Main activities

- Establishing a conceptual model idea to focus the selection of DIAMONT indicators
- Updating the meta database on indicator systems and starting work on indicator selection
- Starting the discussion on indicator interpretation / aggregation
- Development of a common conceptual structure for a fruitful division of labour between WP 7 and WP 8

Conceptual model idea

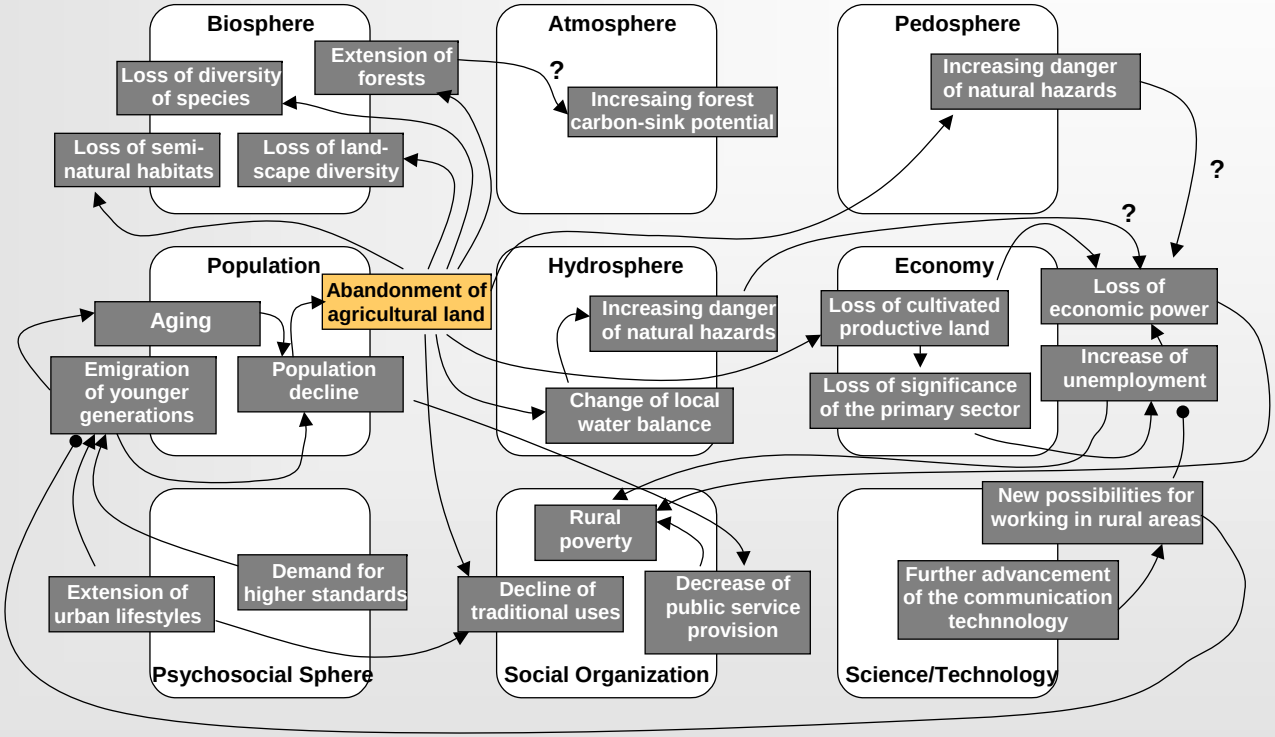
Starting points: No conceptual model developed for DIAMONT

Question: What do we want to indicate under the umbrella of sustainable regional development?

Conceptual ideas: Orientation towards the “Syndrome Concept” – integrated analysis and description of main problem fields, and adaptation to the condition and possibilities of DIAMONT

Conceptual model idea

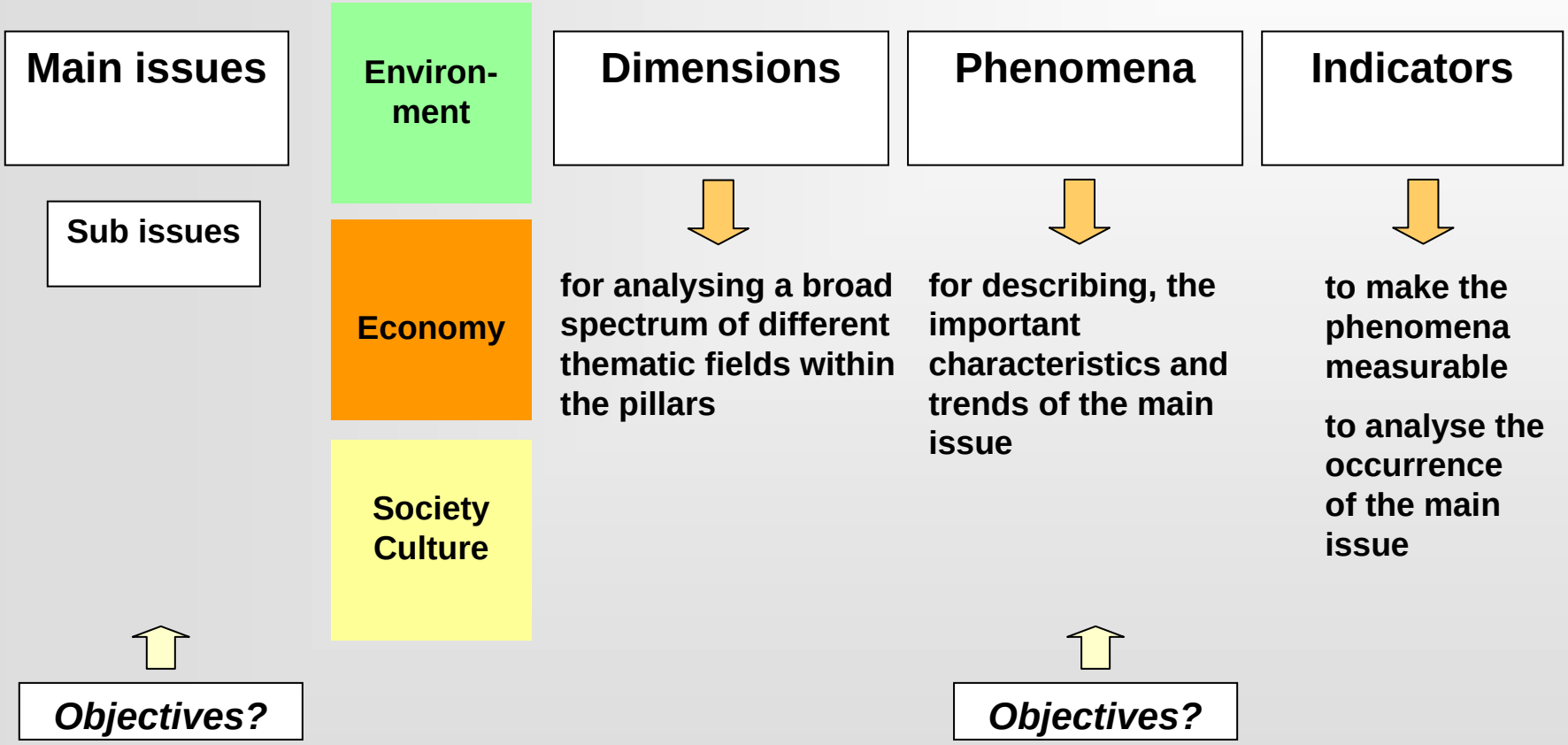
To remember:



