

Case 11: Integration of Mineral Resources into Spatial Planning: The best practice example of aggregate resources' exploitation



This case responds to Minland Good Practice Stream Topics:

B) Identification of actual and potential land uses

C) Assessment of whether minerals and other land uses have been introduced on equal footing

D) Assessment and extent of integration between minerals and land use policies

H) Assessment of strategic consideration of safeguarding

Permitting

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Part 1: Case Overview

1.1 Executive summary

The case relates to a national level policy tool for safeguarding the exploitation of primary aggregates 'resources. It focuses on the framework applied for the delineation of conflict free aggregates' extraction areas (named "Quarrying Areas", QA), on the pre-exploitation phase.

The specific case describes how a national level policy tool is integrated in land use planning (i.e. a top-down approach as the national plan provides a framework that is incorporated in regional and local spatial plans).

The Quarrying Area (QA), is namely an area "assigned exclusively for aggregates extraction". As such, it is the only activity of the extractive sector that is taken into account in regional spatial planning (i.e. the area has a specific land use which is "the extraction activities for the production of primary aggregates"). In principle, the aggregates' exploitation rights from quarries operating within the established QA prevails the exploitation rights of any other mineral commodity occurring within its boundaries (with some exceptions outlined in more detail in part 2.1 of the present). The case illustrates an example of how mineral resources (in this case rocks suitable for primary aggregates

production) are protected against other land uses (the QA have a specific land use identity since they assigned for aggregates extraction activities) and how a policy related to their management is integrated in the land use policy.

1.2 Overview of Key Good Practice Aspects and suggestions

Good practice Aspect: Devising an integrated policy tool to secure/safeguard aggregates extraction from conflict free extraction areas

- Integration of the QA into the Regional spatial plans and prioritisation of extraction of aggregates (resolves competition issues with other land uses).
- Minimization of the environmental footprint (the QA are designated in areas with favourable morphology not directly visible from the surrounding settlements and not imposing adverse effects to the surrounding environment).
- Secure long-term supply of aggregate resources (recoverable aggregates from the designated QA should cover the estimated needs of the region for at least 40 years. In addition, in land use plans, the QA do not modify their character as areas “assigned exclusively for aggregates extraction”, until the max possible depletion of their reserves).
- Facilitation and simplification of the licensing and environmental permitting procedures as opposed to quarries operating outside the QA.

Suggestion for transferability: The case study **provides good practice information for practitioners interested in public policy tools for minerals safeguarding as well as how to better integrate minerals policy in land use planning policy.** It illustrates an example of how aggregates extraction is protected against other land uses and comprises an **integrated plan for aggregates’ extraction safeguarding that could be extended to include all mineral resources** (e.g. establish and include in land use planning current active mining areas as well as areas with mining potential in the future). Such a plan should at least consider exploitation of Mineral Resources as a priority activity in the area of interest and clearly define exclusivity or coexistence criteria with other activities (i.e. tourism, agriculture, etc.). This approach will facilitate access to and exploitation of mineral deposits by addressing and timely resolving land-use competition issues (i.e. by addressing the mining area in land use plans as an area where the extraction activities have priority and/or at least are considered on equal basis with other land uses). It could be implemented on a strategic (i.e. national level) and then detailed in regional and local level at a later stage. **It could work with countries that follow a top-down approach in land use planning policy (i.e. the regional and municipal level spatial plans is obligatory to be harmonized with the upper level strategic level spatial plans).**

1.3 Mineral resource groups



Part 2: Case description

2.1 Case description

The specific case on aggregates describes how a national level policy tool for safeguarding the exploitation of primary aggregates 'resources is implemented on regional and local levels of public administration (i.e. a top-down approach as the national plan provides a framework that is incorporated in regional and local spatial plans). The case study focuses on the procedures applied for the delineation of conflict free aggregates' extraction areas, the Quarrying Areas (QA)*, during the pre-exploitation phase.

