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# Land-Use Conflicts in the Sudetes, Poland

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**Abstract** The Sudetes (Polish and Czech: Sudety; German: Sudeten) are a mountain range located in the Czech-Polish-German border region with relatively high population density. In the paper we analyse the main type of land-use social conflicts in this region. In the 20th century, the conflicts and problems in the Sudetes were connected mainly with mineral resources exploitation, especially in black coal deep mines and brown coal strip mines. In the 21st century, the growing number of conflicts is caused by plans of ski infrastructure development and settlement growth in valuable nature areas, plans of constructing new quarries and wind power farms. The municipal local spatial management plans and investment plans are sometimes at variance with nature protection needs and focus on the immediate municipal budget income. There are difficulties with the promotion and implementation of alternative projects, which, taking into consideration nature protection, would also satisfy social needs. To promote compromises in spatial planning and to weaken or eliminate ecological conflicts we need to create stronger communication and negotiating networks of local inhabitants, local authorities and naturalists (both scientists and NGOs), and promote the role of alternative nature friendly conceptions at the early stage of spatial planning.

## 1. Introduction

Sustainable development of mountainous regions demands reconciliation of many contrary interests of social, economic or ecological nature [1]. Divergent views about the appropriate allocation and use of land, air, water, and biological resources could generate divergence between stakeholders engaged in spatial planning and land management. According Kołodziejwski [2], the main source of land-use conflicts in our times is the insufficient supply of land with specific features and resources, compared to the demand for this land. It causes conflicts between interest groups, over the use of the same area, as well as a problem of overcrowding in particular places, which can have severe impact on biodiversity. In many developing countries, compelled by the pressures of restructuring, and driven by demands for economic growth and job creation, governments often fall prey to the dangers of random, ad hoc development, without due regard to the economic and cultural well-being of rural communities and the conservation of the environment [3]. However, various dilemmas over land management are also common in highly developed countries [4]. We have less information about conflicts in mountains in post-socialist countries (like Poland) [5, 6]. The Sudetes are an interested example. They are historic industrial district with local resources of various raw materials, located on the Polish, Czech and German border [7]. High population density, many urban areas [8] and industrial transformation generate a strong pressure on unspoilt areas and problems related to the location of new infrastructure.



The main aim of this paper is to identify the strongest land-use conflicts in the Sudetes and to evaluate their level of intensity. We have focused on analysing conflicts in years 1990-2018, basing on local government and local voluntary organisations documents (unpublished reports, official correspondence, local literature) and media information. Finally, we are trying to discuss some prescriptions to avoid, weaken, or resolve them in the context of the literature.

## **2. Juridical and institutional context of land-use conflicts in Poland**

In Poland, local community authorities (gmina) have the main role in spatial planning system and formulate local land use plans, which have the status of a legal act [9]. Central administration has greater power only in the case of investments of national importance, for instance national motorways [10]. Regional government also creates planning documents, but they do not have the status of legal acts; however, local plans must be in accordance with regional and national ones. Nature protection is the domain of state administration. The Minister of Environment is responsible for establishing (or excluding an area from) nature reserves, national parks, and Natura 2000 European Union (EU) nature protection network. The lower form of protection (e.g. landscape parks) can be established and changed by the regional authorities (16 'voivodships' in Poland) and local authorities.

According to the law on spatial management, binding in years 1994-2003, the moment of the occurrence or manifestation of a conflict in local planning was the moment of lodging protests or objections to the plan. As stated by the law, such a protest could be filed by anyone who questioned the provisions accepted in the project of the local spatial management plan, and an objection – by anyone whose legal interest or rights had been infringed by the provisions of the project available for public view. The municipal council, by a resolution, decided to take into account or dismiss the officially submitted protests or objections. The council's resolution to dismiss a protest was ultimate, while in the case of an objection, the interested person had the right to file a complaint with an administrative court, which made the final verdict.

