



EFFECTS ON SUSTAINABLE DEVELOPMENT

- **A meta-evaluation and narrative synthesis of 16 evaluations (Larsson & Hanberger)**

PURPOSE

To develop criteria for meta-evaluation and narrative synthesis of sustainable development (SD)-effects of environmental programmes, and to compile knowledge of such effects based on the case Local Investment Programme (LIP).



META-EVALUATION AND NARRATIVE SYNTHESIS

- Meta-evaluation - examination of the methods and information provided by an evaluation to make a judgment about the quality, merit, and worth of the evaluation.
- Narrative synthesis – a synthesis of effects that is not statistically synthesised.



LOCAL INVESTMENT PROGRAMME (LIP)

- Implemented 1998-2008
- The largest and most comprehensive environmental programme in Swedish history
- LIP allocated 4.3 billion to 211 local programmes and > 1800 projects
- Focused on sustainable development, especially the ecological dimension
- 16 national evaluations



LIPS PROGRAMME THEORY

If

the state supports municipalities financially to shift current practices towards sustainable development

and if

they compete for funding,

then

local actors mobilise, and the most effective local LIPs are developed and funded,

and then

local environmental work is coordinated, improved and sustainable development enhanced.

If

knowledge from best practice is disseminated,

then

environmental work will be improved and sustainable development enhanced in the whole country



METHOD

- Meta-evaluation and Narrative synthesis is an established method for compiling knowledge from primary studies
- It evaluates the quality of existing (evaluations) and synthesis knowledge from the evaluations (SD-effects in this case)
- Two independent assessments of the quality of evaluations
- This approach provides transparent results



CRITERIA

- However, criteria for the quality assessment and synthesising of SD effects needs to be developed for the quality assessment as well as the narrative synthesis.



QUALITY ASSESSMENT OF EVALUATIONS

- General criteria for assessing the quality of evaluation can not be used
- What information is needed for drawing conclusions about SD-effects?



Sound design and valid information

1. Methodology: relevant for assessing intervention effects of environmental programmes
 - description of applied methods/methodology e.g. before and after, comparative case studies
 - description of how the methods/methodology are applied
2. Outcomes measures
 - output measures and/or outcomes measures provided
 - outcome data before and after intervention provided
3. Quality of data
 - description of type of data (primary, secondary, register)
 - description of study limitations provided
 - assessment of quality of data (primary, secondary, biased/ unbiased)
4. Content of intervention
 - description of content of intervention(s) e.g. information; infrastructure; renewable fuels
 - specification of content
5. Scope of intervention
 - size of intervention (SEK, €, \$)
 - size of intervention measured in the evaluation (SEK, €, \$)
 - duration of intervention (e.g. months)
6. Indented effects
 - ecological, social and/or economic sustainability
 - interplay of SD dimensions
 - other intended effects

Systematic analyses of

7. Gross outcomes
 - change in outcome variables after intervention
 - change in outcome variables before and after
8. Intervention effects
 - positive effects (e.g. process effects, short and long term effects) accounted for
 - negative effects (e.g. unintended/ crowding out effects) accounted for
9. Study design effect
 - positive effect (e.g. stakeholders' involvement in evaluation) accounted for
 - negative effects (e.g. skewing effects, exaggeration of intervention effects) accounted for
10. Control for spurious effects
 - control for other interventions that may affect outcome variables
 - control for changes in outcome variables caused by nature or humans themselves
 - control for media effects e.g. behavioural changes promoted by media



QUALITY ASSESSMENT OF 16 EVALUATIONS

- We applied these 10 criteria
- Scoring 1-3
- Average of two independent assessments
- Generosity principle



