

DYNAMIC CARTOGRAPHY OF MONTAGNARD ETHNIC GROUPS IN VIETNAM.

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This paper introduces the use of dynamic cartography as a tool to visualize and analyze the relationships between ethnic minorities in Northern Vietnam and the mountainous physical environment they live in. Traditional ethnic and cultural cartography has shown its limits as far as representing the ethnic diversity of areas like Northern Vietnam is concerned. Nevertheless, thanks to the dynamic dimension of digital cartography as an analytical and visualizing tool, it is now possible to combine physical variables like relief and hydrography with social, economic and cultural variables, such as ethnic identity and agricultural practices, in order to describe the ethnic diversity of a territory as well as the relationships developed with the physical environment. Integration of various kinds of data can be achieved in a geographical information system (GIS) allowing a connection between factors that otherwise can only be visualized in the field.

This paper intends to show the results of the application of such innovative dynamic cartography in Lao Cai Province, northwestern Vietnam, where one can find both a large proportion of Montagnard ethnic groups and different stages of mountainous environment, ranging from the lowlands of the Red River Valley to the 3000m of Fan Si Pan Peak, near Sa Pa Town. The integration presented here of human qualitative data with a more easily quantifiable physical environment using a digital elevation model (DEM) opens the door to measuring, assessing, and even modelling and simulating the impact of specific factors on the whole system in a decision-making perspective. Dynamic digital cartography thus gives researchers a more detailed and integrating picture of the way the physical environment places constraints on the location of Montagnard villages and on Montagnards activities.

Though cultural complexity is thus inevitably simplified, structure can become apparent and this in turn can support further analysis, especially in an area where natural resources management should take into account the relationship each ethnic group has developed with its environment.