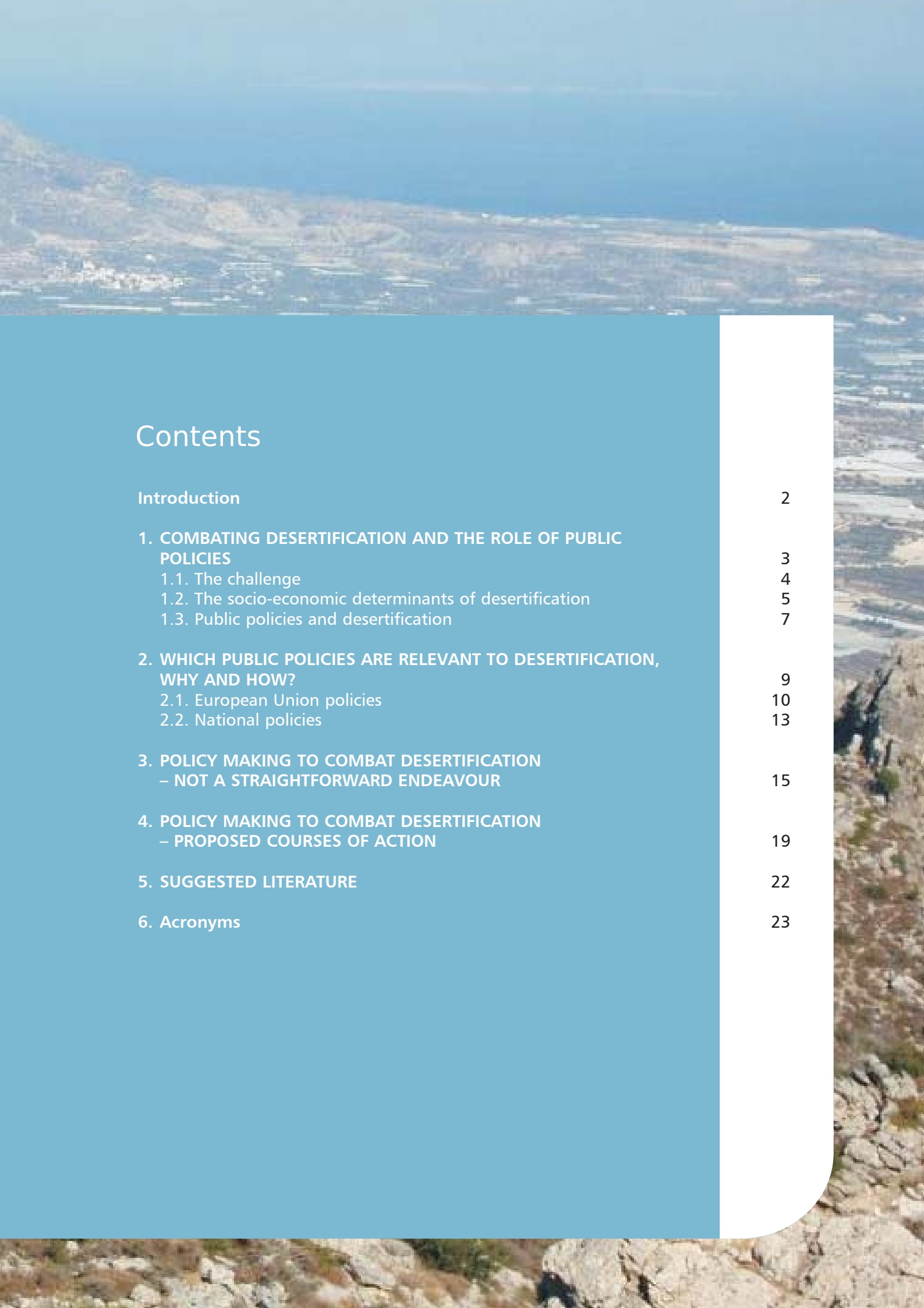

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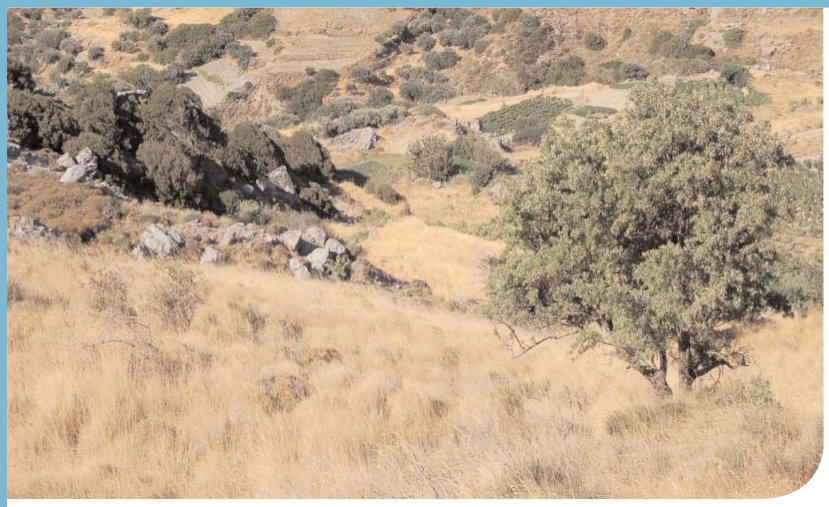


