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Ulrike Müller-Böker and Michael Kollmair

# Livelihood Strategies and Local Perceptions of a New Nature Conservation Project in Nepal

## The Kanchenjunga Conservation Area Project

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The recently established Kanchenjunga Conservation Area Project (KCAP)—jointly managed by the Department of National Parks and Wildlife Conservation (DNPWC) and World Wildlife Fund (WWF)—is based on the principles of

the new participatory concept of nature conservation. The main objectives are to protect the unique environment of the Kanchenjunga region and to help local communities improve their standard of living. This study focuses on existing livelihood strategies and local institutions as well as on the local population's perception of the participatory approach. A theoretical consideration of the different concepts of nature and conservation is regarded as helpful in understanding locally observed processes. The results show wide diversification in the economic system that contributes to sustaining livelihood. Various local institutions have established governance over particular resources. With regard to the KCAP, it became obvious that nearly all interviewees had expectations that went far beyond the intended and economically feasible potential of the project. This is largely because they do not entirely comprehend the principal aim of "conservation." On the other hand, most of the local people believe that conservation of nature is necessary in their region and that it is only possible through a joint effort made by everyone in the community.

**Keywords:** Nature conservation; livelihood strategies; local institutions; internal/external perception; Kanchenjunga; Nepal.

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### Introduction

The recently established Kanchenjunga Conservation Area Project (KCAP) is based on the principles of the new participatory concepts of nature conservation. These concepts suggest that sustainable conservation of nature is only possible in cooperation with or, in the best case, through the local population. A preliminary study was conducted in the remote and sparsely populated area of the northeastern corner of Taplejuñ District in Nepal. The aim was to clarify the local population's perception of the project's participatory approach by taking into account livelihood and local institutions. The region was chosen because its conservation area was very recently implemented and the World Wildlife Fund

(WWF), an important stakeholder in the international conservation community, provides the funding and management. In other words, the concepts and ideas of the international conservation lobby meet those of a traditional subsistence-oriented population. Before summarizing the results of the field campaign, some remarks about nature conservation policy in Nepal and general concepts of conservation and nature are appropriate.

### Nature conservation policy in Nepal

Since 1973, a set of protected areas has been established based on initiatives by international conservation organizations in Nepal. The main selection criteria were the uniqueness of landscapes and wildlife and the country's rich biodiversity (Barthlott et al 1996; Shrestha and Joshi 1996). Today, 17 protected areas cover over 16% of the country (Figure 1).