The new law, binding since 2003, replaced the protests and objections by so-called remarks on the plan. Remarks on the project of the local land management plan can be expressed by anyone who questions the provisions adopted in the project presented to the public. However, the statement concerning the possibility of appeal to the administrative court was removed. Hence, the new version of the regulations does not ensure such broad protection of citizen's interests and property right. Local non-governmental organisations (NGOs) may participate in some administrative procedures, but, unfortunately, their influence on the administrative process was weak because their financial resources and power was limited and the record of their action in society and the media was often poor and additionally deprecated by state administration. Additionally, in cases of formal protests, courts check only the administrative decision compliance with the law. Valuation of threatened nature or of arduousness for local inhabitants is often not considered independently from an investor. The environmental impact assessment of planned investment is ordered by investors, so they insist on the performer to prepare document advantageous for them (to get permit on works).

In years 2004-2008, after the Polish accession to European Union, some additional rules of environment protection were implemented, which are in accordance with European Union demands. NGOs have possibilities to take legal proceedings against investor and even against central government decisions, to European Commission. From the point of view of nature protection, it is an advantageous change, because the environmental decisions were often influenced by politicians aimed at economic and infrastructural development. In 2008 the General- and the Regional- Directorates for Environmental Protection were created, replacing the former state and regional administration. They carry out tasks related to environmental protection policy in the field of nature protection management in land-management and investment process control, especially in Natura 2000 protected areas. Additionally, in 2015, a new act amended regulations on landscape protection, following the European Landscape Convention [11].

### 3. The study area

The Sudetes (Sudety, Sudeten) are a 300-350 km long mountain range located in the Czech-Polish-German borderland, with typical mountain height of 700 – 900 m above sea level and the highest top approaching 1602 m a.s.l. They are a historical industrial district connected with local resources of various raw materials. After the Second World War, due to border changes, the Polish area was affected by compulsory Germans displacement. Completely new colonizers, with different cultural traditions, were settled in the area [12]. In the communist period (1945-1989), the Sudetes were a peripheral border area, protected from free civil or investor penetration, and with highly impassable state border [13]. These factors had a disadvantageous influence on infrastructure and economic development of this region and caused the depopulation of waste areas, but in some regions helped to sustain virgin nature and to expand the re-naturalisation processes resulting from ecological succession [14, 15]. However, as a region rich in mineral resources, it was affected especially by environment unfriendly mining and chemical industry in some areas. The main problems of the Sudetes development in the end of 20th century was: an ecological catastrophe caused by air pollution, river impurities, land degradation, deteriorating condition of buildings and infrastructure, socio-economical barriers in industry and agriculture development, and difficulties in development of tourist-recreational facilities. After the break-up of communism at the beginning of the 1990s, the free market affected inefficient local agriculture and heavy industry. Many unprofitable state firms were closed, contributing to the rapid increase of the unemployment rate and social exclusion processes, but also to environment improvement. As a result of the bad social situation stress on economic income often moved nature protection to the second place on the list of important issues of local development. The need for economic development enhanced pressure to use new areas for residential areas, communal and tourist infrastructure [16, 17]. This situation originates new land use conflicts in spatial planning.

### 4. Land use conflicts in the Sudetes

Probably the earliest ecological conflict, visible in the media, was the local communities' protest against 'Celwiskoza' chemical plant, which began in the 1970s in the Jeleniogórska Basin, and ended in 1989, when it was closed. However, in those times, the most important land-use problems were caused by hard coal mine industry in Wałbrzych-Nowa Ruda Region (mining was finished in 1994) and brown coal opencast mining with a power plant near Turoszów (still working). The brown coal mine and the power plant generated air pollution, lowering of ground-water level, deterioration of mineral water in neighbouring spas, and land degradation. As a result, it caused conflicts with inhabitants of neighbouring settlements, which were politically silenced in the communist times. In the 1990s the pollution was minimalised by modern air filters and sewage works, most commonly built with European Union pre-accession programmes support. Currently, there is no severity of adverse phenomena since the mine completed formation of external dumping grounds and waste spoils are collected inside the exploited part of excavation. The mine does not generate new, strong social conflicts. The foreseen data of their closing is near 2050.

The hard coal mining and coking plants in Wałbrzych neighbourhood caused harmful impact on landscape, nature and quality of inhabitant's life, especially in the south-western part of the town. In consequence, the housing estates started to be localised in the north of the valley edge to minimize the arduous industry impacts. The mines and most of coking plants were closed in the 1990s, but it only partially solved cumulated problems. High cost of degraded land restoration in mines' neighbourhoods contributed to housing and investment location on unspoilt areas north and north-east from the city centre. New industry takes up the former agrarian grounds in the vicinity of Książ Landscape Park, practically eliminating the ecological buffer zone on its southern border.