Introduction:

what this booklet attempts to do

The word “littoral” derives from the Italian “litorale” and could often have ambiguous meanings. Most common definitions however relate to “waterfront”, “waterside”, “intertidal zone” or “littoralzone” and are related to the activities that areoccurring on a rather narrow strip of land andwater otherwise known as the coastal zone. In French the process of “littoralisation” means “coastal over-development”. Generally the process could be described as the internal population migration towards the coast and the “maritimisation” of the economy linked with economic activities such as tourism, harbour, naval and storage facilities and services, oil industry, fishing, and infrastructure development all resulting in a tremendous expansion of artificial land cover over rather short time periods. There is no doubt that chances for a better life and more employment opportunities are largely increased for both national and international migrants due to robust economic development in these areas. Rarely these processes are elsewhere more accentuated than in the Mediterranean.

Official definitions of the coastal zone

Official coastal boundaries in many riparian countries are even lacking or imprecise. On land, they are often measured by physical distances (few kilometres or few hundred meters from the sea) that do not necessarily coincide with the territory inhabited by the coastal societies. If they exist in the sea, they usually include all the territorial waters, which extend beyond the boundaries of the coastal zone as such. In Spain,the law on coastal areas uses the term 19 times without defining it; in France the legal definition includes seaside municipalities (and in some cases estuaries and deltas located outside the salty limit of water); in Algeria it includes all islands and isles, the continental shelf and a strip of land along the coastline with a minimum width of 800 metres, while in Egypt this width could reach as much as 30 km in the desert regions.

Source: Blue Plan 2005

1. Combating desertification and the role of public polices

1.1 The challenge

The United Nations Convention to Combat Desertification (UNCCD) signifies the seriousness of desertification and the importance of collective action interventions to combat it. Desertification is a cumulative global problem. The impacts of local actions gradually build up and, under adverse bio-physical conditions, lead to extreme land degradation and to negative climate impacts. The ecological and economic productivity and complexity of land in affected areas deteriorates and sets in motion processes of often undesirable environmental and socio-economic change. Hence, the need for action to reverse the negative trends and restore the socio-economic and environmental vitality of these regions arises.

The question of how to effectively combat desertification has frequently puzzled, directly or indirectly, decision and policy makers as it is an insidious and complex problem involving diverse natural and human resources. It is not straightforward to disentangle its numerous determinants, which include various public policies, as these originate in various spatial levels and act in place- and time-specific combinations through complicated pathways. The adverse consequences are felt several years (or decades) after the culpable harmful activities set in. As such, awareness of the phenomenon and its importance is low. Concern for action arises well after "crisis" has advanced. The beneficial effects of any policy action take long to materialize and are difficult to distinguish from the positive or negative influences of other developments.

This booklet purports to: (a) present and explain the role of public policies in the context of desertification with a focus on Mediterranean Europe; (b) raise awareness of their role and indicate which and why are important; and (c) explain the difficulties of

policy making to combat desertification and provide recommendations for EU and national policy design.

1.2. The socio-economic determinants of desertification

In the arid, semi-arid and dry sub-humid regions of Mediterranean Europe and other continents but also in other bio-climatic regions, desertification has evolved under the intricate interplay of strongly interwoven bio-physical and human driving forces and processes (**Figure 1, Box 1**). The users of land choose particular activities and management practices to use the land and its resources to satisfy their needs. In the process, **land use change** (e.g. from cotton to wheat, olive to citrus trees, etc. or from crop cultivation to cattle-raising, tourism, etc.) occurs that leads to **land cover change.** Unsuitable activities and resource-depleting practices may produce undesirable land cover change; i.e., land degradation and desertification. Its effects may drive new rounds of unsuitable land management practices, producing more unwanted impacts; less frequently, they may spur land care practices and policy activity. The socio-economic determinants of desertification are summarized below as a necessary backdrop to negotiate the role of public policies in contributing to or averting the phenomenon.
(CROSS-REFERENCE Booklet A1)?

Geographic isolation, limited access to infrastructure, innovations and economic centres, high land fragmentation, and unsustainable farming practices may degrade local resources. The livelihood opportunities of frequently poor rural populations, especially in ecologically and/or socio-economically marginal areas, thus, diminish. Outmigration to developed areas brings population decline. Severely degraded land may degrade further, if underutilised and abandoned, or it may gradually recover.

Growing urban populations increase the demand for food and space. Pressures on available prime and marginal land rise as do political pressures to reallocate social and economic resources away from rural and towards urban areas.

