



Identify and evaluate existing, local strategies and actions that foster/support adaptation

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RVA-process

How will the findings be integrated in risk and crises management?

- Prioritise preventive measures etc.

Identify risks and threats (what can happen and why?)

Analyse risks

- Probability
- Consequences,

Identify measures to reduce risk and/or to reduce consequences

Analyse vulnerability

- What makes us more/less affected?
- Why?



A startingpoint:

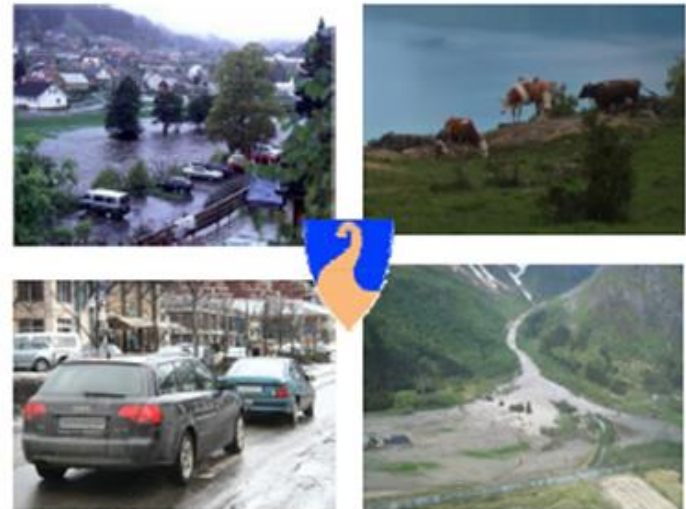
- Make sure to have support and understanding in the organization
- Define objectives, limitations, method and process
- Clarify the resources you have available for the process (knowledge, fundings, tools, people...)



Developing a climate strategy - lessons learned in Sogndal

- Organizing the work
- Mandate
- Support and understanding in the organization?
- Resources (and lack of resources...)

Klima- og energiplan for



Sogndal kommune



The mandate

The Municipal Council defined the assignment, stressing that the strategy should:

- Enhance and strengthen the local work on climate change issues
- Be a practical tool: a program of action
- Prioritized list of means and actions
- Themes important to address: energy supply, municipal planning and land use, adaptation measures
- Plan status: strategic, foundation for other plans



The work in the Climate Committee

- 7 local politicians, representing all the political parties in the Municipal Council
- 17 meetings, 1 year
- Important decision: Use own resources, or consultants and external experts?
- Experts hired for the climate projections



Involvement and resources

- Meetings with local businesses and industry
- Survey among local businesses
- Invited the public to send their proposals

Inhouse resources:

- planning and land use department
- Waste, water and sewerage department
- Chief administrative and his staff



Main goal and strategies

“The Municipality Sogndal will prepare the local society for the consequences of climate change. The land use in the municipality aims at being secure also in a future perspective.”

- Through planning making society more resilient and robust
- RVA in land use
- Include climate change in emergency planning



Main goal and strategies II

- Knowledge and information to private sector and in schools
- Consider strengthening the maintainance budget
- Get an overview of vulnerable areas
- Barriers etc

endra klima gjev på ein best mogleg måte
 for ras, skred, flaum og havnivåauke

	Beskriving	Ansvar	Tid	Kostnad
	Berderskapsplanane med vidare bør m.a. vurdere sårbarheit i høve drikkevassforureining, ulukker, kloakksystem, i forhold til flaum, ras, storm og liknande.	Rådmannen	Kontinuerleg	
Produksjon	I arealplan	Kommunestyret	Kontinuerleg	
utfordringar	Kommunen skal vere kjende med og formidle informasjon om tilpassingar til klimaendringar.	Rådmannen	Kontinuerleg	
vedlikehald	Klimaendringane kjem gradvis. For å unngå auka etterslep i kommunalt vedlikehald vert ramma auka gradvis.	Kommunestyret	Kontinuerleg	Vurderas økonomip
behov for	Gjennomføre ras/skred/flaum undersøking med ev.oppfølgning	Rådmannen	2010	Vurderas økonomip 2010-201
utviklar og	Vurdere behov for utarbeiding av flaumkart.	Rådmannen	2015	Vurderas økonomip 2015-201
for margin mot skred	Vurdere som overordna føring i arealplan	Rådmannen	Kontinuerleg	
ved godkjenning	Minke risikoen for øydelegging ved auka nedbør	Rådmannen	Kontinuerleg	



What was important for our work?

