#### SOCIETY AND NATURAL DISASTER

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# THE POTENTIAL OF BULGARIAN SPAHOTELS TO HOST NATURAL HAZARDS VICTIMS

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Abstract: A natural disaster is a major adverse event resulting from natural processes of the Earth which affects a vulnerable area and causes loss of life, health, property and other economic values. The issue of mitigating the negative impact of natural hazards on the society is of great importance today when we strive to keep social sustainability. Common immediate negative consequences for people who survived a natural disaster are losses of relative and friends, health, home, other property and values. The stress and the psychological pressure worsen even more the health status. So there is need of arranging in short term the accommodation and recreation of the victims of natural disaster. These two tasks can be successfully solved by using the potential of the tourist industry and especially of health tourism industry. The touristic infrastructure can ensure both accommodation and recreation of large groups of people, especially in short terms (15-30 days). In most cases these terms are enough to overcome the stress and to ensure enough time for finding long-term living solutions. The aim of this article is to study the potential of Bulgarian tourism infrastructure (hotels) and especially health (SPA, wellness) tourism infrastructure to ensure recreation for victims of natural hazards.

Key words: natural hazards; health; SPA; hotels

#### **Natural hazards**

A natural disaster is a major adverse event resulting from natural processes of the Earth which affects a vulnerable area and causes loss of life, health, property and other economic values

In 2012, there were 905 natural catastrophes worldwide, 93% of which were weather-related disasters and 7% were geophysical events (earthquakes and volcanic eruptions). Weather related disasters are distributed as follows: 45% were meteorological (storms), 36% were hydrological (floods), 12% were related to climate (heat waves, cold waves, droughts, wildfires). Overall costs were US\$170 billion and insured losses \$70 billion.

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A detailed description and analysis of natural hazards can be found in (Proske, 2008).

The complex natural geographic structure of Bulgaria as well as its location in an area of high seismic activity makes the country exposed to different natural hazards (seismic, geophysical, climatic) which may cause considerable loses (human and material) as well as to endanger the sustainable development of the country. Statistics shows high frequency of natural hazards of different kind which may affect large areas are cause risk for the life and the health of the population.

The change of climate leads to higher dynamics of atmospheric processes and more storms and rains which lead to floods. The floods in the summer and fall of 2005 changed the life of tens of thousands of Bulgarian citizens. In March 2006 new floods led to crisis situation in 19 municipalities.

Bulgaria is located in Alpo-Himalayan area where high seismicity is registered. So there is a high risk of earthquakes here. The biggest earthquakes in the newest Bulgarian history are: the Chirpan earthquake (1928; 6,8 Richter magnitude scale, 105 killed, 500 wounded, 26 000 homes destroyed, 21 000 other homes with damages), Svishtov (Vrancha) earthquake (1977; 7,4 Richter magnitude scale, 1600 killed in Romania and Bulgaria, in Svishtov more than 100 killed, industrial and residential buildings destroyed).

# Health tourism as a means for mitigating natural hazards damages

The issue of mitigating the negative impact of natural hazards on the society is of great importance today when we strive to keep social sustainability. Common immediate negative consequences for people who survived a natural disaster are losses of health, relative and friends, home, other property and values. The stress and the psychological pressure worsen even more the health status. So there is need of arranging in short term the accommodation and recreation of the victims of natural disaster. These two tasks can be successfully solved by using the potential of the tourist industry and especially of health tourism industry.

The touristic infrastructure can ensure both accommodation and recreation of large groups of people, especially in short terms (15-30 days). In most cases these terms are enough to overcome the stress and to ensure enough time for finding long-term living solutions.

The aim of this article is to study the potential of Bulgarian tourism infrastructure (hotels) and especially health tourism infrastructure to ensure recreation for victims of natural hazards.

In order to identify this potential we will study the degree of occupancy of the SPA related hotels during the year and correspondingly the free capacity to accommodate victims of natural disasters.