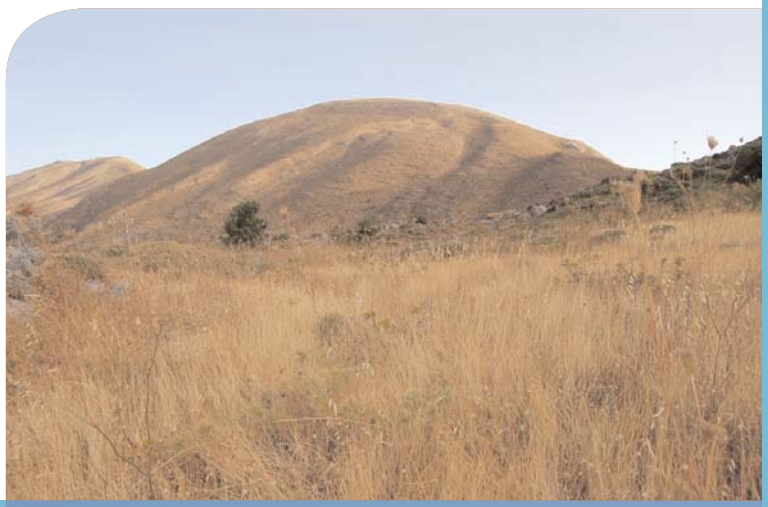
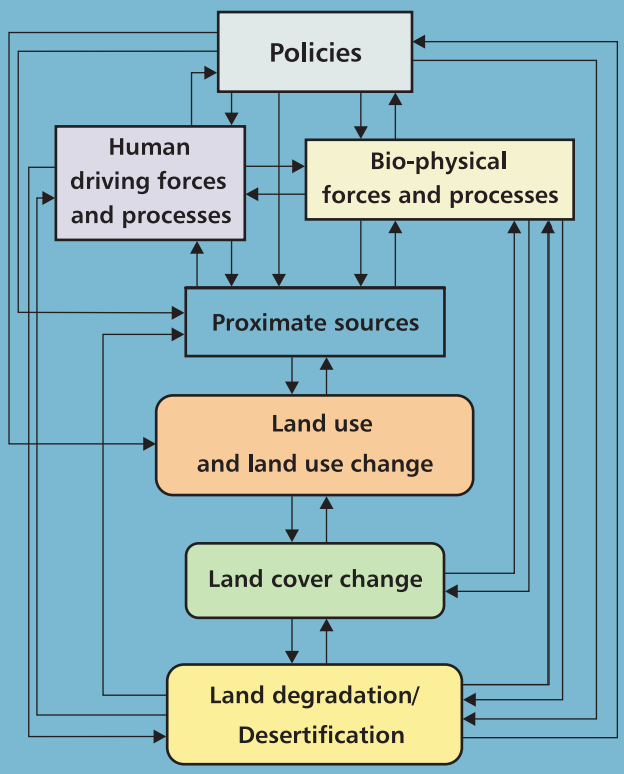


Figure 1
The land degradation/desertification sequence



Blue lines: policy pathways

International migration from developing to developed countries provides abundant cheap labour that boosts agricultural production but also pressures on land resources.

Changes in social values, family and social structure, living and consumption patterns, together with **changing modes of production and technological progress** (e.g. **commercialized and mechanized agriculture**) and **global competition**, increase the demand for food, thus favouring crop monocultures. These are not always suited to local conditions and carrying capacity, stress land resources and, eventually, degrade them. Several areas unable to support agricultural production turn to similarly resource-intensive economic activities, primarily tourism.

Box 1

Human driving forces: fundamental societal causes of environmental change; e.g., population change, markets, economic institutions, laws, technology, political institutions, culture.

Human mitigating forces: forces impeding, altering or counteracting undesirable environmental change, e.g. international regulation, policies, market adjustments, technological innovations, social norms and values. Driving and mitigating forces interchange roles.

Proximate sources of change: final activities which directly cause environmental transformations through the use of space and natural resources, the output of waste or products that affect the environment. Important proximate sources of desertification: overgrazing, forest clearance and fires, high input agriculture, abandonment of traditional cultivation practices (e.g. terraces), drainage of wetlands, groundwater overdrafting.

Institutions, in general, **environmental and resource institutions**, in particular, and **institutional change** are prominent drivers of land use and environmental change (**Box 2**). They influence the decisions of the users of land and, thus, affect the status of resources. Under unfavourable bio-climatic conditions, they may induce land degradation. Conversely, proper institutions may help protect land resources and combat desertification.

Box 2

Institutions: formal and informal rules, decision-making procedures, and programs that give rise to and determine the character of relationships among people and between them and resources, assign roles to participants, and guide their interactions; examples: law, property, market, family, policies, etc. Not to be confused with ***organizations***, the material entities that perform social practices.

Environmnetal or resource regimes: institutions that deal with human/environment matters.

Land tenure and ownership stand among the most critical local institutional influences on environmental and land use change. The **legal framework governing landed property** has proven unable to control the abuse of public property and the irrational management of private property. Faulty structures of property rights often underlie the severe depletion and degradation of resources.

The lack of appropriate environmental legislation, the precarious institutional status of several critical resources (water, soils, biodiversity) and the **lack of appropriate and up-to-date spatial planning legislation** generate a legal vacuum within which activities develop haphazardly, land is utilized intensively and land use conflicts arise. **Inadequate, fragmented and little-coordinated legislative and administrative apparatuses** and **the poor or absent enforcement of extant legislation** impede the application and success of rational integrated management and planning to protect desertification-prone areas.

