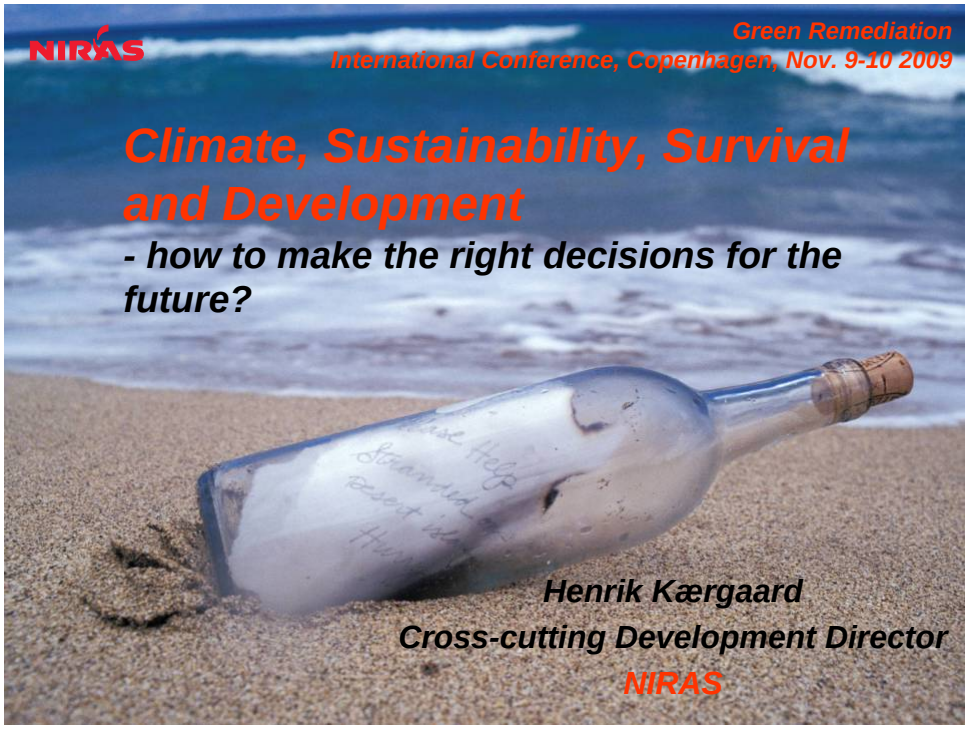
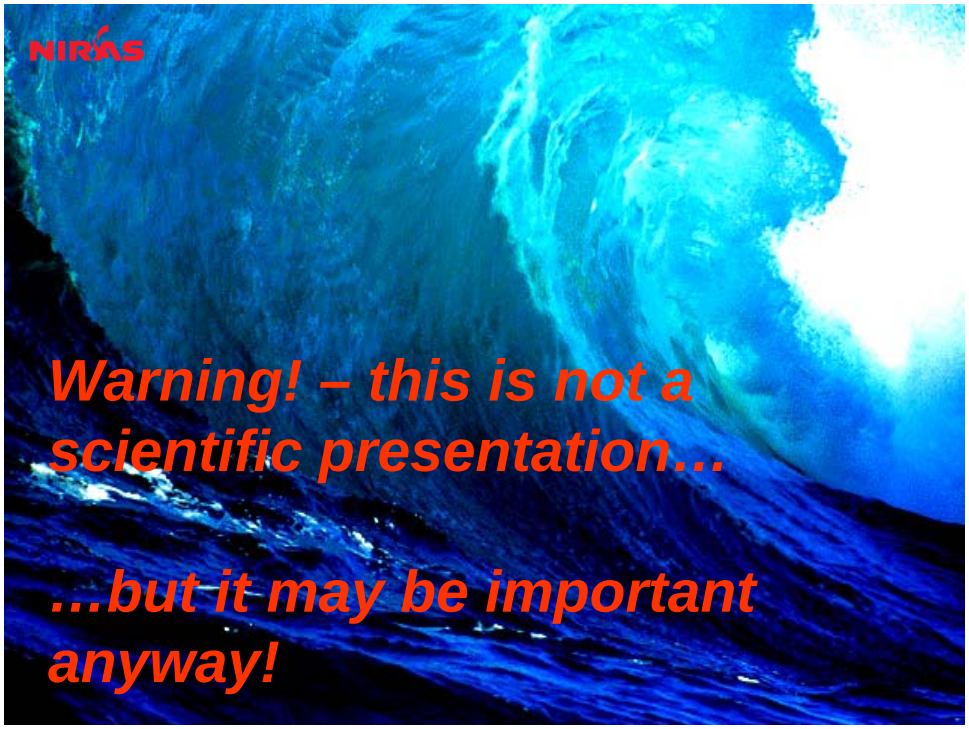

NIRAS
Green Remediation
International Conference, Copenhagen, Nov. 9-10 2009
Climate, Sustainability, Survival and Development
- how to make the right decisions for the future?
Henrik Kærgaard
Cross-cutting Development Director
NIRAS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Warning! – this is not a scientific presentation…
…but it may be important anyway!

The Challenge…

In the globalised world of to day, we have to optimize all important decisions with due regards to a number of increasingly important issues, e. g.:

The financial crisis and all its implications…

The climate change challenge…

The other key environmental issues…

The increasing world population…

The poverty challenge, starvation etc…

The issue of sustainability…

…and you name it!