According to the prevailing legislation, the production of primary aggregates in Greece is only allowed ** to be performed within legally bound areas, the QA, defined on a geographical subdivision (Regional Units/Periferiakes Enotites) of the Administrative Regions***. The designation of QA for primary aggregates production, constitutes the basic institutional tool for the secure long term supply of aggregates from primary sources on regional level in Greece. The QA were introduced as a policy tool about 3 decades ago in an effort to sustainably cover the long term local needs in aggregates. The QA are predefined areas which comply with specific criteria (briefly mentioned below) and which may host more than one quarry operators.

The QA are determined with a decision issued by the Regional Governor, following consultation with an 8-members' Committee with representatives from different authorities deriving from all levels of public administration ***. The following authorities are represented in the consultation committee:

- Ministry of Environment and Energy (central level of government).
- Forestry Department from the De-centralized Administration (de-centralized level of government).
- Technical Services of the Municipality (local level of government).
- Ministry of Culture and Sports (central level of government).
- Department of Environment and Spatial Planning of the Administrative Region (regional level of government).

- Geological Survey of Greece (HSGME).
- Department of Public Works of the Regional Unit (regional level of government).
- The Regional association of Municipalities of the Administrative Region (regional level).

Prior to the delineation of an area as QA, various interests are weighted against each other by the appointed committee (multi-criteria assessment of the area under investigation). The following criteria are considered:

- Criteria related to the quality characteristics of the rocks and adequacy of resources to cover local needs for at least 40 years (the rocks should be of suitable quality for the production of aggregates);
- Spatial criteria, such as conformity with the National Spatial Strategy, the Special Spatial Plans and the Regional Spatial Plans, distance from the main consumption centres etc. (the area must not be in conflict with other land uses, should be close to main consumption centres);
- Environmental criteria (the extraction activities should not cause adverse effects to the surrounding environment);
- Criteria related to sustainability and safety issues (e.g. the safety of the workers and the surrounding communities, the sustainable exploitation of the resources);
- Criteria related to the protection of archaeological and cultural heritage (the extraction activities do not cause any adverse effects to the cultural heritage).

In principle, the aggregates' exploitation rights from established QA prevails the exploitation rights of any other mineral commodity occurring within its boundaries unless ore deposits, industrial minerals or marble deposits of economic importance, are located in the area.****.

** QA are legally bound areas within the boundaries of which the operation of one or more aggregate quarries, are permitted. A QA can be characterized as "a specific area of public, municipal or private status that contain rocks of suitable quality for the production of aggregates provided it is assured that the development of extraction activities within its boundaries, will not cause any adverse effects to the surrounding natural and anthropogenic environment". The QA are delineated in a distance of at least 1000 meters from existing urban plans and approved urban extension development plans.*

*** The exploitation of aggregates outside a QA may be permitted under specific circumstances: a) for the production of aggregates for specific uses (e.g. for anti-slippery road construction, production of cement), b) in case the aggregates will be used exclusively for public infrastructure works of national importance, c) in case it is not possible to delineate a QA in areas with e.g. limited*

availability of space and/or the coexistence of touristic activities such as islands etc.

**** The Greek State is divided into 13 Administrative Regions and 7 De-Centralized Administrations. The former are further sub-divided into 325 Municipalities. Each administrative region is geographically divided into "Regional Units" (the Greek State encompasses 74 Regional Units) which, in most cases, coincide with the formerly named Prefectures. The De-Centralized Administrations constitute the extension of the central government at the regional administrative level. Each one is responsible and supervises 1-3 Administrative Regions having as a major task "to ensure the implementation of the governmental policies at Regional level".*

*****In this case, according to the prevailing legislation, the exploitation rights of the aforementioned commodities have priority over aggregates' extraction.*

2.2 Responsible institutions

- The Ministry of Environment and Energy (YPEN) is the competent authority for mining and spatial planning policy development and the elaboration of the legislative framework for the designation of QA.
- The 13 Administrative Regions are responsible for the designation of the QA within their geographical boundaries.
- Consultation Committee comprised of 8-members representing different authorities from all levels of public administration (details in 2.1). The Committee is mandated by the regional authorities to propose the designation of a QA.