1.3. Public policies and desertification

Public policies prescribe courses of action, and the respective rights and obligations of recipients, with regard to the use of economic, natural, human, and other resources to promote ***collectively agreed societal goals*** – economic welfare, environmental protection, social justice or, more inclusively, sustainable development. They present opportunities or pose constraints on human behaviour, thus, influencing individual and collective decisions regarding when and how to use which resources in what quantity to support diverse economic activities.

Public policies – or, their lack thereof – are instrumental institutions linking land use and land degradation/desertification through multiple pathways that have many (often simultaneous) starting points at any (or, simultaneously many) spatial/organizational level, from the local to the international (**Figure 1**). Any policy or, more commonly, a combination of policies that concerns the biophysical and human

driving forces, the proximate sources, or land use and land use change is bound to influence, directly or indirectly, land and resource decisions. Land use and land cover change ensues, one form of which is desertification. For example, development policies, aiming to boost income and employment growth, offer incentives to certain economic activities (e.g. manufacturing, tourism, forestry) which land users may decide to undertake. Depending on the prevailing biophysical and land cover conditions, the resultant land use change and the type, extent and intensity of pressures, land may be degraded or even desertified. Keeping land-stressing activities away from desertification-sensitive areas may help arrest degradation over time.

Taxation is a fiscal policy instrument used to increase public revenues. If set high and applied properly (no tax evasion), it may depress economic activity that results in resource conservation; if set low, it may spur economic activity causing resource damage. Resource-specific taxation aims to reduce pressures on resources. Its effectiveness depends on how and by whom it is administered.

Land degradation problems may stimulate the formulation of policies prescribing economic disincentives, restrictions on or incentives for specific land uses, activities and management practices. If the users of land comply with these measures, resource-exploiting activities are minimized and/or land conservation activities and practices are pursued that may help combat desertification. The absence of policies is also a form of policy making with usually adverse impacts on threatened land and water resources and desertification.

2. Which public policies are relevant to desertification, why and how?

EU or national desertification policies do not exist. The complex web of determinants implies that, not a single, but a host of public policies are relevant to desertification. Certain policies may not exist at those levels where the competent authorities do not exist or do not have policy making mandate and authority (e.g. the regional or the local). Here only EU and national policies are considered (Table 1).

2.1. European Union policies

Since their inception, EU policies have influenced considerably policy development in the member states (MS). Known as the Europeanization of national policies, this influence makes often difficult the distinction between the impacts of EU and national policies. At the MS level, EU policies have influenced directly and/or indirectly the functioning of economic systems (monetary union, price support, subsidies, loans, technological innovation, large infrastructure works, etc.), social systems (income support, social services, support of border regions) and the environment (protection and sustainable management of resources). Their impacts have been determined significantly by the degree and mode of their implementation, which varies widely among the MS. (CROSS-REFERENCE relevant Booklets).

Economic policies – the most distant from the local level and involve only national and EU policy makers. Decisions on interest rates, currency, economic stabilization and coordination procedures, foreign trade, competition and tax rates affect, among others, the budgetary policies of the MS, input and product prices, imports, exports, the rules of economic conduct, unemployment, technological progress. They, thus, shape the broader economic environment within which individuals make their land and resource use decisions. Tight policies may induce individuals to overexploit

Table 1

EU and national policies relevant to desertification

European Union Policies	*National Policies*
Monetary, competition, economic, technology & standardization policy	Economic policies
CAP	Agricultural and rural development policies
Regional policy (SF, CF)	Regional development policies
CTP	Ttransport policies
Social policy	Social policies
Horizontal environmental policy	Horizontal environmental policy
Water resources policy	Water resources policies
Biodiversity protection policy	Nature and biodiversity protection policies
	Forest policies
	Soil protection policies
	Spatial planning policies
	Tourism policies
	National Action Programmes (NAPs)

resources or change the use of land (abandonment included) in search of (higher) income-generating options. Under unfavourable environmental conditions, these changes have led to land degradation.

Common Agricultural Policy – the most influential EU policy and the example *par excellence* of a policy with adverse environmental and other impacts. The first-generation CAP subsidies targeted agricultural product growth and farmer income support. They have spurred agricultural intensification through unsustainable land management practices that, in the water-deficient and soil-poor arid zones of Mediterranean Europe, has led to serious erosion and depletion of water resources. The agri-environmental measures of the 1992 CAP reform and Agenda 2000 attempted to address these and the broader problems of rural development resulting from deteriorating environmental conditions and broader socio-economic restructuring in rural areas. **CROSS-REFERENCE BOOKLET A6**

Regional policy – another influential policy as it provides financial support (direct funding, loans, etc.), through the Structural Funds (SF) and the Cohesion Fund (CF), for regional development programmes and environmental protection works, especially in areas lagging behind in development. A wide variety of EU, national and sub-national actors are involved in the preparation and implementation of the CSF and the associated ROPs and SOPs in each MS. Several SF-funded projects have induced spatial and economic restructuring, urban growth, tourism development and concentration of activities in environmentally unsuitable or sensitive areas where they have caused land and water resources degradation.