Discussion of “main issues”

Conceptual model idea

Basic idea



Status quo of WP 7

	Main issues	Dimensions	Phenomena	Indicators
09/05	Meeting Bolzano: Presentation of the Syndrome concept, conceptual ideas for DIAMONT		Compiling phenomena and assigning them to main issues	Establishing and completing the metadata information about national and international indicator systems
10/05	Meeting Innsbruck: Discussion of main issues	Proposal on dimensions and internal discussion		
11/05	Meeting Munich: Agreement on main issues for WP 6		Completing phenomena list and revision of assignment	
12/05				
01/06			Weighting of phenomena	
02/06	Meeting Innsbruck: Discussion of new focus of main issues		Interpretation of the weighting results	Assigning indicators to the high rated phenomena
03/06				

Status quo of WP 7

Starting points

Main issues

	Sub issues
1) Tourism	
2) Transport	2a) Inner-alpine transport 2b) Supra-regional transport
3) Innovation and competitiveness	3a) Industrialized agriculture 3b) Attractiveness for enterprises
4) Urbanisation	
5) Marginalisation of rural areas	
6) Climate change	
7) Maintenance of natural and cultural heritage	
8) Maintenance of alpine forests	
9) Energy	

Ongoing process

Main trends

Revision of main issues, selective approach

<u>Objective:</u>

Stronger focussing, conversion to "main trends"

1) Tourism: The alpine experience
2) Congestion of transport system
3) Innovation and competitiveness:
   3a) Modernisation of agriculture in favoured areas
   3b) Increasing importance of innovation technologies
4) Urbanisation
5) Marginalisation of rural areas
6) Shrinking glaciers
7) Increasing generation of renewable energy

"Comprising trends"

"Key trends"

Status quo of WP 7

Dimensions

Starting points

- Structure
- Water exchange
- Matter exchange
- Energy balance
- Species
- Human health
- Aesthetics

- Economic performance and infrastructure
- Public and private financing
- Labour
- Production and consumption
- Innovation, technology and information

- Population
- Social equity and family
- Income and wealth
- Public services and security
- Social participation and freedom
- Culture

Ongoing process

Commenting by EURAC and adaptation

<u>Objective</u>:

Finding a common definition and description of dimensions for WP 7 and WP 8

WP 5: For monitoring regional development in the Alpine Convention context we must not spend to much efforts on indicators based in traditional cultural differences, but more on indicators measuring sustainable progress in a globalizing world. However, this may well include information on regional identity, provided it means not a mere leftover from times past or folklore, but a conscious profile and strategy to future challenges.

How do cultural values and attitudes modify influences and effects of globalization ?

"Dimensions" of WP 8:

- Sustainable landuse
- Protected areas
- Landscape diversity +dissection
- Concentration of landuse

- Agriculture
- Tourism
- Labour market

- Population
- Education
- Social cohesion
- Health
- Social equity
- Accessibility of public services

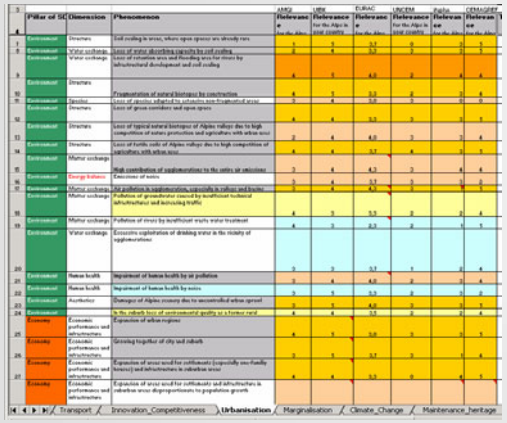
Status quo of WP 7

Phenomena

Starting points

Comprehensive lists of phenomena, excluding "response-phenomena"

Weighted lists



Interpretation of weighting: identification of phenomena evaluated as the most important, and critical reflection

Integration of the results of 3rd round of Delphi

Ongoing process

Fine-tuning of phenomena (formulation): clear specification of state and development phenomena

Outlining of cause-relation-ships (?)