2.3 Case stakeholders

Public administrators (representing the Ministry of Environment and Energy on national level) are primarily responsible for mineral and spatial planning policy whereas regional government public administrators are responsible for land use planning and for the designation of the QA in their Regions. Furthermore, municipal public authorities are legally responsible for spatial planning activities: zoning plans (land-use plans).

2.4 Context

The extraction of aggregates from quarries operating within the Quarrying Areas, has a number of advantages such as:

- Contribution to the long term secure supply of aggregates since the recoverable aggregates from the designated QA should cover the estimated needs of the region for at least 40 years.
- Minimization of the environmental footprint since the QA are designated in areas not directly visible from the surrounding settlements.
- The minimization of the infrastructure works needed for the operation of the quarries within a QA, since these works accommodate more than one quarries.
- The establishment of a QA is based on a favourable morphology of the ground surface, thus a rational exploitation can be properly accomplished.
- The generation of additional revenues for the local authorities/communities, deriving from the fees, royalties and rents paid by the quarry operators.

However, some of the major challenges encountered include: a) Delays that exceed the 5 years period defined by Law, to issue a decision for the establishment of a new QA and b) Failure to designate a suitable area as QA, due to limited available space like e.g. in islands that fulfil the criteria outlined in paragraph 2.1 of the present. In both cases, informal quarrying activities from unauthorized locations may be encouraged.

Furthermore, within the context of safeguarding Mineral Resources a new Spatial Plan is in progress since February 2019 constituting the compilation of a Spatial Plan that will integrate mineral resources into the strategic level of spatial planning (top-down approach). This new Spatial Plan, will encompass the main directions for the spatial arrangement of the extractive sector (i.e. the incorporation of the current active mining areas into the land use planning as well as areas with mining potential in the future. This approach will facilitate access to and exploitation of mineral deposits by addressing and timely resolving land-use competition issues (i.e. by addressing the mining area in land use plans as an area where the extraction activities have priority and/or at least are considered on equal basis with other land uses). Its compilation is challenging, for all relevant stakeholders (i.e. the extractive industry, the Mining and Spatial Planning authorities, and local communities) due to the land use competition issues to be resolved and the potential opposition from social partners (mainly local communities, NGOs, third parties with conflicting interests in the area). Due to the relevance of this spatial plan to the challenges and aims of the MINLAND project, it was selected as the key topic for the Greek Local Workshop. The presentations and panel discussions during the workshop were the

source of useful results for Minland. The expected impacts from the elaboration of this Spatial Plan, pertain to:

- Creation of a more favourable environment for the exploration and exploitation activities on national level provided these activities will be placed in parity with other productive activities (e.g. tourism, agriculture, development of projects from renewable energy sources etc.);
- The generation of a framework to which, all the Spatial-Development frameworks of the regions and municipalities, regarding the development of exploitable MRM, will be compatible with;
- The facilitation of exploration licensing and exploitation permitting of MRM through the creation of a framework that will clearly establish the areas of existing exploitable deposits on national level as well as the broader areas for MRM prospecting, thus, reducing the time and the current bureaucratic permitting processes, especially in relation to important investment initiatives.



Part 3: Case Evaluation

3.1 Impact achieved

Good Practice Aspect: Devising an integrated policy tool to secure/safeguard aggregates extraction from conflict free extraction areas (i.e. the QA).

