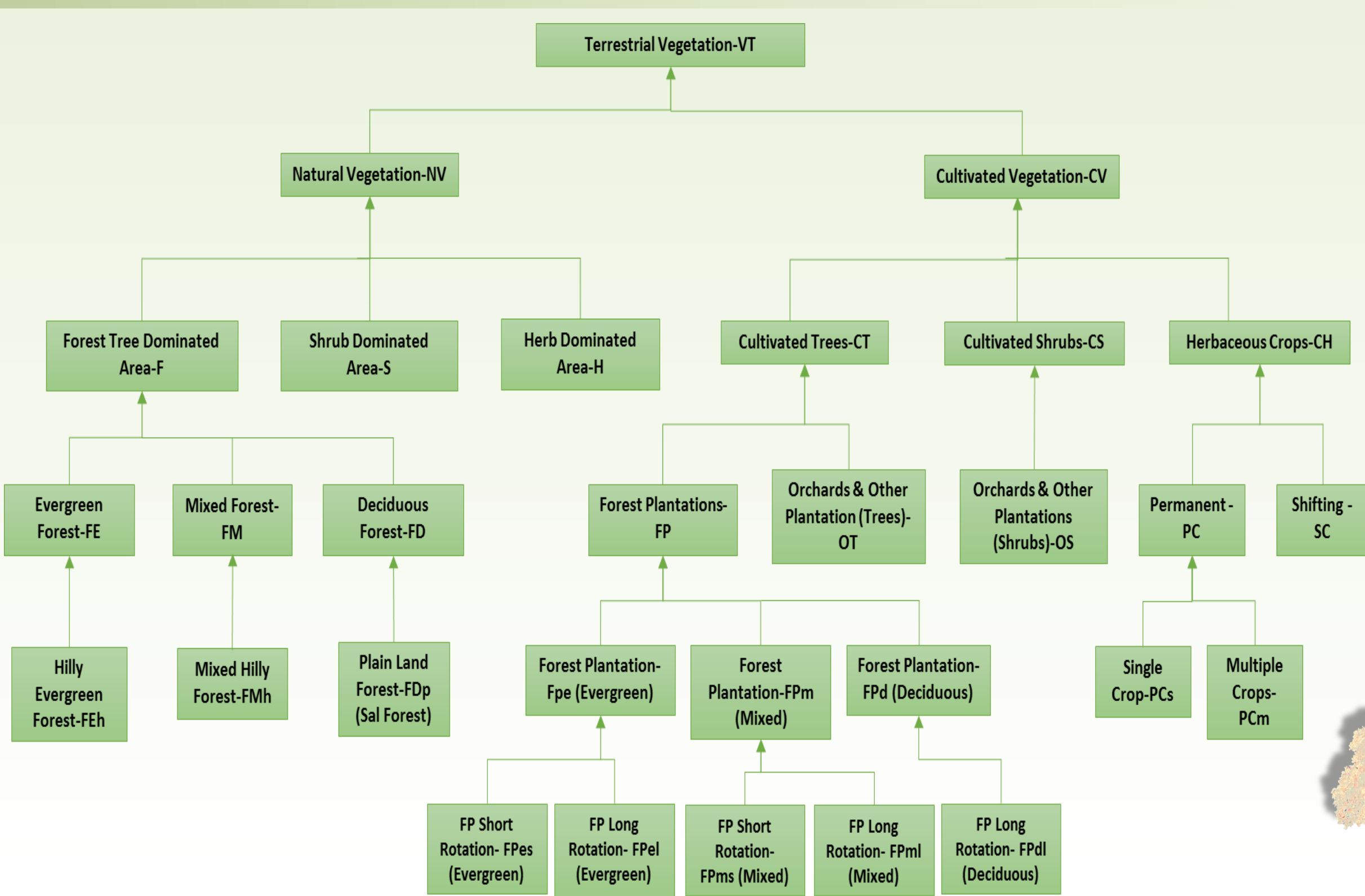


Figure 1: Part of National Land Representation System (NLRs)

National Land Cover Map

- Land cover classes for National Land Cover map (2015) is stratifies in 6 levels.
- Total Land cover classes at level 6 is 34
- Overall accuracy of land cover map is 90%-94% for different level.

