3. THE CLOUDING OF COMMON SENSE

Nobel economics laureate George Ackerlof, among others, has observed that human behavior is not fully rational. (see for example /1/). Unfortunately, our hard-wired mental blind-spots often defeat our best interests. Thus, a powerful image linked with a personal desire or prejudice often confuses the frame of reference, placing us in a position where we may be unwilling to consider strong evidence contradicting our view.

Groups in society constantly seek to shape our opinions by playing on our beliefs or the predictability of our reactions. Vance Packard argued in the marketing classic *The Hidden Persuaders* that this ability to influence can be very effective /40/. Off course, the methods have developed further in half a century. If politicians and their surrogates, for example, repeat a political talking point in the media long enough, many come to accept it as fact. All that has actually happened is acceptance of ideological dogma.

The predictability of emotional reactions can also be useful in governing the scope and content of the popular discourse to make people more governable. Here, we consider examples of how certain groups in Finland have exploited – and even manufactured – environmental issues to achieve their own ends. In particular, we consider how Finland's mainstream media, politicians, bureaucrats, researchers, and the environmental groups have succumbed to sensationalism and emotional manipulation to advance their purposes. At the end of the chapter, we consider the role of illusion in shackling thought.

Delusive appeals to emotion

The Finnish press has devoted extensive coverage to birds colliding with the blades of wind turbines and the glass façade of Helsinki's new 12-story Sanomatalo building, which houses the editorial departments of the *Helsingin Sanomat* and other publications of Sanoma Oy, the nation's leading publisher. Dead birds sell papers.

Of course, it takes but modest effort to establish that the number of birds (residents, offsprings and migratory visitors) in Finland in any given year easily exceeds 100 million. In the course of the year, at least 10 million of these birds will succumb to disease, starvation, predators, or other natural causes. Traffic and housecats alone slaughter several million birds, while hunters take down another million. Even a single large pane of glass in a home may cause the deaths of several birds annually.

Studies of bird collisions with the wind turbines suggest that most birds recognize the danger of the spinning blade and fly around it. The number of birds lost to an individual wind turbine has been estimated to be in the range of 0.1 – 10 birds per year /28/.

Researchers at Finland's Museum of Natural History further estimate that the number of birds killed by flying into the side of the Sanomatalo building is about 100 a year. In other words, the issue here is more the heart-wrenching tragedy of witnessed bird deaths than a serious environmental problem.

Nevertheless, the image of a windmill slicing up flocks of migrating birds is powerful on a gut level. Such suffering at an understandable scale arouses our compassion, and makes us want to blame the windmill. People with widely disparate views otherwise suddenly unite on

the notion of this image. Summer-house owners disturbed by the wind turbine on their landscape simply use this image to bolster their case against local wind power development. Nuclear power promoters add this image to their list of arguments that includes the cost of wind power as compared to nuclear power. Environmental bureaucrats cite this argument in their desire to control development. The image of sliced birds can be used to support a range of positions.

Moreover, strong emotional images are commercially advantageous for the media, and far easier for attracting audience than providing objective analysis (which also requires reporters knowledgeable with the subject they are covering).

The Sanomatalo case reflects also another strong emotional reaction. Many people, including members of competing press, feel strongly about Sanomat Oy's dominant role in the Finnish media. Sanomat Oy was allowed to erect its new building just a stone's throw from the front steps of the Finnish parliament building. Perhaps the extensive coverage of the bird death issue with demands to tear the building down merely reflected aggression people held against this powerful media conglomerate.

Another kind of environmental sensationalism is found in coverage of a golf course projects in the Helsinki region. In Finland, most golf courses are repurposed farmland. How much environmental change is actually involved when fields, grazing paddocks and cultivated forest are converted into a golf course with greens, fairways, water hazards, groves of trees and other natural rough? Surely there is some change, but can we even say if this change is positive or negative? Certainly, a farmer makes far larger environmental changes when he clears and plows a new field or cuts old-growth forest, but such actions almost never make the news.

Indeed, the golf course issue is not so much about environmental degradation as zoning and land use disputes, a traditional arena for friction. Opponents to new golf courses might include birdwatchers or people, who take their dogs for romps in the forest. These groups feel they are losing a right to future recreation at the golf course area. Personal interpretations of environmental legislation are offered as the legal basis for resisting the golf course project.

The media also likes to focus on golf course opposition as it provides a David-and-Goliath narrative. Golf, after all, is still commonly thought to be an elitist activity. The rights of the property owner take a back seat.