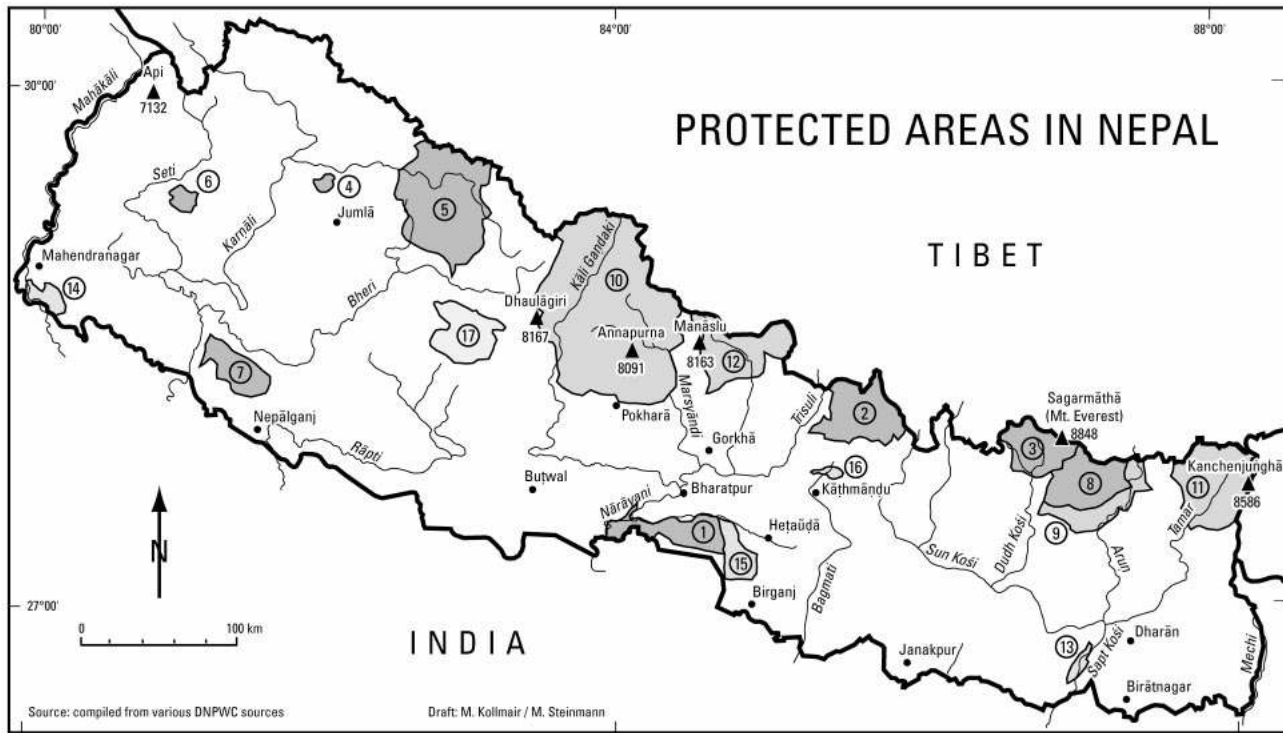
In the early phases, the main focus was on establishment of national parks and wildlife reserves. In the lowland national parks, protection of wildlife (eg, rhino, tiger) was—and still is—the priority. Human use of these areas is strictly forbidden, and they are guarded by the army. In many places, former inhabitants of the area have been resettled, as in Chitawan, where a resettlement program involving more than 10,000 people was initiated in 1996 to enlarge the National Park (Müller-Böker 1999:189 ff). The joint presence of humans and wild animals in the densely populated Terai and Inner Terai gives rise to numerous conflicts over land use (Müller-Böker 1998, 1999). In the Nepalese national parks in the thinly settled high mountain regions (Langtang, Sagarmatha), the path of coexistence was chosen (Stevens 1997). In most cases (with the exception of the Rara National Park), people were able to remain in their settlements, where grazing and the extraction of firewood and timber are possible in a regulated form (Bunting et al 1991; Weber 1991).

In the late 1980s, with the establishment of the so-called conservation areas, modern concepts of conservation with integrative management approaches were implemented in Nepal. The new approach promotes the sustainable use of ecosystems. New legislation not only enables the regulation of local resource utilization but also the promotion of tourism and charging of entrance fees (Keiter 1995). These recent conservation projects, in particular the Annapurna Conservation Area Project (ACAP) and the Kanchenjunga Conservation Area Project (KCAP), contain elements of rural development projects.

### Concepts of nature and conservation

The history of the protected areas system of Nepal is reflected in the development of international conserva-

**FIGURE 1** Protected areas in Nepal.



National Parks (IUCN Category II)		Conservation Areas (VI)		Wildlife Reserves (IV)		Hunting Reserve (IV)	
① Royal Chitawan	⑤ She-Phoksundo	⑨ Makālu-Baruṅ	⑬ Kośi Tappu	⑰ Dhorpāṭan			
② Lāngtāng	⑥ Khaptaḍ	⑩ Annapurṇa	⑭ Royal Shuklā Phāṭ				
③ Sagarmāthā	⑦ Royal Bardiyā	⑪ Kanchenjūnghā	⑮ Parsā				
④ Rārā	⑧ Makālu-Baruṅ	⑫ Manāslu	⑯ Shivapuri				

tion approaches. These approaches have their roots in different concepts of nature. We argue with Eder (1996) that nature is a social construct. Different societies perceive and evaluate their environment in different ways, and so the meanings connected with the term “nature” are not equivalent (Callicott and Ames 1989). In Western civilization, nature is commonly perceived as separate from human culture and civilization (Seeland 1997; Sieferle 1997). The so-called “classical” conservation approach is based on this dualistic conception. It led to the establishment of areas isolated from human intervention, where the postulated uniqueness of nature should be protected. This concept entailed resettlement of the local population and the enforcement of regulations by regular or paramilitary troops.