…and by the way: What on Earth is Green Remediation – in brief…?

What is science? – and is it useful?

This may seem a stupid question, but is not…the problem is, that we have given up asking it for the last about 100 years.

In fact there are some very basic problems:

…scientific truth is a variable that changes with time – and faster the more research we do!

…science is not the truth – science is ”practical” under certain conditions (like a screwdriver…).

…science is supposed to converge towards total understanding of the world – but scientific knowledge is diverging towards increasing chaos.

…science does not help us with the basic task of living our lives properly and be happy (or does it…?)…

What is the nature of science?

All sciences attempt to be logical, rational, consistent systems of thoughts – ”the truth”…

…but to create such a system, you must base it on a number of basic presumptions…

These presumptions cannot be proved, but are sort of ”common sense” in a given science.

…so: You cannot create a rational, consistent system without a number of ”irrational” presumptions as the basis…***that*** we do not discuss!

…and you may change a science by changing these presumptions – and still produce a rational and consistent, but different, system!

…so a science is a practical tool inside a limited field of work, where some given presumptions are accepted – for reasons that are blowing in the wind…

…is this the definition of a strong foundation?

…and this is not the real problem!

The real problem is much worse…:

The world to day is running out of problems that may be solved inside a single field of science!

…and the problems that need an effort from many fields of science for solving, are growing rapidly.

The challenge of sound decision making in to days turbulent world is indeed one of these…

…and the real problem is that the sets of common-sense-presumptions are totally different between different branches of science!

…and the normal situation is that we cannot stand the presumptions of ”the other guys” – in fact we often find them ridiculous, stupid or even insane…

When dealing with multi-science problems, the foundation is not weak – <u>it does not exist!</u>

…and it is even worse!

We have used this non-existing scientific foundation as a basis for designing all our government organisations and most public and private administrations etc. all over the world…

…divided into numerous professional disciplines!

…with far too steep hierarchies for fast and clear decisions!

…believing in ”management by rules” – and with far too many rules to make any kind of sense!

…with no incentives for cross-cutting cooperation!

…with tempting conditions/potentials for corruption and for focus on personal interests!

…with a certain ability to deal with very, very specific and simple problems…

…and with decreasing useful outputs and constantly increasing ressource consumption!

…and what can we do about all this?

Luckily the answer is simple:

When dealing with multi-science problems there is no rational foundation and no ”right answers” or ”right solutions” at the general level…

…however, there are millions of stupid solutions and often also a rather large number of useful ones in specific situations…so how to find these?

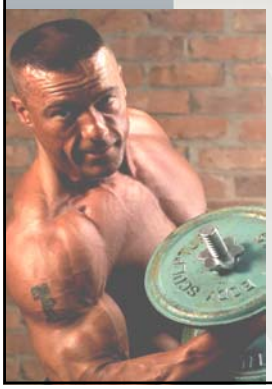
Sit down the important stakeholders and relevant professionals ”around a table” and negotiate on equal terms until you have aggreed on a useful solution!

…and remember: This is only possible with specific problems – not at a general level!

…so?

Science of to day is ***not*** innovative and creative, but mainly providing conservative and traditional approaches to problem understanding and solution.

However, to day we use scientific approaches in most organisations and education systems of the ***world…so keep your mind alive – stay clear of institutions!***



Multidisciplinary problems need interdisciplinary working processes and solutions!

This is maybe not easy and straightforward to realise, but there is no other way forward!

And we also need an model for sustainability!

…to be used in these new approaches and organisations – and it has to be simple, transparent and easy to use in dialogue processes.

Why sustainability? – because it is so far the best approach to a holistic view on reality using three dimension/focus areas:

Economic Sustainability (money)

Social Sustainability (people)

Environmental Sustainability (environment)

A possible test approach using simple questions

Economic sustainability:

1. Has a total and overall assessment of the economic consequences of the project been performed over the total life span of the project?
2. What is the forecast for the financial value of the project to the investors when all investments have been written off and all original loans and costs paid?
3. Has the project positive economic value to other stakeholders than the direct beneficiaries and the investor? – e. g. in the form of creation of jobs, capacity and competence development, increased value of assets etc.?
4. How is the profit generated from the project reinvested during and after project lifetime?

Define scores 1 – 5 for each question and add up…

Social sustainability:

1. Has a stakeholder analysis been performed and a plan for stakeholder involvement in project development been produced?
2. Have the stakeholders been given real influence in project development?
3. Are the stakeholders involved in the operation phase and future development of the project?
4. How is the expected project impact on society assessed to be in a long term perspective?

…and you will score between 12 (best) and 60 worst…

Environmental sustainability:

1. Has the project important energy- and climate change related environmental impacts locally, regionally and globally?
2. Has the project important implications regarding use and dispersion of substances hazardous to environment and health?
3. Does the project involve significant consumption of biological ressources or significant implications to ecosystems of local, regional or global importance?
4. Has the project significant consequenses for mineral ressources and related environmental issues locally, regionally or globally?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We have to find the new roads ahead as we travel...
...and we must walk together!


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Thank you for your attention!