Golf's environmental impact was raised in a letter to the evening paper *Ilta-Sanomat* in autumn 2004. A writer, who cited international numbers of an environmental group, claimed among other things that golf courses consume vast amounts of fertilizers and pesticides. A representative of the Finnish Golf Association responded with figures that showed that fertilizer and pesticide use at golf courses was just a tiny fraction of the amounts used in intensive agriculture such as strawberry farming. A Finnish MP (and former member of the European parliament) participated in the discussion by demanding that golf courses should be included into the national water quality protection program, as well as to the action plan of the national Baltic Sea program in order to save the Baltic Sea!

The study by the Finnish Golf Association showed that in total about 1,000 tons of fertilizer are used each year on Finland's golf courses, or about a half of a percent of total fertilizer use

nationally (about 200,000 tons). About 0.5 tons of pesticides are applied annually to golf courses, compared to Finland's total pesticide use of 1,000–2,000 tons a year /67/.

A political opportunist exploits aggression by playing off people's natural animosities toward a sport with an elitist image, while building a profile as defender of the Baltic Sea. She is ready to commit public resources to question the hobby of 100,000 people and a thousand jobs with an essentially non-existent problem. She is not actually interested in the Baltic Sea loading factors, as she is not pushing for an across-the-board reduction in pesticides and fertilizers that would hurt farmers and family garden owners in her own party.

The media's role in framing discussion

Few of us have the mental agility of the economist John Maynard Keynes, who when criticized by a journalist for changing a position, dryly replied, "When the facts change, I change my mind. What do you do, sir?"

Media organizations, which compete for people's attention, understand the need to cling to a set of beliefs. As a result news that affirms beliefs and arouses strong feelings is the basis of what has been described as "infotainment." Unfortunately, this exploitation often calls on the audience to direct their aggressions at people, organizations or activities. Obviously, distortion of relative significance detracts from the serious value of the news, but it also appeals to our prurient sensibilities.

One reason news media have been bent towards sensationalism and issue-manufacturing is their loss of their traditional news aggregator role. Instead of wading through the pages of a newspaper or waiting for the television newsreader to possibly get to items of interest, readers can now go online for news. This has put traditional news suppliers in the uncomfortable position of finding ways to staunch declining circulation numbers. They can cut back on staff, invest in new media and figure out how to make money online, or figure out ways to pump up reader or viewer interest.

The problem is that the search for economic short-cuts can hurt the media's overall contribution to democratic society – securing free flows of accurate information to the public. Nor is the change in the media entirely their own fault. Citizens themselves have a duty to challenge the media operators when they engage in sensationalism, promote trivial stories or overlook serious issues. Notably, citizens need to call out editors and publishers when they engage in:

- Information filtering for reasons other than community sensibilities (e.g. keeping pornography off the evening news);
- Amplification of minor matters or diminishing of major matters to distort their relative significance;
- Allowing the hijacking of discussions and allowing interest groups to frame larger public discourse; and
- Lemming behavior on the part of the press, which not only creates a national obsession with certain stories, but also sets up a massive news vacuum whereby nothing else happening gets covered.

The combination of select slivers of information, armchair expertise, and our society's living mythology provide the potent ingredients for sensational stories. And they reinforce public trust in the media provider.

The coverage of them Vuosaari TBT levels by the *Helsingin Sanomat* recycled the following tidbits of information in the "fact corner" in its series of articles on the harbor dredging project:

- The TBT problem in the Vuosaari harbor was identified in May 2003;
- The Uusimaa regional environment center halted dredging as soon as TBT was discovered;
- TBT had originated from ship hull paints that had been flushed to the sea from the Vuosaari dry docks;
- TBT harms the reproductive abilities of organisms living in seabed; and
- The use of paints containing TBT is now forbidden.

The first fragment of information introduces the questionable premise of all subsequent stories, i.e. that the presence of TBT in the amounts detected in the sediments in the Vuosaari harbor area constituted an actual problem. Interestingly, there was no discussion of the amount of danger by journalists, simply a focus on the unknown threat and the fireworks surrounding the permitting process.

In fact, the *Helsingin Sanomat* editors were well aware of the magnitude of the Vuosaari TBT issue (Chapter 2 and Appendix 2). It just seemed there was no room left for factual analysis that would have only detracted from the dramatic narrative and damage the credibility of the paper championing free speech. Information critical to the reader in making an informed assessment was systematically withheld after the paper had chosen its editorial line.