<u>Objective:</u>

Selection of well formulated phenomena to be indicated

Status quo of WP 7

Interpretation of weighting of the phenomena

Problems:

- **Not all partners weighted exclusively considering the respective main issue.**
- **It seems, that some main issues had not been focussed sufficiently.**
- **The formulation of some phenomena provoked misunderstanding / problems for interpretation.**
- **The different partners weighted on different levels, some using generally higher, other generally lower scores.**

Consequences:

- **The weighting results may be only an orientation for the selection of phenomena. The quantitative interpretation of scores must be realized very carefully.**
- **Some main issues must be focussed more.**

Status quo of WP 7

Marginalisation of Rural Areas										
			AMGI	UIBK	EURAC	UNCEM	ifuplan	CEMAGREF		
Pillar of SD	**Dimension**	**Phenomenon**	**Relevance** for the Alps in your country	**Relevance** for the Alps in your country	**Relevance** for the Alps in your country	**Relevance** for the Alps in your country	**Relevance** for the Alps in your country	**Relevance** for the Alps in your country	**Total**	**Average**
Environment	Structure	Increase of fallow land	5,0	5,0	4,5	2,0	-	4,0	24,6	4,1
Environment	Structure	Loss of biodiversity: diverse landscapes	4,0	4,0	5,0	3,0	4,0	4,0	24,0	4,0
Environment	Structure	Development of new wilderness areas	2,0	3,0	3,7	2,0	4,0	5,0	19,7	3,3
Environment	Structure	Establishment of new protected areas	4,0	3,0	3,3	3,0	3,0	5,0	21,3	3,6
Environment	Structure	Better spatial linkage of existing protected areas	2,0	3,0	4,3	3,0	3,0	4,0	19,3	3,2
Environment	Water exchange	Change of local water balances	2,0	3,0	4,0	2,0	-	5,0	19,2	3,2
Environment	Structure	Danger of erosion and avalanches due to low or not yet managed grassland	3,0	3,0	3,8	2,0	4,0	4,0	19,8	3,3
Economy	Economic performance and infrastructure	Devaluation and abandonment of less productive agriculture land	4,0	5,0	4,0	2,0	4,0	4,0	23,0	3,8
Economy	Economic performance and infrastructure	Expansion of the remaining agricultural businesses	3,0	3,0	3,0	3,0	4,0	4,0	20,0	3,3
Economy	Economic performance and infrastructure	Spatial concentration of agricultural mountain businesses	3,0	4,0	3,7	1,0	2,0	4,0	17,7	2,9
Economy	Economic performance and infrastructure	Spezialisation of agricultural mountain businesses	4,0	4,0	3,8	3,0	4,0	3,0	21,8	3,6
Economy	Economic performance and infrastructure	High dependence of agricultural businesses on options for new and interconnecting sources of income (agricultural and non-agricultural activities, part-time farming)	3,0	5,0	4,3	3,0	5,0	4,0	24,3	4,0
Economy	Economic performance and infrastructure	High part of part-time farming	4,0	5,0	4,3	2,0	-	3,0	22,0	3,7
Economy	Public and private financing	Low public budget due to high part of retired people	2,0	2,0	3,5	2,0	1,0	3,0	13,5	2,3
Economy	Production and consumption	Change of consumption patterns and demands due demographic changes (aging)	2,0	4,0	3,3	3,0	3,0	3,0	18,3	3,0
Society / Culture	Population	Decrease of population in rural communities	4,0	5,0	4,0	3,0	4,0	4,0	24,0	4,0
Society / Culture	Population	Aging	4,0	5,0	4,3	2,0	4,0	4,0	23,3	3,9
Society / Culture	Population	Aging of the farming population	5,0	5,0	4,5	2,0	4,0	4,0	24,5	4,1
Society / Culture	Public services and security	Restricted access to services for people not owning a private car (worsened by mobility limitations of elderly people)	3,0	4,0	3,3	4,0	4,0	4,0	22,3	[illegible]
Society / Culture	Public services and security	Increasing risk of natural hazards	3,0	4,0	3,0	3,0	4,0	3,0	20,0	[illegible]

Status quo of WP 7

Integration of results of WP6 3rd round questionnaire

Differences:

- **Include weighting of current and future importance**
- **Questionnaire comprised a reduced set of phenomena**
- **Questionnaire comprised a large number of response-oriented phenomena**

Question arising:

- **Do weightings of experts and partners correlate?**

Status quo of WP 7

Marginalisation of Rural Areas			Weighting 3rd Round						
Environment		Phenomenon of minor importance (weighting results)							
Economy		Phenomenon controversially weighted (weighting by partners)							
Society / Culture		Phenomenon of future importance (weighting 3rd round)							
		Phenomenon of high importance (weighting results)							
Pillar of SD	**Dimension**	**Phenomenon**		**Appreciation present (%)**	**Average present (1=very low, 4 =high)**	**highest value present (1=very low, 4 =high)**	**Appreciation future (%)**	**Average future (1=very low, 4 =high)**	**Highest Value future (1=very low, 4 =high)**
Society / Culture	Population	Aging							
Society / Culture	Population	Aging of the farming population							
Society / Culture	Population	Emigration of (young) people							
Society / Culture	Population	Immigration of retired people							
Society / Culture	Social equity and family	Growing isolation due to low accessibility		47	2,36	3,13	40	2,43	2,86
Society / Culture	Social equity and family	Growing isolation due to weakening o			2,4	3,11	55	2,67	3,25
Society / Culture	Social equity and family	Problems of integration of new memb							
Society / Culture	Social equity and family	Increasing social differences in mobi							
Society / Culture	Social equity and family	Social tensions between rural and urb							
Society / Culture	Income and wealth								
Society / Culture	Public services and security	Decreasing public service provision (including infrastructure) due to financial rationalisation of public services and decreasing efficiency in low populated areas		64	2,79	3	70	3,04	3,25
Society / Culture	Public services and security	Increasing part of services in private ownership linked with increasing requirements of profitability							
Society / Culture	Public services and security	Decreasing private service provision due to decreasing efficiency in low populated areas							
Society / Culture	Public services and security	Good provision of crucial services by IT-technologies and telecommunication (like Internet-Banking)							
Society / Culture	Public services and security	Change of demand for services due to an increasing number of elderly people		49	2,55	3	85	3,02	3,43
Society / Culture	Public services and security	Restricted access to services for people not owning a private car (worsened by mobility limitations of elderly people)							
Society / Culture	Public services and security	Increasing risk of natural hazards							