Transport policy – supports the construction of large transport infrastructure works (TENs). It produces direct negative impacts on land and water resources (erosion, landscape fragmentation). Indirectly, improved accessibility exposes several (sensitive) areas to development pressures that may lead to land degradation especially if environmental protection regimes or their enforcement are poor.

Horizontal environmental policy – provides cross-cutting legal instruments, such as the EIA and the SEA, to ensure that economic activities do not cause adverse environmental impacts. Their effectiveness depends on how they are transposed in the legal order of the MS where ample discretion for preferential implementation of scientific assessment procedures is left. Empirical and scientific evidence suggests that they have not provided adequate protection of land and water resources. The SEA may provide for greater protection of strategic resources when its transposition and implementation are completed.

Water resources policy (the EWFD) – aims at the sustainable planning and management of water resources to ensure their adequate protection while meeting present and future development needs. Its role in combating desertification is obvious; historically, several affected areas suffer from inappropriate management of their already insufficient water resources. However, the EWFD faces implementation problems. It has no dedicated financial instruments. Many and competing decision makers and water users from various spatial levels are involved. The elaboration and implementation of River Basin Management Plans (and the ultimate resolution of conflicts over water use) is the responsibility of the MS which have different water resources management traditions and priorities. Its principal economic instruments, water pricing and total cost recovery, have not been welcomed and their implementation is delayed.

Biodiversity policy (Habitat Directive and NATURA 2000 network) – aims at protecting biodiversity and sensitive ecosystems that include desertified areas in S. Europe. However, their implementation is fraught with problems. Violations are frequent as most users of land pursue other than environmental goals. Policy makers and implementers are reluctant to enforce the directive, which, in addition, is not tied to any financial instrument.

2.2 National policies

National policies are often tailored to their EU counterparts, comprising transpositions of EU directives and implementation of EU regulations. They vary among the MS as national economic, social and environmental goals differ as do administrative, political and policy systems and traditions. Here selected national policies that do not have EU counterparts are examined as well as the NAPs to Combat Desertification that the Southern EU MS have drafted following the UNCCD requirements. (CROSS-REFERENCE relevant Booklets).

Forest policies have the potential to protect forest resources as well as to restore degraded lands by controlling forest fires, deforestation, etc. However, they are frequently violated as they conflict with the economic goals of the users of land.

Tourism policies favored the uncontrolled development of tourism in the S. European MS until very recently. The result was overbuilding of coastal and sensitive areas, land use change from farmland and pastures to tourism, and degradation of water and land resources. The post-1990 shift to sustainable tourism practices may help stop these trends although this is not evident so far.

Spatial planning policies and systems are of instrumental importance at the national and lower levels. Theoretically, they aim at guiding the optimal spatial distribution of economic activities and uses of land towards sustainable management of resources. They should coordinate EU, national and subnational policies to ensure their effective implementation. Development control (e.g., zoning, green belts, etc.) coupled with economic instruments may help protect resources from present and future degradation by moderating population and other pressures. However, these policies are often either absent or inadequate, their formulation is influenced by vested interests, and bureaucratic rivalry, administrative compartmentalization and problematic institutional arrangements hamper their implementation.

NAPs to Combat Desertification offer guidelines for proper land management in the sensitive and affected areas of Annex IV member states. Because information on their implementation is scanty and incomplete their evaluation is impossible presently. It is conjectured that the absence of strong spatial policies and the involvement of many and conflicting interests in the land development process may seriously hinder the successful integration of their proposals into rural, regional and local plans.

3. Policy making to combat desertification – not a straightforward endeavour

Policy making to combat desertification is not a straightforward endeavour owing to the nature of policy making and the inherent features and low profile of the phenomenon in the EU.

A public policy has five, tightly interconnected, main constituents: object, actors and actor networks, goals and objectives, structures and procedures, and instruments (**Box 3**).

Public policies are not one-off decisions that are conceived and implemented as a single operation in an orderly and coordinated fashion at some point in time. Policy making is highly departmentalized, taking place in diverse arenas. Numerous actors are involved during policy formulation and policy implementation (an often