Current approaches in nature conservation are directed toward preserving and harmonizing the contrast between nature and culture; they could be classified as nature-romantic conceptions. Thus, “biosphere reserves” should “become theatres for reconciling people and nature ... rather than forming islands in a world increasingly affected by severe human impacts”

(UNESCO 1995). The labels for these new approaches include “people-oriented conservation,” “co-management” or “joint management,” “integrated management,” and “participatory management” (Borrini-Feyerabend 1996; Wright and Mattson 1996). Despite this paradigm change in conservation policies, it should be borne in mind that many of the already established protected areas are still managed in the old way.

These briefly described conservation concepts can be understood as “globalized.” They affect people in far-away places, frequently members of traditional, subsistence-oriented societies, as in our example. Concepts of nature in traditional societies differ from those of “modern” societies mainly because the structures of production are fundamentally different. Their evaluation of the natural environment is primarily utilization-based (Müller-Böker 1991; Helbling 1992). Another significant difference is that nature is frequently linked with religious connotations in traditional societies (Eliade 1985). “The sacred” often manifests itself in nature. In Nepal, there are not only the great traditions of Hinduism and Buddhism that shape the understanding of

**TABLE 1** Livelihood strategies in different altitudinal belts. (Source: study by authors, 1998)

	Lower altitudinal belt (1000–2500 m)	Higher altitudinal belt (above 2500 m)
<b>Main villages</b>	Tāpethok, Māmānkhe, Lelep	Ghunsā, Olānchungolā
<b>Ethnic groups</b>	Limbu, Rāi, Guruṅg, Sherpā (Lāmā)	Sherpā, Tibetan refugees
<b>Farming system</b>	Mixed small-scale farming on irrigated fields and dryland; shifting cultivation	Livestock husbandry with transhumance; dryland farming (not in Olānchungolā)
<b>Main crops</b>	Rice, maize, millet, cardamom (cash crop), two crops per year	Potatoes, wheat, buckwheat, one harvest per year
<b>Livestock</b>	Cattle, buffalo, sheep, goats	Yak, <i>nak</i> , <i>chauri</i> , sheep
<b>Off-farm activities</b>	Portering, military service, migratory seasonal labor, selling of forest products	Trade with Tibet and Sikkim, tourism, carpet weaving

nature but also the local minor traditions of numerous ethnic groups. At the same time, concepts of nature often oscillate between tradition and modernity. Local conservation experts tend to operate on scientific concepts, but they are also obliged to take account of their own culture.

### The Kanchenjunga Conservation Area

The Kanchenjunga region in Eastern Nepal was declared a “Gift to the Earth” by the government of Nepal in April 1997 in support of the “WWF 2000—The Living Planet Campaign” (WWF 1999). In July 1997, it was designated as a conservation area and, in November 1997, the WWF (US)-funded project became operational. Administered jointly by the Department of National Parks and Wildlife Conservation (DNPWC) and the WWF (Nepal), the KCAP covers an area of 2035 km<sup>2</sup> southwest of Mt. Kanchenjunga, the third highest peak of the world (8586 m). The area encompasses an impressive high mountain landscape with glaciers, rocks (65%), and meadows (9% of the protected area) as well as abundant forests (24%) below 4000 m. Only 2% of the area is under cultivation.

The main reasons for protection, as stated by the WWF, are the unique environmental characteristics of the Mt. Kanchenjunga area, with its high density of glaciers, high biodiversity indices, extensive forests of endangered Himalayan larch (*Larix griffithiana*), and endangered wildlife (eg, red panda, snow leopard, blue sheep). The potential for transboundary conservation with the Kanchenjunga National Park in Sikkim (India) and the Qomolangma Nature Preserve in Tibet (China) is regarded as a further benefit (Rastogi et al 1997). The general project aim is “to safeguard the biodiversity of the area, and improve the living conditions of the local residents by strengthening the capacity of local institutions responsible for making decisions, which will effect the long-term biodiversity conservation and economic development of the area” (KCAP 1999: 1). The

main points of the KCAP program are implementation of a management plan through Conservation Area Management Committees (CAMCOM) formed by local people; motivation of the local population for community and infrastructure development; enhancement of economic status and educational opportunities for women; and raising awareness and motivation among local people to work for conservation management, community development, biodiversity conservation, and ecotourism development (KCAP 1999). Because the project was still at an early stage in 1998, only a few measures had been implemented.