Another source of local conflicts in the Sudetes is exploitation of rock resources in quarries, especially of limestone, basalt and rhyolite. These kinds of rocks are relatively rare in the Sudetes, have unique natural habitat with valuable flora and fauna ecosystems, so the unspoilt areas need special protection. The most well-known is the unsolved problem in limestone quarry in Połom Mount near Wojcieszów. The quarry causes degradation of an interesting karst area. An important hibernacula

of bats in caves and flora habitats are threatened. The EU Natura 2000 protection implementation was initially blocked by the Ministry of Environment in years 2004-2006 due to local government and forests directorate protests. Only in 2007 the areas were formally included into the central government list of Natura 2000 sites, as a Special Area of Conservation (SAC) "Kaczawskie Mountains and Foreland". The same year, in 2007, the investor obtained a formal permission from regional authorities to widen the exploitation. The investor omitted the information about the nature values in the project of exploitation. The quarry is one of the main employers in the area struggling with high unemployment. The local community want to keep the quarry working, while the external groups of speleologists and scientists prefer the option to stop or limit exploitation. The problem has not been definitely solved so far.

Similar features were noted in the case of conflicts related to exploitation of quarries in Rybnica Leśna, Karpniki, Stara Kamienica and Mirsk in 1990s. The area of the neighbouring quarries has no very special flora or fauna values, but the investment could cause the landscape degradation and was in conflict with tourist function of these areas. Plans of establishing new quarries or widening existing ones provoked protests of residents of neighbouring towns, when local authorities presented different attitudes towards these projects. In Stara Kamienica the rural community head (wójt) favoured the inhabitants, while the authorities of Mirsk and Mieroszów supported the investors. A special situation took place in Karpniki, where enlargement of the quarry occurred as a result of incorrectly prepared municipal planning documents. Imprecise provisions of the spatial development plan were interpreted in court favourably for the investor, despite protests by representatives of local communities. The enlargement was not stopped even by the fact, that the exploitation area is located in Rudawski Landscape Park, and it would undoubtedly cause the landscape degradation. Similar conflicts were observed in Kłodzko District [18].

Common types of local conflicts are interlinked between the need to protect nature and the desire to use the area for intensive tourism. The most well-known conflict was connected with plans of enlarging the ski complex located on Mount Łabski (1362 m above sea level) slopes in Karkonosze National Park (KNP), urged by Szklarska Poręba town authorities. They wanted to extend the ski areas to territories located above the upper forest range in the zone of strict nature protection. This idea was unfortunately approved by the Ministry of Environment Protection in 1992 and could be highly destructive to a unique sub-alpine ecosystem in this part of Europe. Alternative areas for investments were proposed by scientists, located outside KNP territories, only about 3 km from Łabski Mt., on Przedział Mt. (1060 m above sea level), in a managed forest, with better wind and snow conditions, but farther from the old ski complex and with shorter ski routes. This proposal was ignored by the town authorities and the investor, and in 2001 they additionally applied to the central government for the exclusion of a 500 ha area from national park (figure 1 on next page). The protests of scientists, NGOs and national park administration have prevented nature devastation and this application was rejected. In 2004 the whole national park was included into Natura 2000 EU system, so the level of protection increased, however some new investments were made on Szrenica Mt.

A similar problem (but not so drastic) exists in the Śnieżnik Massif. Besides the Karkonosze, it is the only sustained mountain with natural sub-alpine meadows in the Polish part of the Sudetes. It was not transformed by infrastructure and it is a nature reserve. In 1970s an idea of constructing a ski complex on Mount Śnieżnik (1425 m a.s.l.) was considered, but those plans have never been realised. Only a private investor built a ski lift and ski routes on the neighbouring mountain Czarna at the end of the 1990s. The investment project on Mt Śnieżnik has been resumed by local authorities and it consists of a view tower on the top, a ski lift, a road to the top, and a system of ski routes, also in nature reserve. These plans met with resistance of ecological NGOs and scientists, who additionally applied for the establishment of a Natura 2000 SAC in waste areas of the Śnieżnik Massif in 2004. This initiative was efficiently blocked by the local and central government in years 2004-2006, but in 2007 the SAC was established eventually in result of regional scientists and general European Commission pressure. The local councillors even gathered signatures on 'local inhabitants' protests against Natura 2000, passing on to local communities' untrue information about imaginary waste

prohibition of land use. Similar, but weakened conflicts were connected with ski complex building plans on mount Chełmiec near Wałbrzych, Mt Biskupia Kopa near Pokrzywna and Czoło near Kowary.