Box 3

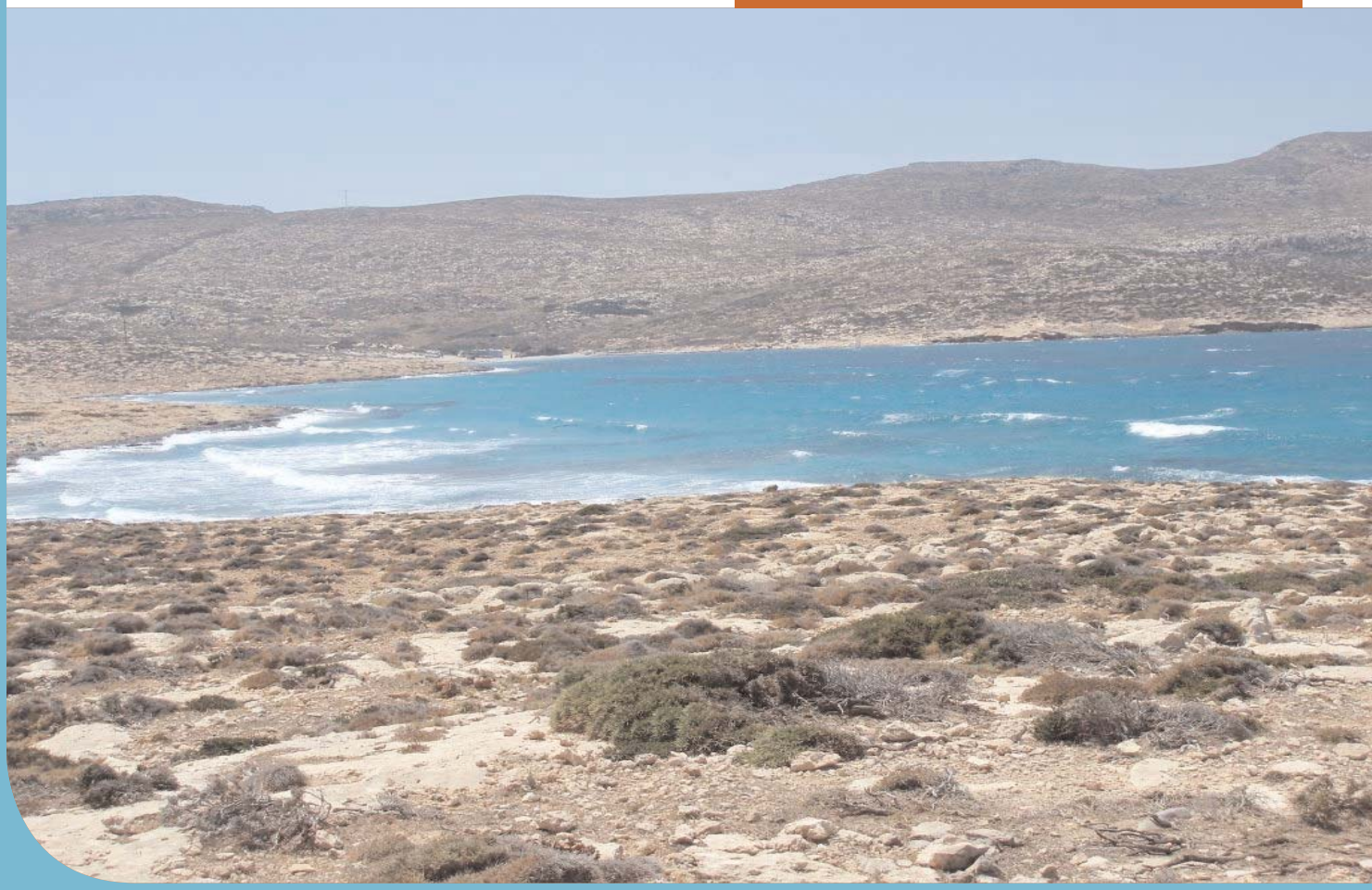
Policy object: Characteristics of the problem: (a) scope – who and what is involved, where, when and how much, (b) social, economic, environmental, cultural and other features, (c) theory – likely causes, impacts and effects of the problem and their relationships; it depends directly on the actors who perceive, participate in, or influence, the definition and resolution of the problem.

Policy actors: individuals and collective entities (public, private and voluntary organizations) variously, directly or indirectly, formally or informally, involved in policy formulation and implementation.

Policy goals & objectives: desirable end states; collective aspirations about the problem.

Policy structures and procedures: organizational, administrative and institutional apparatuses, arrangements, and mechanisms for policy implementation.

Policy instruments: legal, institutional, financial, economic, technical, communication and infrastructural means for policy implementation.



blurred and imprecise distinction), who pursue goals that may or may not relate to combating desertification. Policy decisions are affected by interactions among actors within and between policy domains, the dominant political tradition, existing or new administrative and decision making apparatuses, and available resources.

Implementation, the most crucial stage of policy making, involves numerous and diverse actors usually far removed from policy formulation. It varies among MS, policy areas and instruments. Its effectiveness is seriously impeded by inappropriate and inadequate (or, absent) 'transmission channels' among levels, uneven distribution of funds, implementation apparatuses, lack of coordination among instruments, lax enforcement and contextual factors (e.g. broader socio-economic changes that necessitate the adaptation of policies during implementation).

The MS are responsible for the implementation of EU policies as the EU does not possess the requisite implementation apparatus. The subsidiarity principle offers considerable discretion to national and sub-national implementers. They may use policy measures (mainly financial instruments) to serve other rather than a policy's goals as problems are defined differently at lower than at higher levels and parochial interests are powerful and established.