What is important? Two of:
Appreciation >50%
Average >2,5
Highest Value > 3,5

Main activities

- Establishing an conceptual model idea to focus the selection of DIAMONT indicators
- **Updating the meta database on indicator systems and starting work on indicator selection**
- Starting the discussion on indicator aggregation
- Development of a common conceptual structure for a fruitful division of labour between WP 7 and WP 8

Selection of indicators

Objectives

Indicators to describe sustainable regional development

Problem oriented approach: Main issues, dimensions and phenomena

1. **Indicators for the municipal and local level (NUTS 3, LAU 2)**
2. **Indicators for background analyses on the national level**

1. **Status Indicators**
2. **Trend Indicators**
3. **Response Indicators**

Missing link: Objectives ?

Selection of indicators

1. Assignment of indicators to phenomena:

Priority oriented on the weighting results

- **Indicators of the alpine-wide indicator list of the Working group of AC "Environmental objectives and indicators" (WG EOI)**
- **Alpine-wide available indicators proposed by EURAC (WP 8)**
- **Indicators of the database on indicator systems**
- **Indicators of further analyses and investigations**

2. Check of data sources:

- **Following the proposals of the WG EOI: proposals for further data investigation**
- **Integrating the data requested by WG SOIA**
- **Metadata information of DIAMONT partners**

Meta database on indicator systems

Contents:

Indicators of different indicator sets of global, European, Alpine, national and regional organisations and initiatives (examples)

Organisation	Name	Jahr
Commission on Sustainable Development (UNCSD)	Indicators for Sustainable Development	2001
OECD	Environmental Indicators for Sustainable Development	2001
European Environment Agency	Core Set of Indicators	2003
European Union	Sustainable Development Indicators	2005
EUROSTAT	Environmental Pressure Indicators for the EU	2001
Nordic Centre for Spatial Development	Mountain Areas in Europe	2004
Arbeitsgruppe Umweltziele und Indikatoren der Alpenkonvention	Die Veränderungen im Alpenraum dokumentieren	2004
System for the Observation of and Information on the Alps (SOIA)	Climate Change Indicators (preliminary results)	2002
	Establishment of Environmental Indicators; Subtopic Water	1998
	Specification of the Socio-economic Indicators for the Alpine Territory	2001
European Academy Bozen	Indikatorensystem zur Nachhaltigkeit	2004
	SUSTALP	2003
BAK Basel Economics	Monitoring the Alpine Regions' Sustainability	2005
Bundesamt für Raumentwicklung Schweiz	Kantonale Richtplanung und nachhaltige Entwicklung	2001
Bundesamt für Umwelt, Wald und Landschaft Schweiz	Projekt Landschaft 2020	2002
Institut francais de l'environnement	45 indicators of sustainable development	2003
Umweltministerium Slowenien	Environmental Indicators (Umweltzustandbericht 2002)	2002
Umweltministerkonferenz Deutschland	Liste von umweltbezogenen Nachhaltigkeitsindikatoren	2004
Landesamt für Umweltschutz Bayern	Umweltindikatorensystem Bayern	2004

Status quo of WP 7

Meta database on indicator systems

Special interest in indicator sets, which:

- have their focus on the Alpine Arc
- work on a local or regional level
- provide precise definitions of their indicators and variables in use

Considered Indicator sets:

- WG EOI
- SOIA (Water, Socio-economy, Nature, Climate Change, Forest)
- SUSTALP
- Indicator-System South Tyrol
- Nord-Regio
- MARS
- FUNalpin
- Cantonal Planning and sustainable development
- Project Landscape 2020

Assignment of indicators to selected phenomena

Phenomenon: Decrease of population in rural communities

Main Issue: 5 **Marginalisation of Rural Areas**

Source: Ergebnis 1st and 2nd round

Comment:

Weighting: ☑ Part of final list of phenomena ☑ Selected for indicator assignment ☐ additional Phenomenon