Discussion and Conclusion:

- NLRs eliminates rigidity of the conventional land cover mapping systems.
- It can support different organizations by providing multipurpose land cover information.
- Land Cover classes are clear, precise, quantitative and objective.

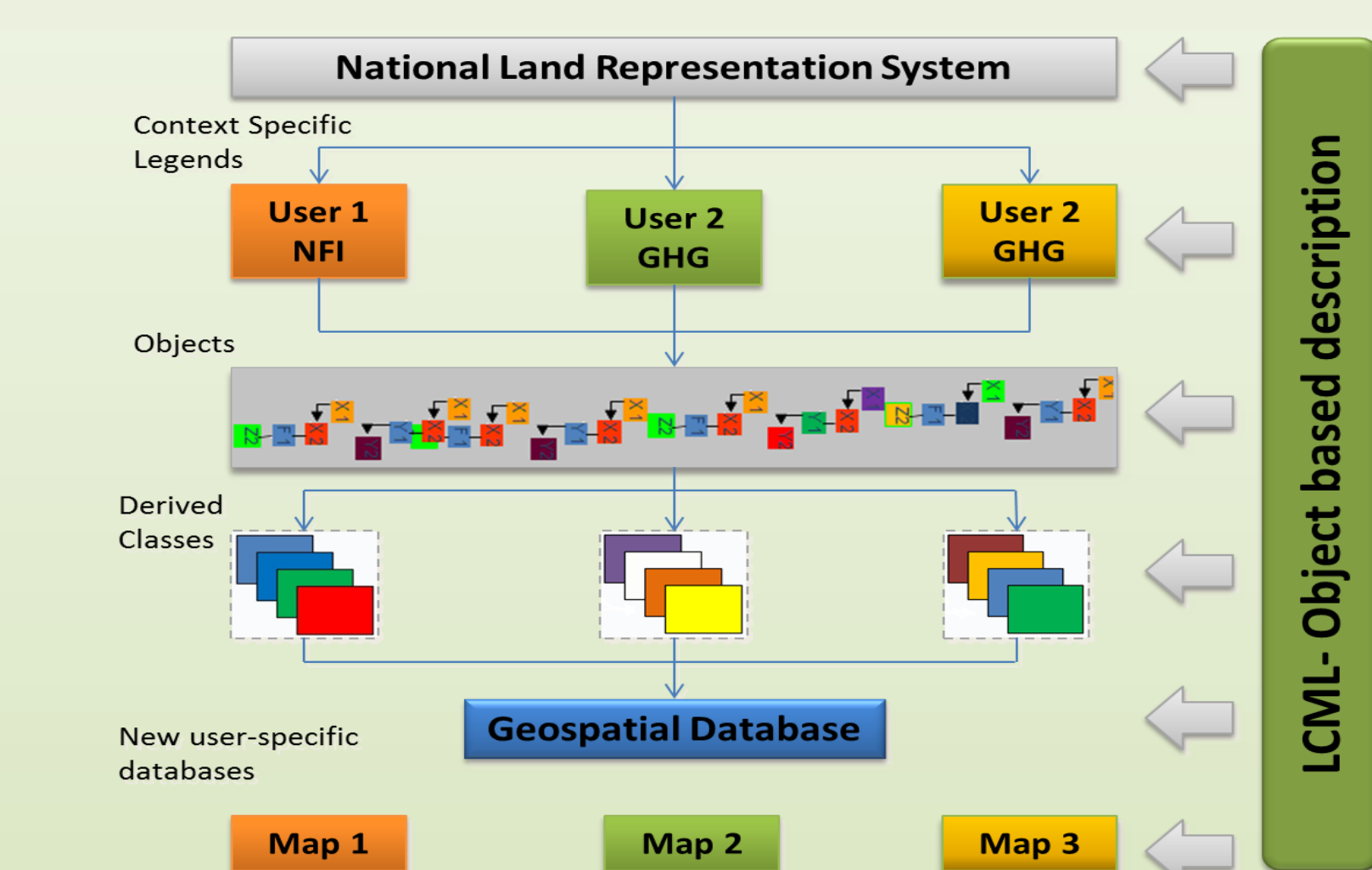