- Less licences needed for individual quarry operators because some of the needed licenses cover the whole QA and have been granted prior to the exploitation stage of individual quarries located within the QA.
- Less infrastructure development needed since more than one quarries operate within a specific QA (due to common use and cost share of the infrastructure).
- Mitigation of illegal quarrying activities since the local needs in aggregates are covered by the legally operating quarries within the QA.
- Improvement of SLO because the QA are established in locations not directly visible from or having severe impacts on the surrounding areas.
- Generation of revenues for the local authorities, deriving from the fees, royalties and rents paid by the quarry operators.

3.2 Good Practice Aspects: Elements and their transferability

GOOD PRACTICE ASPECT: Devising an integrated policy tool to secure/safeguard aggregates extraction from conflict free extraction areas	
Key elements (of Good Practice Aspects)	Suggestions for Transferability (of Key Elements)
<p>Integration of conflict free aggregates extraction areas (i.e.QA) into legally binding spatial plans: The extraction of aggregates from quarries located within QA constitutes an example of how a policy tool could contribute to the rational and secure exploitation of a mineral resource since it is an area assigned exclusively for their exploitation and incorporated in the regional spatial plans.</p> <p style="text-align: center;"></p> <p style="text-align: center;">SUCCESS FACTOR</p>	<p>Mining and Spatial Planning authorities on the national and/or regional scale responsible for policy and regulatory framework design as well as industry, are identified as the main group of stakeholders that could contribute to the development of this tool and benefit from such an approach.</p>
<p>Equal representation of different authorities/interests and knowledge needs in the consultation committee. Various interests are weighted against each other applying a multi-criteria assessment of the area under investigation (i.e. proposed QA).</p> <p style="text-align: center;"></p> <p style="text-align: center;">SUCCESS FACTOR/STRATEGIC CHOICE</p>	<p>The design of mineral safeguarding policies and the development of a similar tool for all mineral resources should involve the active engagement/communication with representatives from local communities, mining associations and NGOs in order to facilitate commitment for later implementation. Social acceptance issues and potential opposition from local communities should be resolved through a consultation process prior to the implementation stage of such a policy tool.</p>
<p>Not fully operational in islands: In the islands of Greece (with the exception of a few big islands like Crete and Lesvos) is quite challenging to define a suitable QA due to lack of available space that fulfills the selection criteria for their establishment.</p> <p style="text-align: center;">CHALLENGE ENCOUNTERED</p>	<p>Apply more flexible criteria for the designation of a suitable area.</p>

GOOD PRACTICE ASPECT: Devising an integrated policy tool to secure/safeguard aggregates extraction from conflict free extraction areas	
Key elements (of Good Practice Aspects)	Suggestions for Transferability (of Key Elements)
<p>Positive SLO setting: The designation of a QA is a completely decentralized procedure. The regional authorities are responsible for coordinating the relevant procedures based on estimations of their future needs in aggregates. The members of the appointed consultation committee represent mostly local and regional authorities and interests. For the afore mentioned reasons as well as the application of a multi-criteria assessment by the consultation committee and the integration of the established QA into regional spatial plans, minimizes local opposition and contributes further to social acceptance of this activity of the extractive sector.</p> <p>CONTEXTUAL FACTOR</p>	
<p>Regulatory Policy tool for implementing mineral safeguarding: Regulatory tools are much more efficient in implementing minerals deposit safeguarding. The designation of the QA into spatial plans as areas where the extraction of aggregates is a priority over other activities (e.g. tourism, agricultures etc.) may be considered a best practice approach that could be transferred to other mineral resources.</p> <p>CONTEXTUAL FACTOR</p>	<p>Political mandate is needed to be given to the competent Ministry to develop the regulatory framework.</p> <p>Availability of data on mineral resources that should be protected for future development.</p> <p>Selection of areas with mineral potential to be incorporated in land-use plans by applying a multi criteria assessment that considers mineral resources and mining areas on equal terms with the other natural resources and activities (e.g. tourism, agriculture) and by considering the exploitation of mineral resources as a priority activity in the area of interest.</p>