# Health (SPA, wellness) tourism infrastructure in Bulgaria- geographical overview

Health (SPA, wellness) tourism takes a big share in Bulgarian hotels industry and also is very fast growing in global (Stoynov, 2010). The main regions with respect to hotel infrastructure in Bulgaria are: Sofia region (provinces Sofia-city and Sofia), Black sea region (provinces Varna, Bourgas and Dobrich), North Bulgaria (provinces in North Bulgaria with the exception of Varna and Dobrich provinces), South Bulgaria (provinces in South Bulgaria with the exception of the provinces Sofia-city, Sofia and Bourgas). These regions may play a role of strata based on geographical principle for different surveys. Sometimes an alternative stratification may be used by selecting another region - Large cities - from the regions South and North Bulgaria. This region includes cities in North and South Bulgaria regions which have population more than 100 000 (L1) or more than 80 000 (L2) habitants.

The municipalities in each province, region respectively, play a role of blocks (clusters) and can be selected in different samples. Parts of these blocks can be selected if we choose two or three-stage design for surveys.

When we have two-stage design, secondary clusters are large towns or resorts (sea resorts, mountain resorts and SPAs). At three-stage design, simple random samples are taken from the secondary sampling units.

The most important sea resorts (not towns or villages) of Bulgaria (with national importance) are: Sunny Beach, Golden Sands, St. Konstantine and Helena, Albena, Elenite, Duni. Mountain resorts (not towns or villages) with national importance are: Pamporovo, Borovets, Youndola, Govedartsi.

Sea resorts (towns or villages) are: Kavarna, Balchik, Kranevo, Varna, Pomorie, Nesebar, Bourgas, Primorsko, Kiten, Tsarevo, Ahtopol...

Balneological resorts in Bulgaria (towns or villages which are not also sea resorts) are: Banya (Plovdiv province), Banya (near Bansko), Banite, Bankya,

Belchin, Bourgaski mineralni banis, Velingrad, Voneshta voda, Varshets, Devin, Dobrinishte, Kjustendil, Kostenets, Momin prohod, Narechenski bani, Ognyanovo, Pavel banya, Razlog, Sandanski, Sapareva banya, Starozagorski mineralni bani, Strelcha, Haskovski mineralni bani, Hisarya, Shipkovo, Chiflik.

The main SPA destinations inside country (not at the Black sea coast) are: Velingrad, Devin, Sandanski, Kjustendil, Hisarya.

Sea resorts which are at the same time SPA resorts (with mineral water springs) are: Golden Sands, St. Konstantine and Helena, Albena, Pomorie, Sunny day, Riviera, Bourgaski mineralni bani.

Mountain resorts with good conditions for SPA toursim are Bansko, Velingrad, Devin, Varshets, Kostenets, Momin prohod, Chiflik, Razlog, Borovets, Pamporovo etc.

Table 1. Resorts (not towns or villages) of national importance in Republic of Bulgaria. 2012-2013.

Resort	Number of hotels	Number of beds
Sunny beach	132	58 069
Golden sands	98	34 364
St. Konstantine and Helena	55	11 579
Albena	37	14 779
Pamporovo	42	4231
Borovets	23	4219
Elenite	7	3 814
Duni	5	3 450

Source National Statistical Institute (NSI) – Bulgaria

In Table2, the largest Bulgarian cities are presented according to the last census information (2011).

Among them, special interests deserve the cities with population more than 100 000 inhabitant (L1): Sofia, Plovdiv, Varna, Bourgas, Stara Zagora, Pleven. Sometimes we may dente by large cities the cities with population greater than 80 000 inhabitants (L2): Sofia, Plovdiv, Varna, Bourgas, Stara Zagora, Pleven, Sliven, Dobrich, Shoumen, Pernik.

Among these cities we have to sea resorts – Varna and Bourgas where the SPA coexists successfully with sea vacation tourism.

Table 2. 16 largest Bulgarian cities, according to 2011 census.

City	Population, inhabitants		
Sofia	1 204 685		
Plovdiv	338 153		
Varna	334 870		
Bourgas	200 271		
Rousse	149 642		
Stara Zagora	138 272		
Pleven	106 954		
Sliven	91 620		
Dobrich	91 030		
Shoumen	80 855		
Pernik	80 191		
Haskovo	76 397		
Yambol	74 132		
Pazardgik	71 979		
Blagoevgrad	70 881		
Veliko Tarnovo	68 783		

Source National Statistical Institute (NSI) - Bulgaria

## Balneology, SPA and Wellness hotels

To illustrate the universe of interest – hotels related to SPA, wellness and generally health tourism in Bulgaria – we will use data about the number of the hotels as per 28.10.2011. Since then, there are some changes in the hotels but they are not big.