Evaluation	1. Method	2. Outcomes measures	3. Quality of data	4. Content of intervention	5. Scope of intervention	6. Indented effects	7. Gross outcomes	8. Intervention effects	9. Study design effect	10. Spurious effects	Sum
1. LIP and local... (Berglund & Hanberger, 2002)	3	2	2	3	2	2	2	3	1	2	22
2. Future possibilities... (Rehnlund et al, 2004)	3	1,5	1	2, 5	2	2	3	1	1,5	1	18,5
3. LIP – environmental technology (Roth et al, 2004)	-	0,5	0,5	-	1	2	1	0,5	-	-	5,5
4. Better environment heating (Byman et al, 2004)	2	2,5	2,5	2	2,5	2	3	2	1	1,5	20
5. LIP and local environmental work 2 (Sköllerhorn et al, 2004)	3	2	2	3	3	2	2	3	1	2	23
6. Richer diversity and less nitrogen (Svensson et al, 2004)	2	3	2	3	3	3	2,5	2,5	1,5	2	24,5
7. Wastewater in closed loops (Kärman et al, 2004)	2	1,5	1	2	1,5	2	2,5	2	0,5	1	16
8. Allocation and ex ante cost... (Vredin Johansson, 2004)	2,5	3	1	1,5	2,5	3	2,5	1	0,5	1,5	19
9. In the shadow of LIP (Forsberg, 2005)	3	2	3	2,5	2	2	2,5	1,5	2	2	19,5
10. LIP from a economic perspective (Kåberg et al, 2005)	2,5	2,5	1,5	2	1	2	2	1	1,5	2	18
11. Understanding LIP in context (Eckerberg et al, 2005)	2	3	3	2	2	2	3	2	1,5	1,5	22
12. Linking social and environm...(Stenberg et al, 2005)	3	2	3	3	3	3	2	3	1	2	25
13. Traffic projects for.. (Birath et al, 2005)	1	1,5	1	1,5	2,5	2,5	2	1	0,5	2	15,5
14. Bio fuel plants with potential (Starberg, 2005)	2	2	2,5	2	1,5	2	2	1	0,5	1	16,5
15. Good opportunities with... (Byman et al, 2005)	2	3	2	3	2,5	2	2	1,5	1	1	18
16. Local environmental investment (Kempinsky et al, 2008)	1	1,5	2	2	1	1,5	2	1	1	1	14
Average	2,2	2	2	2,3	2,2	2,2	2,3	1,8	1,3	1,4	19,7

CRITERIA FOR COMPILING SD-EFFECTS

- Accounting for weak and strong SD effects
- Three pillars
- Positive effect on SD (ecological, social and economic)
- Also negative or crowding out effects



SYNTHESISING SD-EFFECTS

I. ecological sustainability

Ia stop degradation of ecological capital (e.g. non-renewable resources)

Ib restore ecological capital (e.g. forest, bio diversity)
(degradation/negative effects)

II. social sustainability:

IIa increase human capital (e.g. knowledge, awareness, behavioural change)

IIb increase social capital (e.g. social mobilization/democratic participation; networks; trust)
(decreased human or social capital)

III economic sustainability:

IIIa increased manufactured capital/ employment

IIIb cost-efficient intervention (accounting for environmental costs)
(decreased capital/ cost-inefficient)

+= positive effect, 0=no effect, -=negative or crowding out effect

	I. Ecological sustainability			II. Social sustainability			III Economic sustainability		
	Halt degradation	Restore capital	No effect/ Negative effect	Increase human capital	Increase social capital	No effect/ Negative effect	Increased manufactured capital	Cost-efficient intervention	No effect/ Negative effect
1. LIP and local... (Berglund & Hanberger, 2002)					+	-			
2. Future possibilities...(Rehnlund et al, 2004)	+						+		
4. Better environment by ... (Byman et al, 2004)	+		-		+		+	+	
5. LIP and local... (Sköllerhorn & Hanberger, 2004)				+	+	-			
6. Richer diversity... (Svensson et al, 2004)	+	+						+	
7. Wastewater in closed loops (Kärman et al, 2004)	+			+					-
8 Allocation and ex ante... (Vredin Johansson, 2004)	+						+	+	
9. In the shadow of LIP (Forsberg, 2005)						-			
10. LIP from an econ... (Kåberg & Jurgensen, 2005)	+							+	-
11. Understanding LIP... (Eckerberg et al, 2005)						-	+	+	
12. Linking social... (Stenberg et al, 2005)	+			+	+	-	+		
13. Traffic projects for... (Birath et al, 2005)				+			+	+	
14. Bio fuel plants with potential... (Starberg, 2005)	+						+	+	
15. Good opportunities with... (Byman et al, 2005)	+						+	+	
16. Local environmental... (Kempinsky et al, 2008)					+				-
Summary of positive and negative (crowding out) effects	9	1	1	4	5	5	8	8	3

CONCLUSIONS

- The main methodological conclusion is that reviews of SD-effects need to compile knowledge from evaluations that use quite different approaches, with varying quality, and must be fairly generous otherwise there will be no knowledge to compile.
- The programme's effects on SD are mixed: it mainly contributed to stop degradation of ecological capital, as well as increasing manufactured capital. However, the programme also had some unintended negative and crowding-out effects on mainly social capital, and on innovation.



DISCUSSION

- Depending on the perspective one holds on SD the assessment of SD-effects will differ somewhat
- The overall result of LIP is more positive from a weak SD-perspective
 - Large positive effects on manufactured capital
 - Negative effects mainly concentrated on social capital