The well-known and successful Annapurna Conservation Area Project (ACAP) (eg Bunting et al 1991; Bajracharya 1995) served as a model for the Kanchenjunga area. However, the preconditions of the ACAP are quite different from those of the KCAP. The ACAP has an economic basis in the income generated from tourism. Entrance fees and expenditures of the more than 50,000 foreign tourists per annum (Yonzon and Heinen 1997) could be used for development activities. In contrast, the Kanchenjunga region has only been open for trekking tourism since 1988. Currently, there are only 500–800 tourists per year, and a substantial increase is not expected in the near future. The main disadvantages for tourism include difficult access due to remote location (Figure 1), high precipitation, and poor facilities for tourists (Gurung 1996).

### Livelihood and local institutions in the Kanchenjunga Conservation Area

Around 5700 people of different ethnic origins reside permanently inside the conservation area. Living in five Village Development Committees (VDCs), the population is split between the Sherpa (Bhoṭe), Limbu, Rāi, Guruṅg, and Chetri. Their main sources of income are subsistence agriculture and animal husbandry. Beyond these, the local population depends on a wide variety of activities to sustain their livelihood, ranging from small

**FIGURE 2** Sherpa settlement and land use system in the Upper Tamur Kholā area. (Source: study by authors, 1998)

Walking distance between settlements	3 days		3 hours		1.5 hours		8 hours		3 – 5 days	
Altitude	1300 m	2800 m	3200 m	3400 m	4160 m					
Settlement	Tablejuñ	Gyāblā	Phale	Ghunsā	Khānpāchen					Tibet
Function of settlement	Road head, bazaar, district capital	Temporary agricultural settlement	Winter settlement	Main settlement	Alp settlement					Road head, bazaar
Duration of habitation		During planting and harvest seasons	Dec. – Jan.	Feb. – Nov.	June – Oct. (only men)					
Crops		Potatoes, wheat, barley	Potatoes	Potatoes						
Livestock husbandry		Winter pasture	Winter pasture grass cutting (Oct.)	Forest pasture	Summer pasture					
Functions for other communities			Permanent settlement for Tibetan refugees, permanent pasture for pack animals (yaks)		Summer pastureland for other ethnic groups					
Items traded	Kerosene, rice ↔ Cheese, butter		Grain ↔ Potatoes		Butter, cheese, yaks ↔ Salt, fat, wool					
Trade season	Winter		Post harvest		Summer (once a year)					

cottage industry and trade with Tibet to income generation from tourism, seasonal labor migration, and mercenary employment. Most of the households combine these different strategies to minimize risk and optimize the use of natural and economic resources. The KCA can be roughly divided into two altitudinal belts with different livelihood strategies (Table 1).

Figure 2 shows the settlement and land use system of the Upper Tamur Kholā area in greater detail. Households in Ghunsā—the main village—have housing facilities in three other settlements. Pastures and fields are used in different altitudinal belts. Nine summer pastures between Ghunsā and Kanchenjunga Base Camp are grazed in rotation and are included in the system. During an annual cycle, people move their main economic activities from place to place (Figure 3).

Trade with Tibet is another important factor in sustaining livelihood in the Upper Tamur area. In earlier times, people from Ghunsā crossed mainly via the Chābu Lā on their way to Tibet, but nowadays the

authorities only allow people to cross the border via Kāng Lā or Tiptā Lā. A local road-head market in Tibet is reached after a 3-day walk. Here the traders exchange *ghiu* (butter fat), *churpi* (dried cheese), and young animals for salt, fat, wool, and Chinese goods. Only the traders from Olānchungolā carry out cash trade (Fürer-Haimendorf 1975). After a few days, they return home to Ghunsā. Tibetan refugees from Phale head further on for 7 days to their former homes in Ruu. They stay there for a couple of weeks and return home with stocks of wool for carpet production.

The community of Ghunsā is heavily dependent on the natural resources of the surrounding environment. Local institutions strictly regulate this resource use, including pasture management regulation, grass-cutting regulations, and locally protected forests.