Lessons learned 1

- Chief administrative with good understanding and interest
- Political interest in the topic
- No extra money
- The Programme of Action is nearly completed
- Strategic plan: has influenced other planning processes and the Master Plan



Lessons learned II

- Horizon of the analysis: climate in 2060. Too short horizon for land use-questions
- Too little administrative resources involved
Should have involved more/ all sectors of the municipality
- The plan has not been revised yet, and the last 2 years it has been little attention on it.
- The last two years: the County Governors rejection of plans has been more important for adaptation, than the political will to adapt



MYKJE REGN: Det har borte ned i Sogn og Fjordane siste dagene. I Stryn blei det sett all time

Stryn har sett ny nedb

Det har aldri før blitt målt så mykje nedbør i Stryn som det va

Publisert i dag, for 5 timer siden

På målestasjonen Kroken i Stryn blei det fredag målt heile 104,9 mm.

– Dette er ny rekord i Stryn. Så mykje har det aldri før blitt målt her meteorologikonsulent Kari Bergfjord ved værvarslinga på Vestland

• **LES OGSÅ:** Buss med 30 passasjarar køyrde inn i jordras i C
innesperre mellom to ras

I tillegg til rekorden på Kroken, blei det sett nye novemberrekordar på ni måle
Fjordane.

- Svelgen 108,7 mm
- Daviknes 106,5 mm
- Fureneset, 91,1 mm
- Førde, Tefre 76,6 mm
- Viksdalen 84,6 mm
- Hornindal 85,2 mm
- Refvik 64,0 mm



– Kan bli nye regler for husbygging

Ved midnatt gikk også strømmen, og ti mann frå Stryn Energi har laurdag jobba med å få strømmen tilbake.

Øst Jorunn Sverre



Where to start; essentially two approaches

1. Integrated adaptation;
include adaptation in
ongoing work:
 - Land use planning and land management
 - Health and care
 - Crisis preparedness and management
 - Infrastructure management
2. Make an overarching
strategic plan for climate
adaptation



Pros av cons

1. Integrated adaptation;

- Things get done because they have to be done anyway (+)
- Easier for each sector/field to see the relevance (+)
- Harder to see the whole picture; that the work on climate change comprises many areas and issues (÷)

2. Overarching strategic plan

- Can provide an overall presentation of challenges and opportunities that climate change can give (+)
- Adaptation becomes a separate field, isolated from other disciplines and sectors (÷)



FYLKESMANNEN
I SOGN OG FJORDANE





Oslo municipality

Oslo pioneered local adaptation strategy

“Municipalities must work purposefully with adaptation to become more resilient and able to handle the changes that will come. Oslo is the first municipality in this work. The aim is that the capital will be a climate-resilient city”

“ The strategy is not perfect, but it is a good beginning, says Einar Flaa, who has written the document. In good IPCC style it is written first once and then twice more to make it short enough and readable enough for politicians”



Water

Land use

Emer-
gency
planning

Future
climate

Natural
environ-
ment

Hu

Main efforts:

- Surface water management
- Climate data
- Information efforts
- Cross sector cooperation
- Underground mapping
- International cooperation



Oslo's four advices to other municipalities :

1. Take climate into risk and vulnerability analysis :
Which climate challenges do your municipality and region face?

Here it is certainly useful for several municipalities in a region to cooperate

2. Stronger storms, rising temperatures, more precipitation and sea level rise are the acute problems. How do these affect you? Start there



Oslo's four advices to other municipalities (2) :

- Raise your eyes:
 - What is the long term perspective?
 - What does climate change mean for institutional development, local business and biodiversity in your region?
- Increase knowledge about who is responsible for what at different administrative levels