**Figure 1.** Area of Karkonosze National Park (KNP) proposed to be excluded from protection according to Szklarska Poręba town authorities' application to central government in 2001.

Pressure to extend the areas of private vacation (second) homes has increased in the Sudetes. The local authorities are interested in selling ground to private owners to have easy taxes income. These processes are especially intensive in the Karkonosze foreland, where agricultural areas are replaced by suburbia of Jelenia Góra town and other infrastructure (settlement growth, new roads, a water reservoir Sosnówka), creating an ecological barrier to fauna and flora between mountain slopes (protected by national park) and their foreland (unprotected). Another significant conflict was connected also with construction of large 'Gołębiewski' hotel in Karpacz in years 2007-2011, closely to Karkonosze National Park boundary. It was promoted by local authorities, but contested by ecological organisations and architects' regional association. A similar pressure is observed in Karłów village, located in the middle of Stołowogórski National Park, where the local authorities have decided to transform agricultural land into settlement areas (mainly for vacation homes). This plan is in conflict with nature protection (the diminution of the national park's ecological buffer zone, which is an argument of ecologists), with the inhabitants of the village (most of them are against extending the second home areas), but the local government has forced this plan through.

Relatively high population density in the Sudetes caused also the necessity of new waste dumping ground location, because in Poland till 2004 about 94% of municipal waste were stored and not recycled. It triggered conflicts with neighbouring inhabitants e.g. in Sulisławice near Świdnica (protests ignored by local authorities, waste dumping ground was built in 1999-2001). The European Union demands for high level of recycling decreased the need of such investment in 2010s. Some other typical land-use conflicts in the Sudetes in the two last decades were also connected with projects to construct a recreational and flood protecting water reservoirs in Sudetic valleys (local communities versus ecologists, who propose mainly dry flood protecting reservoirs or resignation from investment, for instance near Grobla and Pilchowice). The strong conflicts were connected with the implementation EU Birds and Habitat Directive and establishing Natura 2000 system. Several very important and valuable nature sites, submitted to the network by scientists and NGOs (e.g. the abovementioned Śnieżnik Massif or the Kaczawskie Mountains SACs), were initially not accepted by the Ministry of Environment due to the resistance of local governments, forest directorate, water