According to the number of rooms the hotels are: mini-hotels (1-49 rooms), small hotels (50-99 rooms), medium hotels (100-199 rooms), large hotels (200-299 rooms), very large hotels (300-499 rooms) and mega-hotels (500 and more rooms).

The population of all categorized hotels in Bulgaria as per 28.10.2011 includes 1022 hotels. Of course not all among them are of interest from point of view of SPA tourism.

First of all, in order a hotel to offer products related to SPA tourism, it must offer high quality of tourist product as a whole. This means that the hotel should be high category hotel. According to the requirements of the Ministry of Economy, Energy and Tourism of Republic of Bulgaria in order a hotel to be SPA or Wellness hotel it must be 4 or 5-stars hotel. Because of this we include in our population all 4 and 5-stars hotels.

At second place, the large hotels generally have better possibilities to develop and offer SPA products (they are usually in sea or SPA resorts or develop their own SPA centers). Because of this hotels of interest for us are also all large hotels (for our purpose – hotels with more than 200 rooms).

At third place, in the population of interest for SPA tourism we include all balneology hotels (hotels specialized in offering medical SPA services) even when they are not 4-stars, 5-stars or large hotels.

At fourth place, in the population of interest for SPA tourism we may include 3-stars hotels which are not large or balneology hotels, but are located in sea resorts or balneo-resorts.

In this way the hotels of interest from point of view of SPA tourism are 635 hotels as per 28.10.2011 or 62% of all categorized hotels in the country. This universe (we will call it further HT Universe) should be updated every year. From it we select sampling frame – list of hotels from which we may do samples for different surveys.

Table 3. Categorized hotels in Bulgaria on 28.10.2011.

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Category	Number of hotels			
Two stars	229			
Three stars	439			
Four stars	300			
Five stars	54			
Total	1022			

Source National Statistical Institute (NSI) - Bulgaria

Table 4. Hotels according to their size on 28.10.2011

Type hotel according to the size	Number of hotels			
Mini(1-49 rooms)	390			
Small (50-99 rooms)	257			
Medium (100-199 rooms)	238			
Large (200-299 rooms)	85			
Very large (300-499 rooms)	37			
Mega hotels (500 and more rooms)	11			
Total	1019			

Source National Statistical Institute (NSI) – Bulgaria

Note: There are 3 hotels in the database with not determined size.

From this universe, we may form a sampling frame (called further HT Sampling Frame) from which to generate samples for different surveys. Below are described the hotels in the sampling frame which we will use.

#### **Balneo-hotels**

The balneo-hotels are mainly concentrated in the state-owned company "Profilaktika, rehabilitaciya and otdih" EOOD ("Prevention, rehabilitation and rest", www.bgholiday.com) which has 17 hotels for prevention and rehabilitation.

To the Ministry of health there is associated commercial society "Specialized hospitals for rehabilitation – national complex" with the aim to cure sick people. The branches of the society are: Banite, Bankya, Banya, Varshets, Kustendil, Momin prohod, Sandanski, Hisarya, Narechen, Ovcha mogila, Pavel banya, Pomorie. But these specialized hospitals will not be considered here.

Although their number is relatively small, they have a big potential to accommodate and actively cure victims of natural hazards.

### Black sea region

In Table 5 we present the HT Sapling Frame in comparison with HT Universe and the total number of hotels operating in June 2013 in Black sea region. The reference period is June as in summer we have the high season with most of the hotels open during that time.

In Black sea region there are 37% of the total number of categorized hotels in the country functioning in June 2013.

HT Universe here includes apart from 5 and 4-stars hotels also a large portion of the 3- stars hotels (estimated to 80%). So, it is roughly estimated to 424 hotels (170 5/4-stars and 254 3-stars hotels). The coverage of HT Sampling Frame here is 51% (72% for 5/4-stars hotels and 37% for 3-stars hotels).

Table 5. HT Sampling Frame in comparison with total number of hotels and HT Universe in Black sea region operating in June 2013.