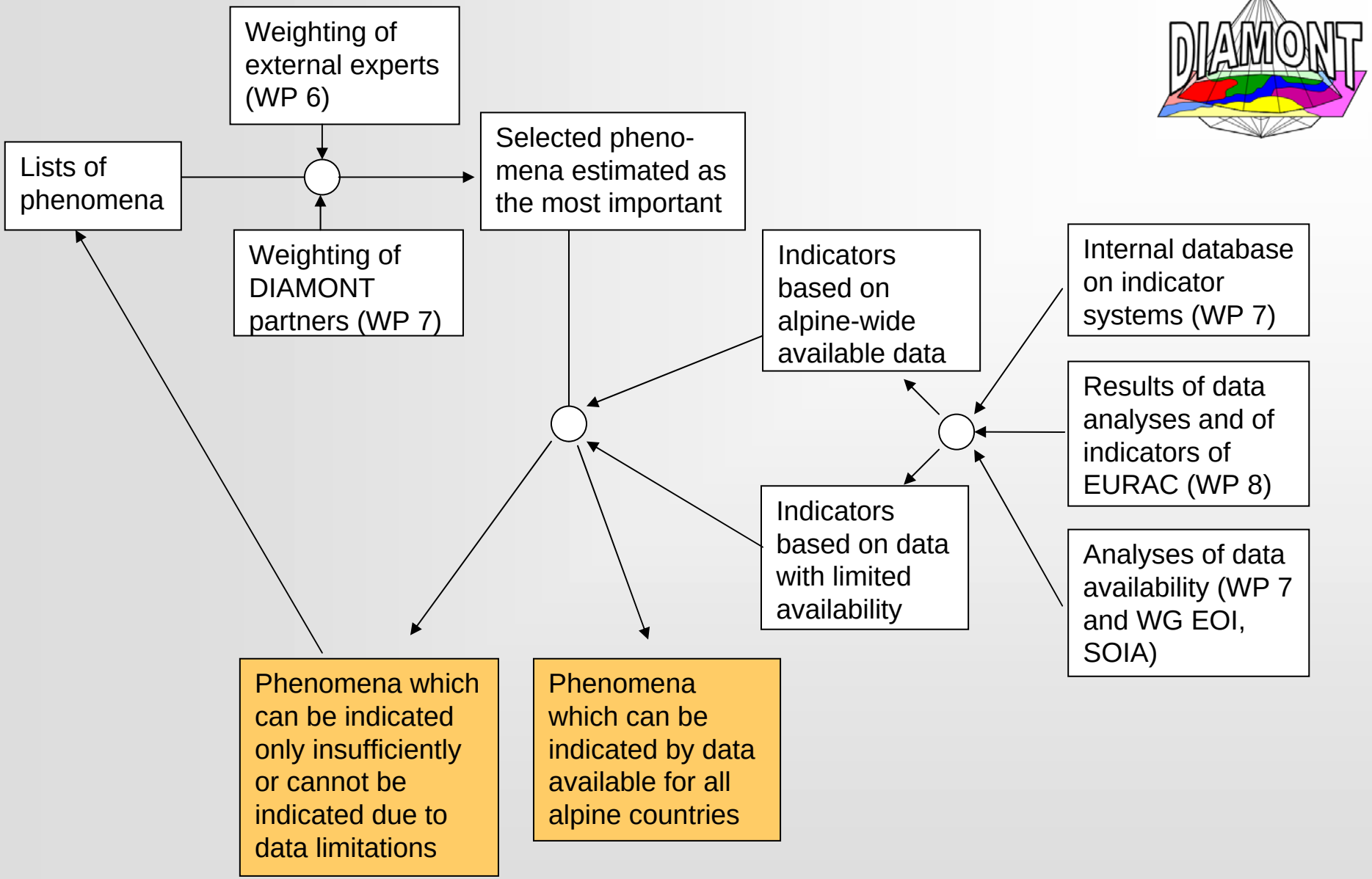
Rating DIAMONT: tendenziell hohe bis sehr hohe Gewichtung

Combined Rating: hohe Bedeutung (min. 1 Gruppe)

Indication (proposal): Change of population over time, comparison of the number of residents at different points in time.

Indicator Assignment:

3069	Bevölkerungszahl	AGUZ-ALPKON	
3592	Einwohnerzahl	EURAC-DIAMONT	
955	Resident population	EURAC-SUSTALP1	
3407	Total population and by sex (i.e. total, female, male) (D-NS_1)	NORDREGIO	


Weighting of external experts (WP 6)
Lists of phenomena
Selected pheno-mena estimated as the most important
Weighting of DIAMONT partners (WP 7)
Indicators based on alpine-wide available data
Internal database on indicator systems (WP 7)
Results of data analyses and of indicators of EURAC (WP 8)
Indicators based on data with limited availability
Analyses of data availability (WP 7 and WG EOI, SOIA)
Phenomena which can be indicated only insufficiently or cannot be indicated due to data limitations
Phenomena which can be indicated by data available for all alpine countries

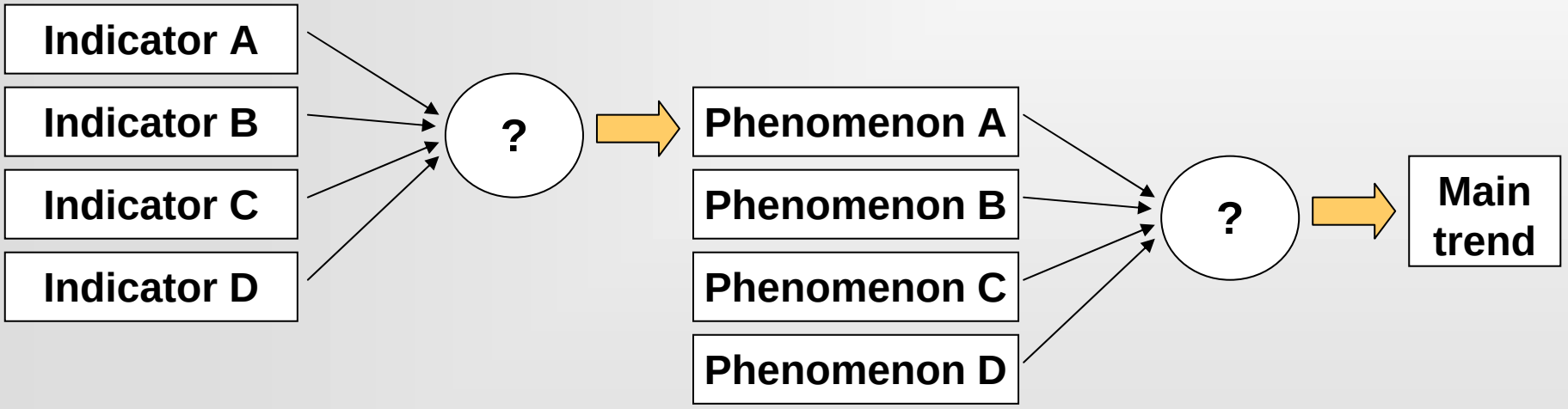
Main activities

- Establishing an conceptual model idea to focus the selection of DIAMONT indicators
- Updating the meta database on indicator systems and starting work on indicator selection
- **Starting the discussion on indicator aggregation**
- Development of a common conceptual structure for a fruitful division of labour between WP 7 and WP 8