The pastures are officially registered as government land, but their use and management is under the control of local user groups. Only the inhabitants of Ghunsā have free access to these pastures—users from outside





**FIGURE 3** Yaks transporting potatoes to the winter settlement at Phale. (Photo by U. Müller-Böker, September 1998)

(non-user-group members) have to pay fees. A healthy population of blue sheep above Khānpāchen (Brown 1994) indicates that the local management of pastures is not only sustainable, but also supports wildlife. Since the refugee residents of Phale do not have pastures or pasture rights, they have a system of coherding with the residents of Ghunsā. In exchange for half the production (*ghiu, churpi*), Ghunsā herders take Phale livestock to their summer pastures. The livestock is kept near Phale in winter. Another group using Ghunsā's pastures are Chetri shepherds from the Tapplejuñ area, who practice extended transhumant migration.

The "grass-cutting day," which regulates the supply of winter fodder, is one of the most exciting and effective institutions in Ghunsā (Brown 1994: 30). To avoid individual exploitation of a crucial common resource, the village representatives fix the day on which grass cutting is allowed to start. After 3–4 days, all the grass is harvested. All members of the community will have had the opportunity to collect sufficient hay. The grass-cutting regulation also includes private land. This helps to mitigate economic disparities and prevents the theft of grass from private lands. The ability to adapt the system to a new setting was proven when Tibetans took refuge in Phale in 1959 and were accepted as equal partners in this system.

There are also locally developed rules and regulations concerning the forests, especially the heavily used forests in the neighborhood of settlements. The term "rāni ban" designates forests that are traditionally preserved for both religious and secular reasons. Timber

for the construction of schools, *gompas*, bridges, and other community needs is taken from the forests.

The various local institutions establish governance over a particular resource defined by a user group, demarcating a boundary and establishing and enforcing a functioning set of user rights and restrictions. In the past, these local institutions could effectively resist external state control because of the remoteness of the area. However, the KCAP tries to enhance and modify these traditional rules and regulations by implementing a management plan through Conservation Area Management Committees (CAMCOM), which has yet to set a direction.

### Local perception of the KCAP

In autumn 1998, we visited nearly all the villages inside and bordering the Kanchenjunga Conservation Area (with the exception of the restricted area of Olāñchun-golā). Taking into account gender and ethnicity, we conducted around 40 interviews with local residents and with the representatives of the project who were present. Interviews included the following ethnic groups: Sherpa (8 males/5 females), Limbu (8 males/2 females), Guruñg (3 males/1 female), Rāi (2 males/2 females), Bāhun/Chetri (1 male/2 females), Tibetan (2 males). The first set of questions was grouped around the following subjects: What does the local population know about the KCAP? What are their expectations concerning the project?

The majority of the interviewees knew that a project called KCAP exists. However, only two of them were aware that the WWF is the main organization running the project, but they had no idea what kind of organization it is. Questioning about the main targets of the KCAP revealed surprisingly that only a quarter of those interviewed were aware of intrinsic conservation targets such as the ban on hunting, protection of animals and plants, and forest use regulations. Twice as many responses were related to the project's aim of "improvement in the standard of living." It was repeatedly mentioned that the main objectives of the project are the construction of large buildings and roads, supplies of water and electricity, restoration of monasteries, improvement of schools and agricultural training programs, and formation of women's groups. These expectations—which go far beyond the intention and the economic potential of the project—are understandable if we have a picture of the main problems in the area.

Asked about the main problems, many respondents stated that there are "far too many" here. The most frequently mentioned point was the lack of infrastructure. Nearly everybody complained about the bad conditions of the sometimes dangerous trails and bridges. High transport costs for all commodities, access to markets—the nearest vehicular road is a walk of 2–5 days from the KCAP—as well as dangerous ways to get to school were mentioned. Problems with the drinking water supply, no access to electricity, insufficient medical supplies, and lack of telephones and milling facilities were mentioned less often. Other frequently stated problems were the general lack of education and employment opportunities. Only a few interviewees noted environmental problems such as poor firewood supply and erosion. One respondent even identified the conservation project itself as the main problem!

Overall, gender differences in the perception of problems were significant. While more than two thirds of the male interviewees mentioned the poor infrastructure (paths, bridges, electricity), only one third of the females did so. The perception of drinking water supply was much the opposite, often mentioned by women but only occasionally by men.