Figure 2: NLRs to support multipurpose land cover/use activities

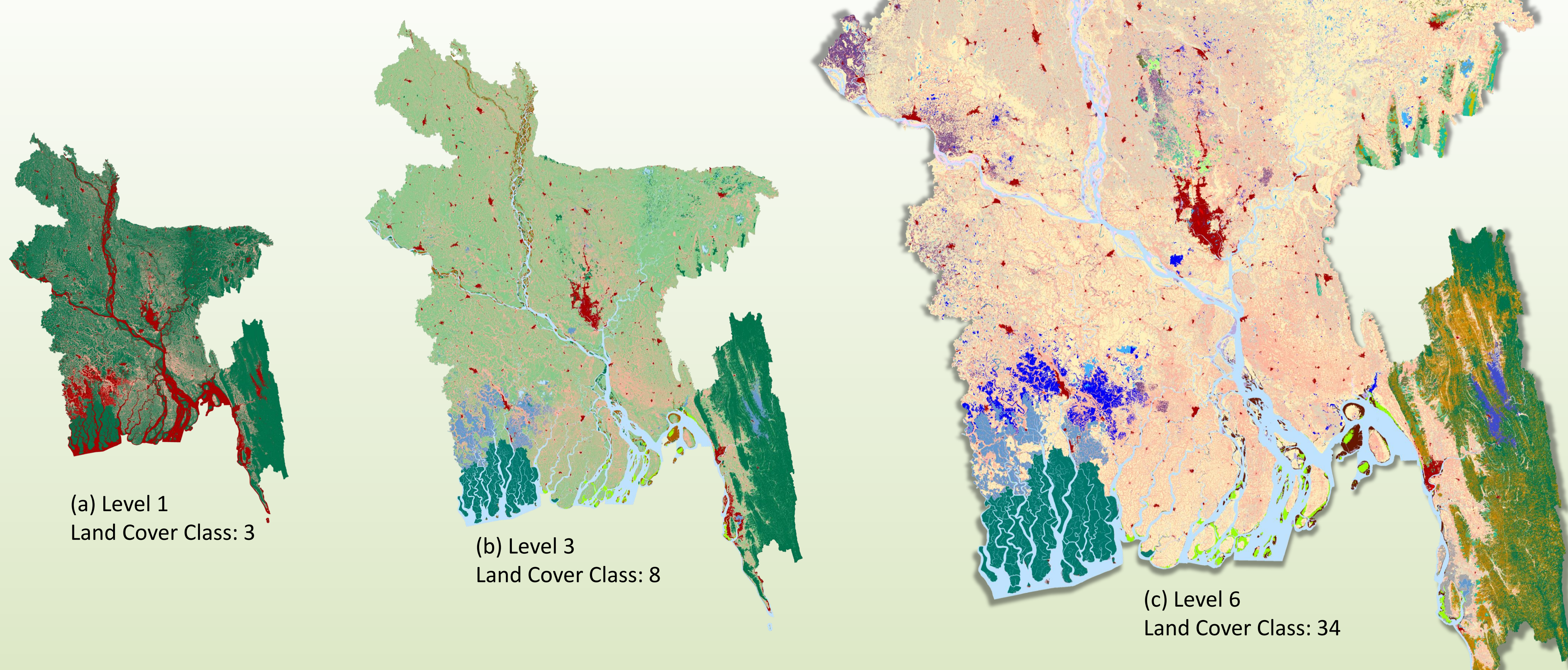


Figure 3: National Land Cover Map (2015) of Bangladesh at (a) classification level 1, (b) level 3 and (c) level 6

Contacts

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