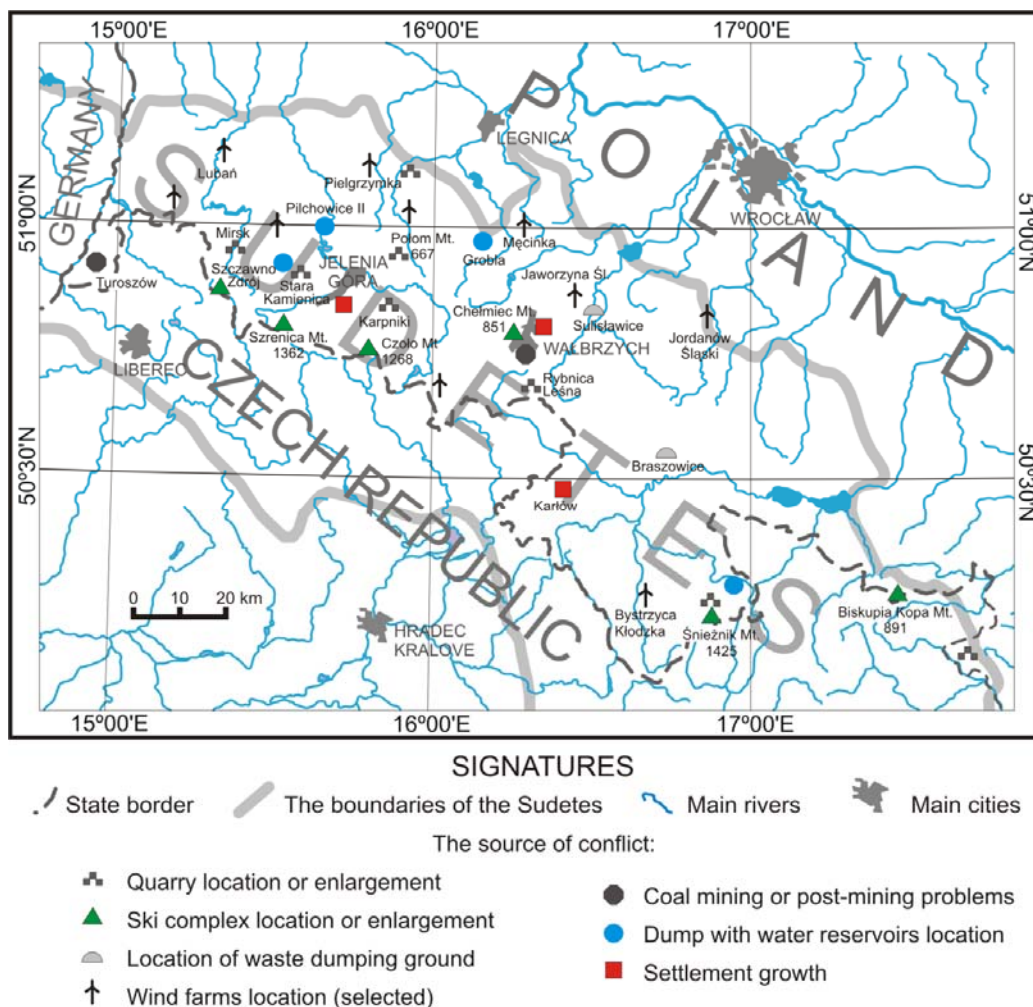
resources bureau or public roads directorate at the mid of 2007. Polish central government was not interested in establishing the waste areas of Natura 2000 SACs in Poland, claiming it will limit the economic development. However, it was a feature of implementation Natura 2000 all across the Poland and not only the problem in the Sudetes. The pressure of European Commission, scientists and NGOs, resulted in establishing many postulated Natura 2000 SACs only in years 2007-2008.

Some relatively new land-use conflicts are related to plans of the wind farms location, which very often trigger the social protests of people living in their vicinity. In documents made by regional authorities' majority of areas of the Sudetes were suggested to be free from wind farms due to their nature and landscape values, however the final decision is taken by local authorities. According to "Stop wiatrakom" (Stop wind farms) Internet service, the local conflicts were observed in about 24 local communities in the Sudetes, for instance near Bystrzyca Kłodzka, Lubań, Pielgrzymka, Męcinka, Jaworzyna Śląska, Jordanów Śląski. Several local governments (e.g. in Bystrzyca Kłodzka) resigned from giving a permission for such kind of investment after local inhabitant protests, but others strongly supported the investors. The law, established in 2016 in Poland, forbids the location of wind turbine closer than 10-times of their height to residential settlement (e.g. distance minimum 1 km in case of 100 m wind turbine height) almost eliminating these kinds of conflicts. In table 1 and on figure 2 (on next page) we have summarized the gathered information about land-use conflicts in the Sudetes till 2017. It shows significant changes of main problems in land management in the Sudetes. High number of conflicts in 2000-2009 were connected with growing access to EU development funds financing infrastructure construction, while the EU nature protection rules were implemented slowly.