Guest writers are regularly invited to pen columns for the editorial page of the *Helsingin Sanomat*. In 2003, the paper carried 52 such contributions on environmental issues. Of these, 39 were written by public bureaucrats or researchers at state institutes, six by international operatives and four by environmental activists. Only three articles were contributed by experts working in the private sector.

Most guest columns are well written and of general interest. They also help to make the paper's opinion appear politically correct. The result, unfortunately, is that public administrators and the environmental movement dominate the discussion.

The information offered by the media is thus selected, shaped, and amplified to conform to a certain narrative. Sometimes issues are blown completely out of proportion to appeal to subconscious fears and desires of the readership.

Sustainable development – the degradation of a noble goal

A central tenet of the environmental administration and the environmental movement is that industrial countries now consume natural resources beyond the world's natural carrying capacity. Thus, if consumption in developing countries rises to the level of industrialized countries and the world population reaches 10 billion, consumption would increase to a level

eight times higher than at present. What happens when a billion Chinese and a billion Indians demand their right to consume at levels similar to Western consumers?

The quasi-official Finnish Environment Institute Statistics contends Finns per capita are among the most active consumers of natural resources in the world. The flows of natural resources, including imports and hidden flows, total about 500 million tons a year, or about 100 tons per inhabitant.

It is a chilling notion for Finns that we are consuming the wealth of future generations, and our inability to correct the situation makes us feel guilty. But have Finns actually exceeded the country's natural carrying capacity?

Closer examination of the resource consumption figure/34/ reveals that about 90% of natural resource "consumption" in Finland involves moving rock and earth from point A to point B (i.e. earthworks, mining, ore concentration, and erosion caused by human activity) as well as forestry and agriculture activity. Most of the remaining 10% involves energy products (oil, coal, and peat), chemical products, and metal products. In fact, Finland's natural resource consumption has been fairly stable over the past 30 years, with the exception of mineral use, which has grown strongly as Finland's heavy industry has shouldered its share of the international division of production.

It is difficult to see how transport of a marginal amounts of dirt and rock from place to place conflicts with sustainable development. Further, forestry and agriculture are not activities that inherently conflict with sustainable development.

The remaining resources consumed are energy, chemicals, and metals. As we well understand, fossil fuel reserves are limited. This applies especially to accessible oil and gas reserves, which presently appear sufficient for another century only. Other critical raw materials (iron, limestone, copper, aluminum, nitrogen, phosphorous, etc.) appear to be sufficiently abundant from traditional sources to last at least a thousand years /32/. Energy, of course, is plentiful; the challenge is in shifting to appropriate production technologies and bringing down costs of alternative energy supplies.

Thrifty attitudes, recycling, and moderate consumption patterns are virtuous behaviors. The environmental administration and the environmental movement, however, have three weaknesses in the natural resource argumentation:

1) We are not responsible for the population explosion in the developing world and the resulting environmental destruction;
2) There will be no shortage of raw materials or energy in the foreseeable future;
3) Matter is rarely lost or created. Its elemental forms can be simply recombined over and over again. For example, the water of the river Rhein is said to be used seven times before it reaches the sea.

In other words, the environmental administration and the environmental movement are using a manipulative message to make people feel guilty about matters of little substance.

We can also see the same psychological phenomenon in Finnish attitudes toward waste management. The image of a mountain of trash is repulsive. Opposition to the establishment and operation of landfills, which is based initially on odor and hygiene, is enhanced by

making people feel guilty about the problem, especially city-dwellers. Recent figures suggest that Finland generates over 100 million tons of waste annually.

Closer inspection, however, reveals that over half of Finland's "waste" is soil and rock. Like most societies, Finns earlier never considered soil or rock as waste. The new EU waste definition, however, treats soil and rock as waste in many instances. Of the remaining "waste", over 30% (mostly materials classed as waste products in farming activity and industrial operations) are put to a new purpose or burned for energy. Traditional household and urban commercial waste amounts to less than 10 million tons, including over a million tons of biowaste. About half a million tons of all waste is classified as hazardous waste, most of it low risk.

Indeed, the rate of traditional waste production is no longer increasing in industrialized countries /76/. This means that a century's worth of Finnish landfill waste only amounts to a pile covering about 50 km^2. In the end, this site could be readily landscaped and converted into a park. In comparison, geological uplift increased Finland's land area by about 700 km^2 during the last century.