The perception of problems by the few tourists that we met and interviewed provided a sharp contrast to the notions of the local population. Tourists mentioned that the main problems for the local population were (in order of frequency) deforestation and erosion, hygiene (toilets), education, medical supplies, general economic problems, the bad influence of outsiders (sic!), drinking water supply, footpaths, and drug problems.

The second set of questions was grouped around the questions, Is it necessary to protect nature? In which way could this be done?

Common sense tells us that it is necessary to protect nature or—to be more precise—that rules and regulations are necessary for the use of natural resources. The reasons given for the protection of nature were largely utilitarian and focused on respondents' own localities—for example, "for our own security," "our children will need firewood in the future," "so tourists have something beautiful to see." Aesthetic features were also mentioned frequently: "If there are many trees, then there are many birds and animals, and that is beautiful to observe." Opinions were divided about the fauna. Some stated that it is "bad" to kill animals but, given the frequent harvest losses due to wild animals as well as highly dangerous encounters with bears, there were also those who demanded the extinction of these animals. Only a few men, Lamaistic Sherpas and Tibetans, gave religiously motivated reasons for conservation based on Buddhist concepts: "Not to kill animals or to plant trees is good for our dharma."

While answers about the reasons for protecting nature were diverse, answers regarding how it could be done were quite consistent. Most of the interviewees emphasized that it is, first of all, necessary to reach agreement within the community. Conservation, in their eyes, is only possible if the whole community moves in the same direction: "I can't do anything by myself; we must work together" was a frequently heard comment. This refers to institutional regulations. As we have seen, there are traditional regulations in existence, but new ones have to be created. The KCAP can count on the readiness of the local population, especially women, to take up these innovations. The most positive and successful examples of new institution building, as promoted by the KCAP, are mothers' groups and informal education classes for women (Figure 4).

## Conclusion and outlook

An important result of our investigation in the Kanchenjunga area is that only a small part of the population is aware of the principal objective of the KCAP, which is nature conservation. The WWF project is almost always perceived as a rural development project. Consequently, expectations are obviously unrealistic. It can be deduced that, in the new generation of conservation projects, the main target of conservation is well packaged as development measures and is hardly visible to the local population. There is a high level of acceptance for such projects—at least at the beginning. However, as soon as the conservation targets, including the restrictions, become more transparent and many expectations with regard to improvement in living standards are not fulfilled, the critical voices tend to become louder. The lack of transparency, as well as campaigns





**FIGURE 4** A group of women in Ghunsā preparing for a meeting. (Photo by U. Müller-Böker, September 1998)

against the project, had already led to rumors about stationing of troops, prohibition of forest resource use, and grazing restrictions. The KCAP team had to learn the following lesson: “As a result of misinformation, it was very difficult for the extension team to build trust with the local communities and address conservation issues” (KCAP 1998: 12).

Nevertheless, compared with many other conservation projects in the developing world (Ghimire and Pimpert 1997), the KCAP makes serious attempts to integrate the needs of the local population. With the implementation of the community-based CAMCOMs on different administrative levels, including women’s groups and forest user groups, it is on the right path toward embedding traditional institutional structures in the conservation approach.

The project does, however, have to face a number of problems in the future. Financing for development activities will be a permanent problem. The income generated by entrance fees from tourists will never cover expenses. Another problem facing the project is a social one: the multiethnic composition and local stratification of society. The project headquarters is situated

in a village with predominately Sherpa inhabitants, and most of the local employees are Sherpas. The Limbus, the second most numerous group in the area, are not represented at the headquarters and have to fight numerous prejudices. Conflict also seems to arise because the KCAP interferes in local policies. The project ran into serious problems in 1999. Local political leaders tried to press the management to move the headquarters out of the conservation area, nearer to the district capital, and to involve local nongovernmental organizations (NGOs), which are under their control, in the park management. In other words, participatory nature conservation programs have to tackle primarily social questions and depend on existing political structures.

The fact that the main aim of conservation is not entirely clear to the local population shows once again that participation is easy to promulgate but difficult to implement. In the context of environmental conservation, participation is still seen largely as a method of achieving externally desirable conservation goals and is generally interpreted in ways that do not allow the transfer of control to local people (Pimbert and Pretty 1997).

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