**Table 1.** The authors' assessment of the level of main type of land-use conflicts in the Polish part of the Sudetes.

No	Type of conflicts in the Sudetes	A	B	C	D
		1980-1989	1990-1999	2000-2009	2010-2017
1	Industry harmful to environment	strong	middle	not visible	not visible
2	Coal mining	middle	middle	weak	not visible
3	Open-cast mining (quarries)	weak	middle	middle	weak
4	Ski complex location or enlargement	weak	middle	strong	middle
5	Dam with water reservoirs location	not visible	weak	middle	weak
6	Settlement enlargement and buildings location	not visible	weak	strong	middle
7	Wind power farms location	lack	lack	middle	middle
8	Waste dumping ground location	weak	middle	weak	not visible
9	The delimitation of Natura 2000 protected areas boundaries	lack	lack	strong	not visible

Legend: The scale of conflicts rating: Lack – there were no such problems in Polish Sudetes in given period; Not visible – there were no evidence of conflicts in media; Weak – the conflict had only local character and was not visible in regional media; Middle – both the local and regional stakeholders were engaged in conflicts, the process was recounted in regional media; Strong – local, regional and national stakeholders were engaged in the conflicts, the process was recounted in regional and national media. The strongest conflicts examples (only middle and strong): 1A - Celwiskoza chemical plant in Jelenia Góra; 2A and 2B – Turoszów brown coal mine enlargement; 3B and 3C – quarries location or enlargement in Leśna, Karpniki, StaraKamienica and Mirsk; 4B to 4D - Ski complex in Karkonosze National Park near SzklarskaPoręba, near ŚwieradówZdrój in Natura 2000 protected area; near Kowary and Śnieżnik Mt.; 5C – Grobla reservoir location on the Nysa Mała river near Jawor; 6C and 6D – Gołębiewski Hotel in Karpacz; settlement growth near Jelenia Góra, Karłów, Świeradów Zdrój Spa; 7C and 7D – Wind power plant near, for instance near Bystrzyca Kłodzka, Lubań, Pielgrzymka, Męcinka, Jordanów Śląski; BystrzycaKłodzka; 8B - Waste dumping ground in Sulisławice near Świdnica; 9C – for instance Śnieżnik Massif, Kaczawskie Mountains and Foreland, Izerskie Mountains Peat Land - Natura 2000 SAC delimitation.



**Figure 2.** The location of the main land-use conflicts in the Sudetes 1990-2017 (both described in text or not), authors' research

## 5. Discussion and conclusions

Under-development of the post-socialist countries and low level of ecological consciousness generates a big pressure on using the unspoiled areas for profitable investment. The need of economic development connected with new infrastructure construction and land-use changes leads often to ecological conflict, especially in sensitive mountainous areas. The typical land-use conflicts in the Sudetes had ecological features (the increase of local tax incomes and employment *versus* nature protection) and most commonly were not related to NIMBY (Not In My Back Yard) syndrome [19] (excluding waste dumping sites and wind farms). The current regulations in spatial planning give great competence to local communities in land economy, however, the Regional Directors for Environmental Protection, independent from local and regional authorities, could be important bodies protecting Natura 2000 areas from degradation. The theoretical methods of proper spatial planning are available [20], but local authorities often prefer quick financial advantages [21].

In the Sudetes most valuable nature areas are usually in public ownership. To be transformed into investment areas, they only need the decision of the authorities. Local government (or other public investor) does not need to spend money to buy them, which is a problem in case of necessity to change the farming and settlement areas (most commonly private). According to a purely economic calculation, it is cheaper and easier to transform green areas into investments than to purchase other areas already used for example for agriculture. This mechanism is probably the main cause of high pressure on the development of areas treated as wasteland, which are still of high natural value, the



most famous case in Poland was designing a motorway through the swamps of the Rospuda Valley. Local communities often do not appreciate the value of local nature (e.g. seeing skiing and intensive tourism as not harmful for environment of protected areas). The main objective of local authorities is often to increase tax income during their tenure (in Poland it was a period of 4 years), which is often in conflict with nature conservation and ideas of sustainable development (a more long-term process with self-limited use of resources).

Analyzing data from the Sudetes we can say the spatial planning should take into consideration several important regulations. Firstly, not only proper spatial planning is needed but also increase of ecological consciousness and welfare of local communities. Many ecological conflicts are generated between local governments (often supported by local inhabitants and investors) and ecological voluntary organisations (supported by scientists and experts). The role of nature's experts (biologists, ecologists) was too small in the early stages of investment planning, which often resulted from the deliberate action of investors.