Environmental problems associated with landfills (methane, hydrogen sulfide and other gases, damage to groundwater, gulls, crows and rats, unpleasant odors etc.) can generally be kept quite marginal these days with modest measures. Furthermore, waste can be exploited for energy, recycled, or composted. There is little danger we will drown in garbage.

Most of the opposition to landfills is little more than NIMBYism (Not In My Backyard). Opposition increases dramatically when the landfill is associated with thoughts like declining home prices in nearby areas. Even if opponents of waste management projects do not want facilities near them, they want to get rid of their own waste.

This does not prevent politicians, environmental administration or environmental groups from exploiting images, resistance and guilt associated with waste management for their own purposes.

Political and environmental exploitation can also take advantage of the human tendency to deflect to other problems, real or imagined, when facing one's own problems becomes overwhelming. In hard-ball power politics, for example, a politician may declare that society is threatened by an external enemy when domestic problems have become so serious that they threaten the power structure. Psychologists call this projection.

For example, Greenpeace recently sought to transfer outrage over German's internal problems to an image of destruction of Finland's ancient forests. The stunt received considerable public attention. The true condition of Finland's forests and the price Finns might pay for this action was never of much interest to Greenpeace or the German media.

Illusions prevailing in the Finnish mind-set

Most of us have fundamental assumptions about the world. Finns generally accept the following:

- Our bureaucracy works to serve the general good;
- Our scientific institutions represent the highest level of objective knowledge;
- Finland is a society of law and justice; and
- Finnish society is superior to others. To be born in Finland is like winning the lottery.

While disillusionment awaits those who abandon these beliefs, breaking out of the mind-set opens possibilities to see the world in the light of reason and paves the way for advancing society's larger interests.

Trust in bureaucracy is based on an illusion that public administrations work to promote the best interests of society, which, of course, is how bureaucracy should work. The reality in Finland and in the EU is sectoral administration, with various administrative sectors advancing individual agendas, often in conflict with the interests of society as a whole. Moreover, political actors have vested interests in steering policy of administrative sectors.

Like most spheres of human endeavor, state administrative bodies suffer from a tendency to exaggerate their true significance. Overstating the organizational mission is a tried-and-true recipe for expanding bureaucracy, especially when the society is actually wrestling with big problems and powerful conflicts of interest. As bureaucrats are in key positions to oversee these processes, their solutions unsurprisingly advance the interests of their particular organizations. Every solution also seems to add bureaucracy.

We all know how it is easier to buy new things than get rid of the mountains of old things accumulating in our attics, garages, and closets. Yet, while getting rid of the detritus is hard work, eliminating bureaucracy is even harder. Sectoral administration has huge resources at its disposal that it deploys whenever it needs to defend a particular position. Moreover, public administration typically lacks the mechanisms found in the private sector that are used to deal with over-staffed or incompetent departments.

At the core of the environmental administration dynamic are the EU Commission's environmental administration in Brussels and the Ministry of the Environment in Helsinki. While both organizations embrace the sustainable development ideology, they continue to treat sustainable development as little more than ecological correctness. There is also a weird territoriality that emerges from the sectoral approach that ignores the inter-relatedness of issues. Many Finns hold the odd view that the environmental administration deals with environmental problems, the economic administration with economic problems, and the labor administration with employment issues – and that somehow all these issues exist in isolation.

Practical environmental issues and the everyday problems of average people are quite foreign to senior officials working in Helsinki and Brussels. Of course, if strong central administration based on ideology was truly an answer to people's problems, the Soviet Union would still be a superpower.

Bureaucracy supports its legitimacy with its own sectoral scientific institutes. These give administrative actors credibility and increase their range of influence. There is also the organizational theme that matters are undergoing thorough study, so people need to relax and leave matters to be handled by the experts.

Finnish trust in the credibility of **scientific institutions** has its origins in our school system. The mention that a matter is under investigation or scientifically established is usually sufficient to quiet any public discussion. The self-evident superior knowledge of scientific institutes is so crushing that an average person rarely risks the ridicule for showing ignorance in the public eye – even on the simple questions that define almost any environmental issue.

Of course, the notion of the purity and objectivity of science is also over-sold. Blind faith in institutional experts has led Finland into costly miscalculations. At best we are dealing with specialist operating in a narrow field. However, we often find lack of common sense and elitism in the ivory towers of public expert institutes.

