The hill regions of Northern Thailand present a series of inter-related problems characteristic of many other areas of Asia, Africa, and South and Central America. Several groups of ethnic minorities (in this case, the Hill Tribes of Thailand) have lived in the mountains in near-isolation for centuries practicing slash-and-burn (swidden) agriculture which, in many instances, involves the cultivation of the opium poppy.

Geographically, the North is a region of mountains and hills with narrow valleys and occasional intermontane depressions forming a highly complex relief that merges across the international borders into Myanmar, Laos, and Yunnan (China). The highest summits exceed 2,000 m asl and the region can be regarded as the southeasternmost extension of the Himalaya. Situated between 16° and 20° North, it experiences a pronounced monsoonal climate with heavy summer rains between mid-May or June and October. The main physiographic alignments trend north-south. The largest, and central, section is drained by the main headwaters of the Chao Phraya southward through Bangkok and into the Gulf of Siam. Other important rivers are the Mekong, the Salween, and the Irrawaddy.

Chiang Mai, Thailand’s second largest city, is the regional capital and a dense population of ethnic Northern Thai have occupied all the valley floors and lower land for generations; wet rice is the basis of the intensive agricultural system. In contrast, the highlands, densely forested until about 40 to 50 years ago and sparsely
populated, have been the domain of several distinct ethnic minorities. For the most part, they have practiced various forms of swidden (slash-and-burn) agriculture until recently. While swidden agriculture persists in many areas throughout the North, population growth, combined with economic and political pressures and increasingly determined suppression of opium cultivation, has wrought great changes. In addition to these forces, tourism and the rapid expansion of national parks and protected forest areas are also having an impact.

The international borders have not been well demarcated until very recently and this controversial region of the so-called ‘Golden Triangle’ has experienced extensive trans-border migrations for generations. However, the movement of Hill Tribe peoples accelerated during and after the Vietnam War, and current tensions between Thailand and Myanmar ensure a continuation of this kind of population movement. Moreover, during and after the Vietnam War, the Thai government felt obliged to more rigorously incorporate its border regions into the national mainstream. This policy was marked at times by alarmist assumptions, for instance, that many of the minority peoples were actual, or potential, communist sympathizers.

International aid has been directed at Northern Thailand since the 1960s. In its early stages aid policy, as well as the policies of the national government, was strongly influenced by a number of simplistic assumptions, even fallacies. The primary assumption was that swidden agriculture was the overall cause of extensive environmental degradation -- deforestation, soil erosion, lowland water shortages and siltation of the fields and irrigation works of the ethnic Northern Thai, and
impacts all the way downstream to the Gulf of Siam. Some of the early responses to this perceived threat were harmful to the well being of the ethnic minorities in the highlands: forced conscription of young men into the Thai army; government-controlled replanting of hill areas by fast growing pine species; eviction of entire communities. There was also a wide array of genuine aid efforts: introduction of numerous cash crops intended to replace opium; construction of government housing and roads. Nevertheless, an abiding obstacle has been that, under the Thai constitution, the ethnic minorities are not considered to be citizens; thus they have no legal right to own land, even though vast areas of mountain forest land have been freely used by them for generations.

Only during the last decade has the Thai government become less restrictive in the approach to citizenship and a degree of land ownership has been permitted.

Over the last twenty years the approaches taken by government and aid agencies have been extensively modified. In addition, continued population growth and accelerated penetration of world market forces have combined to render the situation much more fluid and to bring about non-planned changes. Nevertheless, new environmental and socioeconomic policies, both in their conception and in their application, are hindered because of the complexity of the situation and, not least, because elements of the myths, or misunderstandings, have persisted.

From the 1960s onward, swidden agriculture, not only in Thailand but throughout the world, has been regarded as a singular threat to forest preservation. In Northern Thailand, as indeed in other regions, the actual swiddeners, almost invariably ethnic minorities, have been regarded as destroyers of their own
environment. By extension, they have been accused as the perpetrators of damaging
downstream effects, such as rainy season flooding and siltation, and dry season
water shortage. The simplistic argument is that, as minority populations increase,
the essential long period of forest fallow is perforce reduced. Thereupon a vicious
circle is depicted whereby continued population growth further shortens the period
of forest fallow, from 25 – 30 years early in the 20th century, to 15, 10, 6, and less
today. Sometime during this progression a point is reached whereby secondary
forest succession is truncated and grassland (in Northern Thailand, Imperata
grassland) replaces the trees. With hill tops and steep slopes cleared of forest cover,
soil erosion and dramatic changes in the hydrology occur and all the auxiliary
ailments are assumed to follow. When opium production, ethnicity, and sensitive
and ill-defined national frontiers are incorporated into the environmental equation,
harmful anti-minority prejudice is likely to develop. The minority people (technically
not even classed as ‘human’ under some national constitutions since they have no
formal citizenship) become scapegoats for all manner of mainstream national ills or,
at best, are sincerely believed to be the cause of serious environmental damage.