Desertification and its control are influenced by many interdependent factors operating from the personal to the global level, a fact with numerous policy implications: there is no unitary policy object, many actors and actor networks from diverse policy areas are implicated, with diverse, and often unrelated or conflicting goals, and numerous, little-coordinated, instruments are offered. Policy impacts occur through multiple pathways that depend on the geographic, environmental and societal context and dynamics of a particular region, historic contingencies, as well as when and how a policy is implemented. The final outcome, land improvement or desertification, is not predictable; it emerges and co-evolves with the determinants of the phenomenon. It is possible, although difficult to prove, that a single policy, mostly related to a critical factor, e.g. water, may reverse land degradation and its unwanted socio-economic effects or it may trigger a sequence of desertification-enhancing impacts.

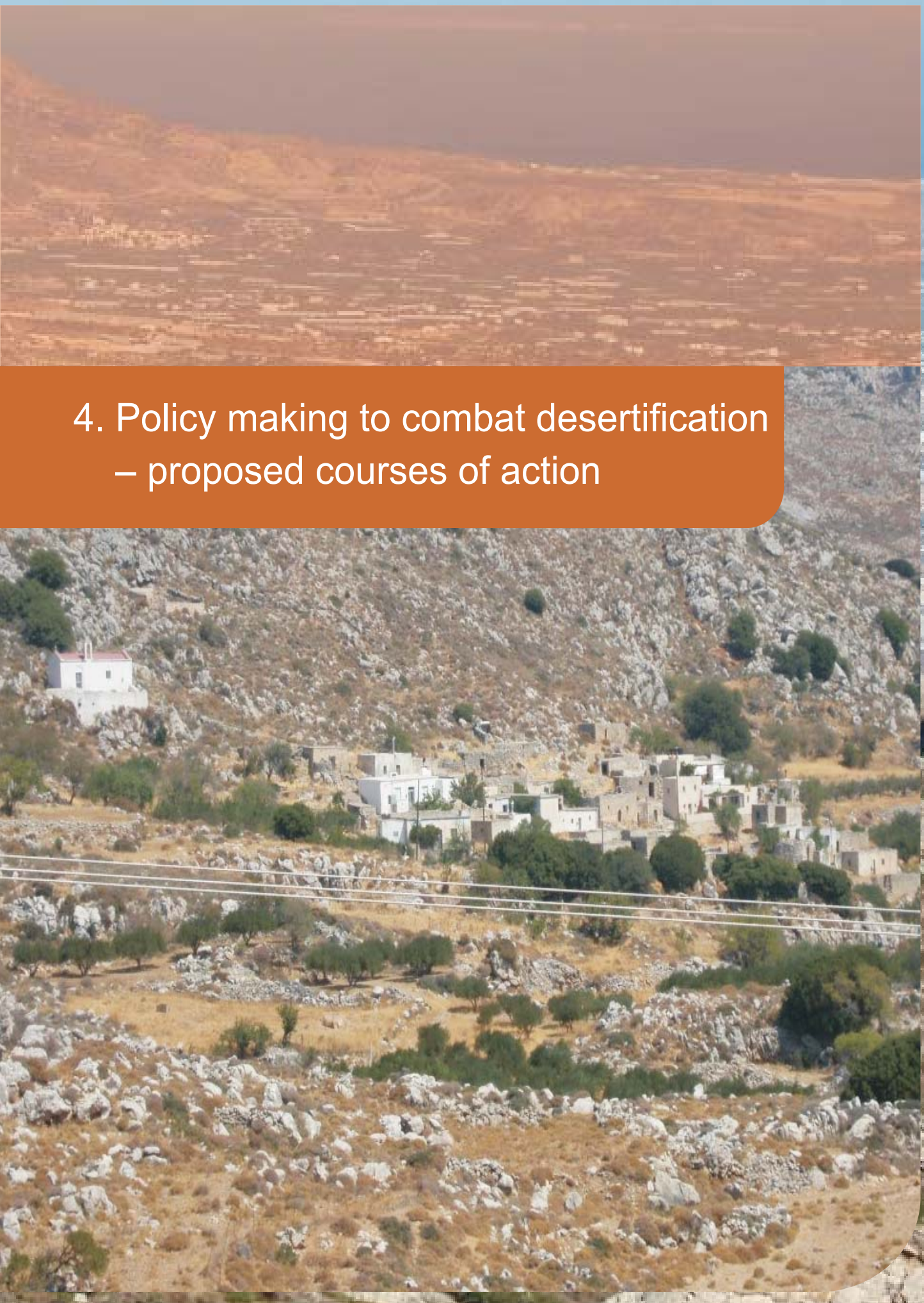
Policy effectiveness in combating desertification depends critically on how well the pertinent policies relate to one another; i.e. on **policy integration**.

A narrower requirement is that of EPI (environmental policy integration) as required by the Amsterdam Treaty (Art. 6 – sectoral policies should incorporate environmental considerations). Policy integration is generally weak when policies are formulated in both the EU and the MS. If some policies appear harmonized this is accidental rather than systematic.

Policies frequently work at cross purposes due to administrative fragmentation and policy making departmentalization. Serious overlaps or conflicts between spatial, rural and regional development policies do exist with negative environmental and socio-economic consequences. There is no indication that these are properly handled through policy coordination and spatial planning arrangements. The same applies to various environmental policies (water, biodiversity, soil); they are administered by EU and state agencies that have low or no cooperation and favour particular sectors. Lastly, the provisions for EPI are generally poor and loosely articulated. EIA, considered a suitable instrument, has a notorious record and is limited to project-level impacts. SEA may more suitable if it will be ever implemented.