Consider the case of an EU working group on setting guideline and limit values for radioactivity levels in construction materials determined that the guideline value for a building user exposed to radiation from building materials should be 0.3 mSv/year and that the limit should be 1.0 mSv/year /39/.

They neglected to note, however, that in Fennoscandinavian bedrock area people receive already 2–10 mSv/year as background radiation without serious consequences. So how does this risk compare to more conventional health hazards like eating hamburgers and fries? What do we gain for controlling this risk with heavy handed bureaucracy and what is the cost? What about fine particulates from combustion processes that represent a far more serious health hazard? Should we evacuate the European Commission from Brussels to a healthier environment of say Shetland Island? Why does the EU use our money to procure recommendation from “experts” who don’t answer these fundamental questions?

The director of the Finnish Environment Institute has stated that her organization houses the best environmental expertise in the nation. Admittedly, the Finnish Environment Institute’s organization includes a number of fine researchers, who, for example, have succeeded in putting the nutrient sources contributing to eutrophication of the Baltic Sea into some semblance of order. They measure environmental indicators, make statistics, participate in working groups on environmental policy and do research work.

Nevertheless, the institute staff often lacks a grasp of practical matters or an understanding of economic principles. They are by and large specialists and strong believers in an ecoideology with little familiarity in providing comprehensive solutions or proportioned responses.

The institute’s funding is entirely at the mercy of the Ministry of the Environment. Can the Finnish Environment Institute be taken seriously as an expert organization or should it rather be taken as an ideologically oriented official environmental policy marketing organization hiding behind a scientific front?

Trust in the law and justice system has a strong historical background in Finland. At the end of Russian rule at the turn of the 20th century, Finns used the law to preserve their autonomy within the Russian empire. Edvard Isto's painting, *the Finnish Maiden*, shows the national heroine defending the Book of Finnish Law from a two-headed eagle, the symbol of the czar. This image is imprinted indelibly on the Finnish imagination.

Despite this ideal, legislation is actually drafted by sectoral administration bureaucrats and ministers in power at the time of drafting. Thus, when parliament considers a bill, the boundaries for passage are set by the prevailing political realities, leaving little room for structural adjustment. Rounds of hearings can be held while the regulations are being drafted. In the end, laws and standards are children of their time and only as good as the people who wrote them.

As a result of Finland's EU accession, a landslide of new regulation has been superimposed over existing Finnish law. Some of the larger inconsistencies involve contradictory aims of legislation prepared by various administrative sectors. Finnish society now finds itself entangled in a web of regulations, guidelines and interpretations.

Under the prevailing view, multiple valid decisions can coexist for a single legal issue. The question then becomes which decision is best for Finnish society as a whole or offers best balance between the primary tasks of EU. What is a true social value and what is a mere gut reaction? In the environmental sector, these issues are increasingly decided by judges.

Consider leftover stone from quarrying activity, demolished concrete, and slag from steelmaking. These materials can be processed and used, e.g. in earthworks, as aggregate materials and as insulation sand. This would be an example of legitimate byproduct use under EU policies for reuse of waste. The practice saves on the need to quarry natural gravel and sand deposits and has been done in the Nordic countries for decades with outstanding results.

A recent decision from the European court, however, revisited the quarry stone issue. The court found that leftover stone stored for an indefinite time to await possible use must be classified as waste. This means that also demolished concrete and slag from steel making is bureaucratically treated as waste if reuse is not at sight. An environmental permit is needed in every instance of "waste" use. As it typically takes months to get a permit, the advantage of using "waste" is largely lost. When such "waste" cannot be used, jobs are lost, equipment goes idle, and businesses suffer.

The full text of the EU court's ruling is provided in Appendix 5. While the court goes to great lengths to justify its thinking, it is hard to imagine the larger purpose of such convoluted acrobatics of legal reasoning.

We could ask whether the court decision is in agreement with the primary tasks of EU as stated in the second article of the treaty of Rome, whether the decision was the initial intent of the law maker or whether the high judges of justice are competent in dealing with this kinds of issues at all.

However, the policy outcome goes very strongly against common sense. Thus we should ask whether we are looking at evidence of a fundamental fault in the EU system of governance.

Belief in national superiority is common to many societies. Some societies have even been willing to impose their own take on the world on others as missionaries, colonialists, or military conquerors. History is rich with examples of the formation of such beliefs, their exploitation and how such beliefs have led to entire nations down a path to destruction. Bad policy based on such beliefs may reflect the personal psychological distress of a troubled politician /7/.