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Province	Total number of hotels	5/4-stars hotels (5/4- stars HT Universe)	5 and 4 stars HT Sampling Frame	3-stars hotels (approximately equal to 3 stars HT Universe)	3-stars HT Sampling Frame
BOURGAS	501	73	59	165	46
DOBRICH	130	12	5	53	15
VARNA	315	85	58	99	32
TOTAL	946	170	122	317	93

Source: National Statistical Institute (NSI) – Bulgaria

### **Region South Bulgaria**

In Table 6 we present the HT Sapling Frame in comparison with HT Universe and the total number of hotels operating in January 2013 in South Bulgaria region. The reference period is January as in winter we have the high season in this region (where there are winter vacation resorts) with most of the hotels open during that time.

In South Bulgaria region there are 52% of the total number of categorized hotels in the country functioning in January 2013.

HT Universe here includes mainly 5/4-stars hotels as 3-stars hotels are included in it only if they are in SPA resort or are large hotels (these hotels are estimated to 20% of the total number of 3-stars hotels). So it is roughly estimated to 155 hotels (88 5/4-stars and 67 3-stars hotels). The coverage of HT Sampling Frame here is 57% (80% for 5/4-stars hotels and 27% for 3-stars hotels).

#### **Region Sofia**

In Table 7 we present the HT Sapling Frame in comparison with HT Universe and the total number of hotels operating in January 2013 in Sofia region. The reference period is January as in winter we have the high season in this region (where there are winter vacation resorts) with most of the hotels open during that time.

Table 6. HT Sampling Frame in comparison with total number of hotels and HT Universe in South region in January 2013

Province	Total number of hotels	5/4-stars hotels (5/4- stars HT Universe)	5 and 4 stars HT Sampling Frame	3-stars hotels	3-stars HT Sampling Frame
SLIVEN	80	2	-	20	-
STARA ZAGORA	35	5	3	15	1
YAMBOL	20	-	-	6	-
BLAGOEVGRAD	213	29	29	94	6
KYUSTENDIL	51	1	1	12	1
PERNIK	17	-	-	1	-
KARDGALI	23	-	-	5	-
PAZARDGIK	55	14	14	9	4
PLOVDIV	159	16	11	63	3
SMOLYAN	248	12	12	99	2
HASKOVO	34	1	-	9	1
TOTAL	935	88	70	333	18

Source: National Statistical Institute (NSI) - Bulgaria

In Sofia region are 11% of the total number of categorized hotels in the country functioning in January 2013.

Table 7. HT Sampling Frame in comparison with total number of hotels and HT Universe in Sofia

Province	Total number of hotels	5/4-stars hotels (5/4 stars HT Universe)	5 and 4 stars HT Sampling Frame	3-stars hotels	3-stars HT Sampling Frame
SOFIA CITY	123	36	36	37	2
SOFIA OBLAST	74	9	9	21	-
TOTAL	197	45	45	58	2

Source: National Statistical Institute (NSI) – Bulgaria

HT Universe here includes mainly 5/4-stars hotels as 3-stars hotels are included in it only if they are in SPA resort or are large hotels (these hotels are estimated to 20% of the total number of 3-stars hotels). So it is roughly estimated to 57 hotels (45 5/4-stars and 12 3-stars hotels). The coverage of HT Sampling Frame here is 83% (100% for 5/4-stars hotels and 17% for 3-stars hotels).

# Region North Bulgaria

In Table 8 we present the HT Sapling Frame in comparison with HT Universe and the total number of hotels operating in January 2013 in North Bulgaria region.

In North Bulgaria region there are 26% of the total number of categorized hotels in the country functioning in January 2013.

HT Universe here includes mainly 5/4-stars hotels as 3-stars hotels are included in it only if they are in SPA resort or are large hotels (these hotels are estimated to 10% of the total number of 3-stars hotels). So it is roughly estimated to 35 hotels (23 5/4-stars and 12 3-stars hotels). The coverage of HT Sampling Frame here is 49% (43% for 5/4-stars hotels and 58% for 3-stars hotels).