We should additionally remember that according to Stoll-Kleman [22], opposition to nature protection could be rooted neither in economic conflict nor priorities over land use, but in social identity, stereotyped images, and how particular social groups are regarded and approached. Probably this is the reason of rare cases of negotiated agreements between naturalists and investors, and common cases of ignoring the alternative propositions. The stable cross-sector territorial partnership cooperation aimed at sustainable development between different stakeholders (also cross-border cooperation) can enhance the role of negotiations in planning processes [23, 24]. The networks of cooperation should be established consisting on local authorities' representatives, ecologists, specialists and local inhabitants, to help transfer knowledge, information and good practices.

Additionally, special development programmes for socially and economically degrading areas, enhancing not harmful to environment entrepreneurship, should be established. The decrease of unemployment and the increase in social welfare could probably weaken the appeal of investments attractive from economic point of view in unspoilt green areas, and could increase the number of nature protection advocates, agreeing to some self-limiting in economic development.

Consecutive conclusions are connected with proper spatial planning – settlement pattern, revitalization and infrastructure location. The new settlement areas should be composed as groups of densely located buildings (quarters), surrounded by open areas. It is easier to provide technical and service infrastructure and to connect such quarters by public transportation, than in case of dispersed settlements. In addition, in this case, green areas are less frequently crossed by roads and linear infrastructure, so ecological corridors are preserved. It is advantageous to avoid the location of second houses in the vicinity of protected areas and alternatively to enable the location of smaller number of hotels, which can service more number of visitors without land covering.

It is very important to reconstruct damaged post-industrial or post-military areas in the Sudetes, e.g. in Wałbrzych and Nowa Ruda, the old mining regions. The renewal of these areas could decrease pressure to cover new agricultural or other green areas for settlements and industrial investments and increase the spatial efficiency [25]. Most often, the cost of revitalization is higher than in the case of using new areas, that is why financial support is needed.

Alpine type skiing generates serious conflicts also in the Sudetes. Skiers, who need a wide range of services, are supported by real-estate companies, owners of ski resorts, sellers and distributors of skiing equipment, etc. so they often have more power than ecologists and scientists. In the Sudetes the tourist and ski infrastructure should be localised not at the level of sub-alpine meadows, which are very rare in this region. That means the location of ski infrastructure should not be higher than 1200-1300 m a.s.l., so that it would enable the protection of sub-alpine meadows. The dispersion of tourism is also needed. The best known tourist resorts are overcrowded, whereas some other interested regions are undeveloped and with a very small number of visitors. The main purpose of the development of the most visited (crowded) holiday resorts located close to protected areas, such as Szklarska Poręba,

should be an increase in the commune's income without increasing the number of tourists visiting the site (e.g. the development of services for wealthy tourists).

In some cases, the new use of some areas could be possible without ecological conflicts, if the special rules of use were established (e.g. tourism in closed underground mines, which are bats hibernacula, should be limited to the summer season; flood protection by means of the so-called dry reservoirs that are not permanently filled with water, without regulating long sections of rivers). Examples of voluntary restrictions on human activities in naturally sensitive areas are given by e.g. Reynolds and Elson [26].

The self-limitation in economic activities is necessary to sustain the nature values of the mountains. We cannot easily accept the so called compromise based on assumption that habitat lost in one place can be compensated for by undisturbed habitat elsewhere (this idea is often written in location documents). Baron et al. [27] emphasize that such an assumption cannot last forever, because many small, seemingly not harmful impacts accumulate to cause large, harmful effects on environmentally valuable areas, such as wildlife habitats. The mountains are changed by the development of many small skiing areas, vacation homes, new quarries, etc. These decisions are inherently local, so that the regional effects of growth on ecosystems are the collective outcome of many local decisions. As a result, it cannot be ignored the numerous local ecological conflicts, but we should look for alternative solutions for all controversial investments.

Glavovic [28] states that establishing and maintaining protected areas often present a dilemma: should protected areas be maintained even if it means imposing hardships on local communities? Alternatively, should the needs of local people be given priority, even to the detriment of protected areas and the possible demise of species? As the case of the Sudetes shows, in practice, we commonly have no such great dilemma, but the alternative solutions are often ignored or consciously rejected by the strongest interest groups. Sustainable development is possible, but ecological investment often involves higher short-term costs (or lower incomes), which should be accepted to sustain nature for future generations.

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