Aggregation / Interpretation

Where do we need interpretation?

Where could we need aggregation?



Aggregation / Interpretation

- **Investigation of common aggregation / interpretation methods (scientific literature, statistics, planning methods)**
- **Critical reflection of aggregation methods**
- **Elaboration of proposals for aggregation / interpretation processes in DIAMONT**
- **Testing aggregation / interpretation methods in WP 8 for the selected main trend (?)**

Aggregation / Interpretation

Analysis of literature

- UNCSD: Report on aggregation of indicators of sustainable development
- OECD: Aggregated environmental Indices – Review of methodologies
- ZHW: FunAlpin
- BAK-Basel: MARS
- EEA: Smiley faces (Paper for congress on visualisation of indicators)

Analysis of examples of aggregation methods

- DUX – German Environmental Index (Environmental Agency Germany)
- Environmental Performance Index (Yale & Columbia University)
- Environmental Pressure Index (JRC)
- Living Planet Index (WWF)
- Saprobie-Index on water quality
- ...

Aggregation / Interpretation

Main findings:

Work-steps

- **Choice of variables**
- **Transformation**
- **Weighting**
- **Valuation**
- **Presentation**

Possible uses of research results in DIAMONT

- **Indices as such are not directly transferable**
- **Use of sector indices for single phenomena (e.g. air quality)**
- **Use of methods from different work-steps, in particular**
  - **Transformation - how can we make indicators behave the same way?**
  - **Valuation / Presentation - how do we interpret values of phenomena against main trends?**

Status quo of WP 7

Interpretation of alpine-wide data against the main trends

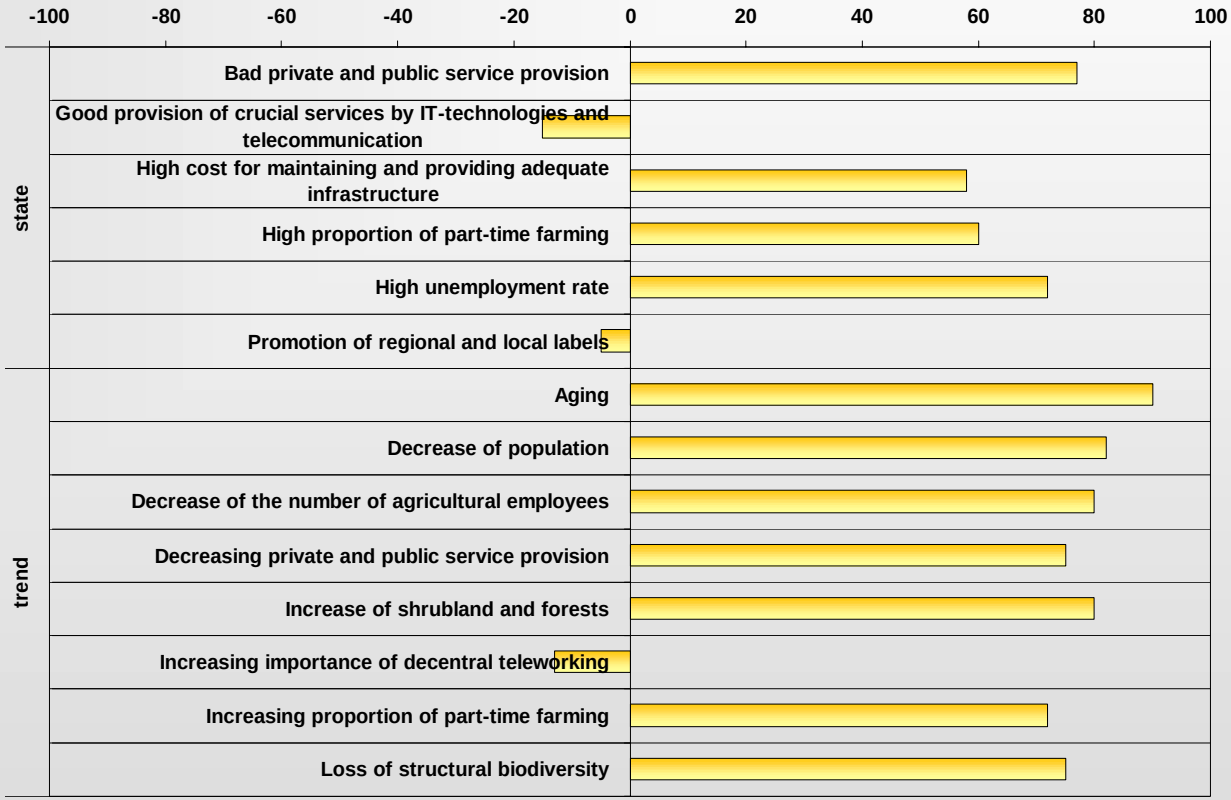
In which region of the Alps is a certain main trend well pronounced and / or dynamically developing?