Table 8. HT Sampling Frame in comparison with total number of hotels and HT Universe in North

region in January 2013. 5/4-stars 5 and 4-Total 3-stars HT hotels (5/4stars HT number of Province 3-stars hotels Sampling stars HT Sampling hotels Frame Universe) Frame 35 VIDIN 11 1 VRATSA 24 4 61 5 2 18 4 LOVECH 2 2 **MONTANA** 25 6 1 2 23 1 6 1 PLEVEN VELIKO 104 6 2 15 **TARNOVO** 51 2 25 GABROVO 5 **RAZGRAD** 16 **ROUSSE** 44 2 2 13 20 2 SILISTRA TARGOVISHTE 21 1 SHOUMEN 39 1 12

463 Source: National Statistical Institute (NSI) – Bulgaria

TOTAL

# The free capacity of the Bulgarian hotels suitable for health tourism (SPA, wellness)

10

116

23

7

First we will analyze the potential of the hotels in sea resorts to host additional groups of tourists. This is because in Black sea region the HT Universe is closest to the total number of the 5/4/3-stars hotels and also because for these resorts there are full census data by NSI. The analysis is based on the monthly data issued by National Statistical Institute of Bulgaria [2] about activity of the national resorts which reports started since January 2012 in accordance to the Reglament 692/2011 of European Parliament and Council about European tourism statistics.

Sunny Beach resort, the biggest Bulgarian sea resort, is completely closed during November, December, January, February and March. For these months the capacity here is 58 069 beds. In April 2013 there are six hotels open with capacity of 4234 beds. But from those beds only 8% are occupied, so the free capacity of the resort in April is about 57 600 beds. In May 2013 there are 83 hotels open with capacity of 35941 beds. But from those beds only 22% are occupied, so the free capacity of the resort in May is about 50 000 beds. In June 2013 there are 121 hotels open with capacity of 46401 beds. But from those beds 67% are occupied, so the free capacity of the resort in June is about 26 900 beds. In July 2012 there are 123 hotels open with capacity of 54702 beds. But from those beds 82% are occupied, so the free capacity of the resort in July is about 13 200 beds. In August 2012 there are 132 hotels open with capacity of 58069 beds. But from those beds 79% are occupied, so the free capacity of the resort in August is about 12 200 beds. In September 2012 there are 118 hotels open with capacity of 46778 beds. But from those beds 48% are occupied, so the free capacity of the resort in September is about 35 600 beds. In October 2012 there are 21 hotels open with capacity of 16561 beds. But from those beds 4% are occupied, so the free capacity of the resort in October is about 57 400 beds.

Golden Sands resort has 98 hotels with 34364 beds in June 2013. In January 2013 there are 6 hotels open there with 1903 beds with usage 4%, so in January the free capacity of the resort is 34290 beds. In February 2013 there are 6 hotels open there with 1807 beds with usage 6%, so in February the free capacity of the resort is 34256 beds. In March 2013 there are 8 hotels open there with 2140 beds with usage 5%, so in March the free capacity of the resort is 34257 beds. In April 2013 there are 13 hotels open there with 4002 beds with usage 7%, so in January the free capacity of the resort is 34080 beds. In May 2013 there are 69 hotels open there with 26768 beds with usage 27%, so in May the free capacity of the resort is 27137 beds. In June 2013 there are 98 hotels open there with 34364 beds with usage 61%, so in June the free capacity of the resort is 13402 beds. In July 2012 there are 91 hotels open there with 33688 beds with usage 81%, so in July the free capacity of the resort is 7077 beds. In August 2012 there are 92 hotels open there with 33429 beds with usage 79%, so in August the free capacity of the resort is 7956 beds. In September 2012 there are 83 hotels open there with 29124 beds with usage 45%, so in September the free capacity of the resort is 21259 beds. In October 2012 there are 27 hotels open there with 11006 beds with usage 12%, so in October the free capacity of the resort is 33044 beds. In November 2012 there are 8 hotels open there with 2543 beds with usage 18%, so in November the free capacity of the resort is 33907 beds. In December 2012 there are 10 hotels open there with 3207 beds with usage 13%, so in October the free capacity of the resort is 33948 beds.