The Hill Tribes of Northern Thailand also have had their ardent advocates.
Kundstadter et al. (1978) produced a fundamental analysis and demonstrated that
each ethnic group had its own unique swidden system – in other words, there were
as many different swidden systems as there were practicing groups, some
environmentally damaging, some environmentally sustainable. Chapman and
Sabhasri (1983), McKinnon (1983), and McKinnon and Bhruksasri (1983), with
additional contributions from many other colleagues, exposed many of the
complexities of the situation amongst the Hill Tribes. Drawing from the work of these scholars, Ives (1983: 311) was able to postulate:

“... some broad issues emerge: (1) existing Thai development policies may not be adequately based upon the behavioural patterns and perceptions of the local people; (2) the perception of highlanders by the Thai and outsiders are not necessarily accurate, and in particular the ethnic Northern Thai are probably responsible for much more deforestation than are the highlanders; (3) the role of Imperata grassland is not perceived clearly and the problems are neither technical nor scientific, but social and economic ....... the problems of the hill country of Northern Thailand, and of many similar areas, are neither scientific nor technical. Rather they are people problems. Throughout the developing mountain world solutions imposed by outsiders will frequently fail; success depends upon the degree to which the local people are enabled to take the initiative.”

During the last two decades many studies have corroborated the initial assessment. Alford (1992) challenged the basic assumption that highland deforestation caused the downstream lowland damage, a process that had been traditionally assumed as self-evident in Thailand. He analysed all available hydro-meteorological data. The abstract of his paper is worth quoting in full:

“In the mountain watersheds of northern Thailand, the calculated runoff efficiency (that is the ratio between input as precipitation and output as surface runoff) is extremely low for a mountainous region, with an average of 20-25 percent. In those catchment basins for which data are available, the volume of suspended sediment is low, averaging approximately 100 t/km$^2$. Furthermore, time-series analyses of the existing data bases show no evidence that streamflow or sediment regimes have changed significantly since the 1950s. There is no empirical substantiation for the hypothesis that land-use practices have altered the hydrologic regime of these basins, or have contributed to an increase in the sediment load of the rivers. At the present time, the most pressing need for the government of Thailand is to organize the existing data bases, and publish annual statistics. This would increase the efficiency with which planning and management of water resources could be undertaken.”
Alford argues that there is a strong correlation between the amount of suspended sediment moving through the river systems of the northern mountainous region of Thailand and the mean annual discharge of those rivers. His analysis of the available data demonstrated that this relationship has remained virtually unchanged for the entire period of record. While it is not possible from this to argue conclusively that land-use practices (especially deforestation and swidden agriculture) have had no significant impact on the volume of sediment transported by the rivers, it does indicate that such increases cannot be detected at the existing scale of monitoring. However, it can be concluded that the volumes of sediment being carried by the rivers of Northern Thailand are among the lowest of all river systems world-wide. Alford’s work points up yet another example whereby gross assumptions, regardless of available data, become the basis for policy development. The actual cost of establishing an adequate data base so that such vital ambiguities can be resolved is cited by Alford (1992: 268) to be very slight, especially compared with the costs being borne by failed and partially failed environmental and socioeconomic policy implementation.

Schmidt-Vogt (1998) took the investigation into the detailed inter-relationships between ethnic land-use practices, deforestation, and soil erosion a big step further: this entailed study of the relationship between the practices of different ethnic groups and biodiversity. He urged reconsideration of the ‘orthodox’ definitions of forest degradation. He examined changes in vegetation caused by swidden farming near three ethnic minority villages in the highlands of Northern Thailand and showed that the commonly supported belief that swidden is a
degrading land use, causing species loss, soil erosion, and water shortages, is highly simplistic. His very detailed case studies revealed that the swiddens of Lawa and Karen ethnic groups actually provide better land management and biodiversity than reforestation, largely because of the indigenous practice of using ‘relict emergents’ – or retaining trees in cleared fields. In contrast, a different form of swidden, practiced in one Akha village led to species loss and less useful secondary forest growth. Schmidt-Vogt argues that policy makers need to evaluate the various forms of swidden farming in recognition of the great diversity of species that are often encouraged. This evaluation should pay attention to the economic values of species and the cultural needs and practices of the different forest users.

Forsyth (1994,1996,1998) has investigated different swidden systems and the wide variation in soil losses between the different practices. He has stressed the need for much more rigorous assessment of the results of mountain science in relation to the prevalence of the gross assumptions (myths) that are so frequently used as a basis for policy making. Ganjanapan (1996,1998) also takes a critical look into the complex personal and political agendas of agencies of the Thai mainstream that are having such an impact on policy evolution and the well-being of the Hill Tribes.

While rapid change over the last 10 to 20 years has resulted in spontaneous acceptance by villages of an increasing range of cash crops (and this process has been greatly aided by national government and donor intervention), there has also been a rapidly accelerating trend toward the acquisition of off-farm wage-earning jobs (Rerkasem, 1996). Nevertheless, Ganjanapan (1996, 1998) argues that many of the government policies are conflicting. For instance, national parks are established and,
on an ad hoc basis, minority communities are evicted from their traditional lands. In other instances, easier access to citizenship status and land ownership is enabling villages to protect local forests by establishing common property protection. In yet other cases, forests that are being ably managed by village communities are put at risk through corrupt manipulations between government officials and Thai businessmen whereby trees belonging to village communities are cut and sold illegally for individual profit. Ganjanapan (1998) points out that conflicts in the highlands of Northern Thailand represent a clear case of the politics of environmental discourse in the sense that conservation has played a role in lending legitimacy to both government agencies and ethnic communities in the struggle for control of forest resources. He stipulates that, only recently have government agencies begun to show some positive concern for social issues. This can be seen in the drafting of a new community forest act, yet the emphasis is placed on individual ownership of land, not common property ownership; and there is still no serious discussion of the legal recognition of the rights of minorities to live in the forests and continue their traditional use of the local resources.