Are there typical “profiles” displaying main trends within regions?

WP 8:

Testing the scaling of phenomena for the selected main trend

Find out typical “profiles” – relevance for the selection of test regions



Main activities

- Establishing an conceptual model idea to focus the selection of DIAMONT indicators
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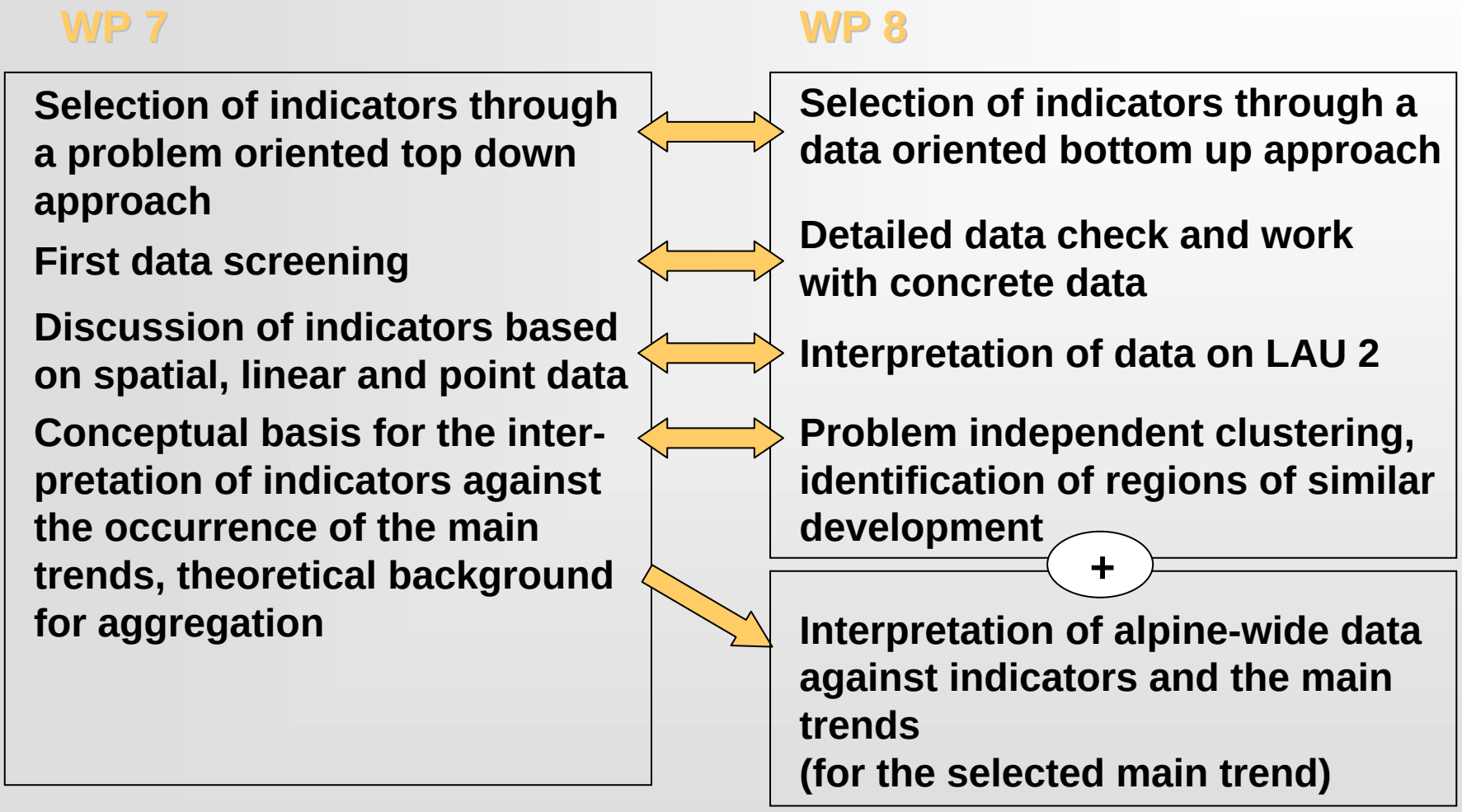
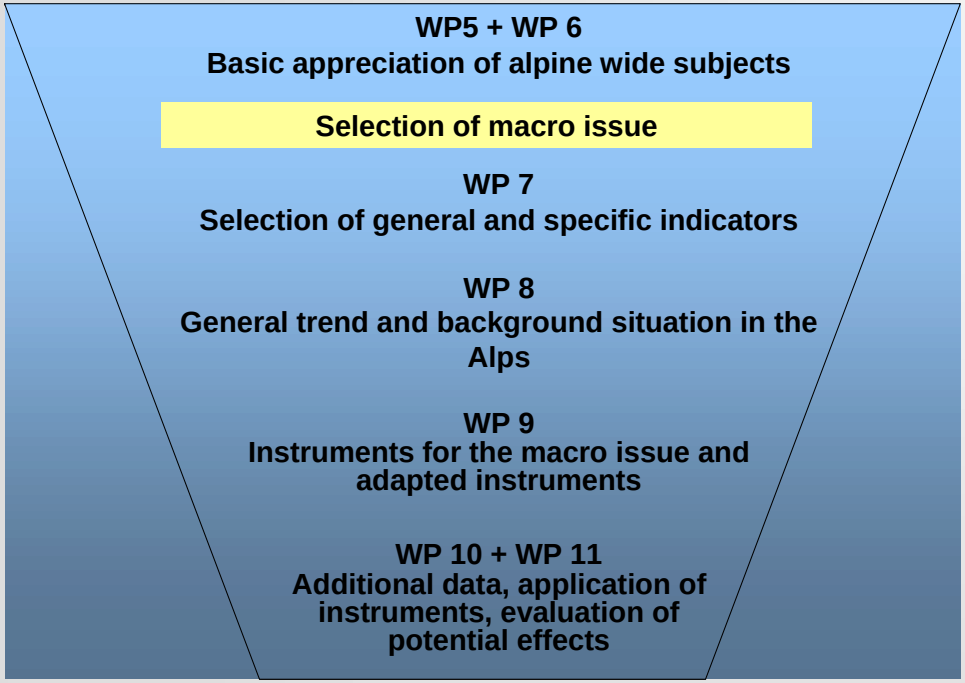
- **Development of a common conceptual structure for a fruitful division of labour between WP 7 and WP 8**