St. Constantine and Helena resort has 55 hotels with 11579 beds in 2013. In January 2013, there are 13 hotels open there with 3078 beds and usage 6%, so in January the free capacity of the resort is 11395 beds. In February 2013, there are 13 hotels open there with 3078 beds and usage 7%, so in February the free capacity of the resort is 11364 beds. In March 2013, there are 13 hotels open there with 3345 beds and usage 11%, so in March the free capacity of the resort is 11212 beds. In April 2013, there are 16 hotels open there with 3954 beds and usage 13%, so in April the free capacity of the resort is 11065 beds. In May 2013, there are 36 hotels open there with 8167 beds and usage 18%, so in May the free capacity of the resort is 10109 beds. In June 2013, there are 51 hotels

open there with 10872 beds and usage 56%, so in June the free capacity of the resort is 5491 beds. In July 2012, there are 54 hotels open there with 11631 beds and usage 83%, so in July the free capacity of the resort is 1926 beds. In August 2012, there are 55 hotels open there with 11579 beds and usage 80%, so in August the free capacity of the resort is 2315 beds. In September 2012, there are 49 hotels open there with 9619 beds and usage 43%, so in September the free capacity of the resort is 7443 beds. In October 2012, there are 20 hotels open there with 4935 beds and usage 12%, so in October the free capacity of the resort is 10987 beds. In November 2012, there are 14 hotels open there with 3140 beds and usage 76%, so in November the free capacity of the resort is 11360 beds. In December 2013, there are 14 hotels open there with 3382 beds and usage 9%, so in December the free capacity of the resort is 11275 beds.

During June, July, August and September Duni resort works in full capacity – all five hotels of the complex are open with percentage of occupation correspondingly 77% in June, 86% in July, 84% in August and 36% in September. So the free beds in these months are 790 in June, 480 in July, 550 in August and 2200 in September correspondingly. Duni sea resort is completely closed during the months: October, November, December, January, February, March, April. For these months the capacity here is 3450 beds. In May there are four hotels open with capacity of 2763 beds. But from those beds but only 17% are occupied, so the free capacity of the resort in May is about 2000 beds. During June, July, August and September Duni works in full capacity – all five hotels of the complex are open with percentage of occupation correspondingly 77% in June, 86% in July, 84% in August and 36% in September. So the free beds in these months are 790 in June, 480 in July, 550 in August and 2200 in September correspondingly.

From the above considerations it is clear that due to the seasonality of the sea vacation tourism, there is a large free capacity during the winter months. Also, because in the Spring and Fall the sea resort do not work at full capacity we have a considerable free capacity during these seasons at the Black sea coast. Even in July and August – the high season at Black sea coast – we have about 20% free capacity of the resorts.

For the city hotels and hotels in the SPA resorts inside countries we could consider the hypothesis hat free capacity is about 60-70% in average during the year. This hypothesis can be checked by suitable surveys by using HT Sampling Frame described above as well as by using the monthly data published by NSI [2] about the activity of the hotels by provinces.

# Executive bodies, legislation and first experience in temporarily accommodating people in hotels during crises

In Bulgaria, Ministry of the state policy for disasters and hazards was created in 2005. The main objective was to create administrative and technical capacity for effective actions to meet crisis and to protect the population and critical infrastructure during crises. In 2008 it was renamed to Ministry for extraordinary situations but in 2009 it was closed. Now it is one department of the Ministry of interior

The main normative act related to hazards is the Law for protection from disasters. In Article 55, point 5, it is said that urgent help for victims of natural and other hazards includes temporary accommodation. In Article 37 is said that firms are due to ensure the help planned for mitigating consequences from natural hazards.

There are already cases of accommodating victims in low categories hotels in Bulgaria. Till the end of 2013, refugees from Syria will be hosted in 3 low category hotels of State owned companies. This initiative may successfully be applied also by private hotels and especially hotels oriented to health tourism where the victims can find both accommodation and cure.

#### Conclusion

The conclusion is that Bulgarian hotel industry and especially Bulgarian SPA hotel industry has a high potential to accommodate large group of people even in the high season and hence has a big potential for temporary accommodation of victims of natural hazards.

#### **Next considerations**

Potential next considerations are related to the analysis of the monthly data published by NSI [2] about the activity of the hotels by provinces. Other research could be done by field work and analysis of sample surveys based on the defined in this article survey design and sampling frame.

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