Overall, the requisite institutional capacity to address desertification does not exist yet despite the proliferation of policies that tackle particular aspects of the phenomenon. The plurality and diversity of interests, organizations and policy instruments that function without any coordination make policy making to combat desertification a demanding task.

4. Policy making to combat desertification – proposed courses of action



Desertification has a wide net and open-ended policy arena. Desertification-relevant policy design has to observe important principles suggested by the UNCCD, several international organizations, EU-research and the scientific literature (Table 2).

Combating desertification cannot be achieved by means of a unitary policy. Instead, two approaches can be pursued, an incremental/sectoral or a comprehensive/integrated.

The incremental/sectoral approach seeks to introduce desertification (environmental, social and economic) concerns into extant policies via suitable procedures and instruments. This meets the requirement for EPI but includes also the need for social and economic policy integration. This *vertical policy integration* produces "*no-regrets*" policies aimed at a multiplicity of objectives that increase the many benefits associated with the use of natural resources. A variety of administrative, legal, institutional, planning, economic, fiscal, financial, physical, communicative and other instruments is available to help modify extant EU and national policies. Priority should be given to the CAP, regional and transport policies that have the most adverse environmental impacts. Environmental policies should be modified also to better reflect social and economic concerns. Certain policy areas are not covered by EU policies presently (in certain cases strategies exist), such as soil, forest, social, tourism and spatial policy. Although current policies may indirectly address the respective issues, providing for the "missing" policies may help to more effectively address desertification.

At the national and subnational level, priority should be given to the proper functioning of planning systems that should coordinate all interventions in spatial development affairs. National and sub-national SD plans should acquire a *strategic focus*, be backed with adequate financial and human resources as well as with suitable administrative apparatuses, should

Table 2

Principles for desertification-relevant policy design

	Principles	Explanation
Global	*Strategic and long-term orientation*	Protection of strategic natural (land, water, soil, biodiversity) and human resources to promote the transition to sustainable development
	Integration (*)	Of sectoral policies, spatial levels, environmental media, policy process, policy and planning instruments
	Coordination and cooperation	Of competent organizations, communities, NGOs, landholders
	Provision of enabling legal and institutional environments	At higher levels to guide action at national and local levels
	Participation in decision making (*)	Of local populations, scientists, NGOs
Operational	*Subsidiarity (*)*	Decision-making should take place at the lowest competent level; higher levels undertake tasks that lower levels cannot effectively complete
	Partnership (*)	Cooperation/coordination between EU and MS
	Additionality (*)	Financing should come additionally to national spending
	Precautionary & prevention (*)	Proactive, preventive, anticipatory policy making
	Polluter and consumer pays (*)	Environmental damage costs are born by those responsible
	Equity (*)	Equitable distribution of costs and benefits of environmental protection
	Territorial/spatial balance and justice	Combating desertification should concern all areas, indirect off-site and longer term effects, and urban-rural interactions
	Adaptation	To local and regional environmental and socio-economic conditions
	Flexibility	To adapt to unexpected future events and developments
	Regionalization of policies and sectoral instruments	Of those with significant spatial effects

(*) Basic EU policy making principles

integrate and guide the priorities of the CSF, ROPs, SOPs, river basin and local plans and those prepared to satisfy other international and EU obligations (e.g. biodiversity, forest, etc.). They should incorporate the provisions of the NAPs and promote their implementation. The role of land use planning should be strengthened. Local planning bodies should design coordinated 'policy instrument mixes' imposing spatial restrictions and/or priorities where appropriate.

The comprehensive/integrated approach seeks to establish and maintain a coherent policy system by properly integrating and coordinating horizontally and vertically relevant policies. Proper combinations *'add value'* to extant policies, yield synergies, avoid duplication of effort and facilitate the effective implementation of the NAPs. Policy integration may range from loose and simple to tight and regulated arrangements among policy domains. The development of a Desertification Policy Support Framework (DPSF) at the EU and the national level will assist in making mutually supportive and non-conflicting policy decisions. Moreover, it will respond to the UNCCD's call that the signatory parties provide an enabling environment for the implementation of the

Convention. Its essential starting point should be that all policies adopt *shared*, common principles as the *sine qua non* condition for the development of shared meanings and approaches to combating desertification. The prevailing socio-cultural and political context will determine the choice, suitability, feasibility and effectiveness of its several variants.

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6. Acronyms

CAP	Common Agricultural Policy
CF	Cohesion Fund
CSF	Community Support Framework
CTP	Common Transport Policy
EIA	Environmental Impact Assessment
EWFD	European Water Framework Directive
MS	Member State
NAP	National Action Programme (to Combat Desertification)
ROP	Regional Operational Programme
SEA	Strategic Environmental Assessment
SF	Structural Fund
SOP	Sectoral Operational Programme
TEN	Trans-European Network
UNCCD	United Nations Convention to Combat Desertification