Common strategy for WP 7 and WP 8



Status quo of WP 7

Options (!) for more detailed analyses for the selected main trend



For the selected main trend:

e.g.:

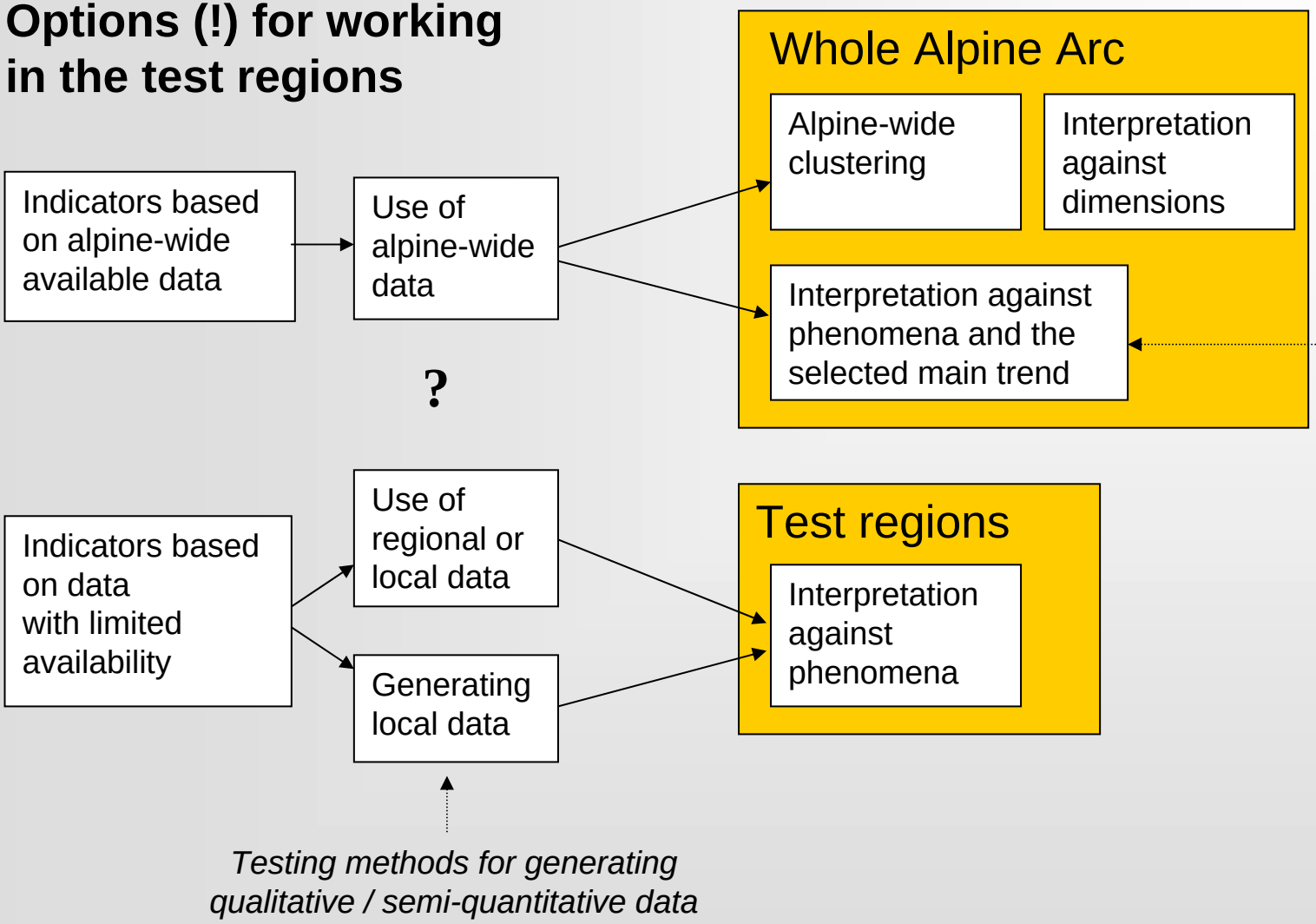
Outlining of cause-relation-ships ?

More detailed analyses of data availability ?

Specification of aggregation / interpretation procedures ?

Status quo of WP 7

Options (!) for working in the test regions



WP 8

Testing interpretation methods

Status quo of WP 7

Time table

	WP 7		WP 8
03/05	**Finalising conceptual model (main trends, dimensions)** **Revision of the formulation of phenomena** **Assigning indicators** **Analyses and discussion of aggregation methods**	**Contents:** Objectives of the DIAMONT indicator system Conceptual model idea and methodology of indicator selection	
04/05	**First draft of indicators**	First set of indicators	**Analyses of possible data sources**
05/05	**Draft of the report of WP 7**	Results of screening of data availability	
06/05	**Further discussion of indicators and data sources**	Theoretical background of interpretation / aggregation (against main trends and pheno-mena)	
07/06	**Revision of the draft of report**		**Interpretation of alpine-wide data against indicators and the main trends**
08/06	**Final report of WP 7**		