The Soviet Union developed within the umbra of socialist ideology. Belief in the administrative machinery, scientific institutes, and the inherent fairness of the socialist system was the result of massive, full-bore manipulation. Revolution became an export product. Just before the collapse of the Soviet Union, however, foreign minister Edward Shevardnadze confessed that the entire system was rotten to the core. But then the Roman Empire eventually collapsed, although not as prematurely as the projected thousand-year reign of the German Reich. Self-destructive tendencies were underlying the downfall of these societies.

Finns have succeeded in building a nation with a democratic framework that promotes individual freedoms and delivers the benefits of a welfare state. Finland is among the most competitive in the world in many international comparisons and has placed at or near the top in the three PISA studies of OECD countries in recent years. But it is also worth remembering that at the beginning of the 1990's, our country went through a financial crisis worse than most countries experienced in the Great Depression of the 1930's.

While the self-confidence of Finns has recovered since days of Finlandization and self-censorship, many of us continue to swallow the "sustainable development" ideology and "smart" policies derived from it without reflection.

Like other Nordic countries, Finland offer sustainable development as superhuman wisdom and an answer to the world's problems. Finnish environmental officials and politicians push incorporation of this ideology into the goals, principles and statements that form the basis of international agreements and EU environmental legislation. These officials and politicians also strive to make Finland itself a model of sustainable development.

Love of country and nature are admirable traits. While we all carry the responsibility for our children's future and the legacy we leave them, it is dangerous to inject illusions about our own infallibility into our policies.

Moreover, democracy is not a patent solution to social problems. If we wish to get control over the self-destructive tendencies of society, we have to be alert to this challenge. We have to have the courage to ask basic questions and try to see the larger implications of our actions. We need to tackle the most controversial issues without succumbing to our biases, illusions or manipulation. And we need to respect the rights of others including their right to decide on their own business – even when we don't agree with them.

The restoration of Lake Gallträsk – a simple local project devolves into chaos

The dangers of confusing illusion and reality are exemplified in the problems that emerged as the city leaders of Kauniainen, a wealthy enclave in the greater Helsinki region, attempted to arrange the restoration of a local lake. The difficulties encountered in this project are somewhat surprising given that the population in this up-scale area is highly educated and the city enjoys a long-standing aura of effective governance.

Within Kauniainen's 6 km^2 area lies little Lake Gallträsk. The lake has a surface area of just eleven hectares and an average depth of only one meter. The lake bottom is covered by a thick layer of sludge formed from decomposed algae and plant material. In the summer, much of the lake is covered by vegetation, particularly water lilies. The sedimentation rate is about one millimeter a year.

Most residents of Kauniainen see Lake Gallträsk as the jewel of their city. They dislike the idea of living with the stench of rotting sludge and vegetation choking the lake. They also think that with right measures, the lake could be restored to its pre-industrial glory with swimming and boating.

The first of many studies on restoring Lake Gallträsk was performed in 1967. Dredging the lake to make it deeper emerged as the front-runner option.

Three-and-a-half decades later, the Kauniainen community planning board on March 13, 2001 finally moved ahead with a plan to deepen the lake. The goal was to perform the dredging during 2001. The city solicited consulting bids and divided the project into an initial planning phase, a detailed project planning phase, and an implementation phase. The Technical Research Centre of Finland (VTT), a state institute generally held in high repute by the Finnish public, was selected as lead consultant on the project. VTT had Finnish Environment Institute as a sub-consultant. The price of the initial planning phase was set at €40,000 and the work scheduled to take five months. VTT's bid price for consulting on all three project phases was €80,000.

Several months into the project, VTT said further studies would be needed before the project could be realized. The delays and new work increased costs many-fold from the original bid. At the end of 2002, VTT delivered a research report that proposed two options compatible with the principles of sustainable development that involved either pumping the sludge and mixing it with peat, or pumping, possible dewatering of the sludge and dumping it on tilled fields. VTT recommended soliciting bids from contractors that included a statement of the contractor's strategy and price indicators. Essentially, VTT sought to compel contractors to present their own initial plans after they had already been paid to come up with one.

In autumn 2002, concerned Kauniainen residents began asking city officials what was happening with the Lake Gallträsk restoration project. Supported by an expert statement, they requested that the waste of taxpayer money should cease and the project should be put back on track.

In early 2003, they sent a letter to the city council that included a copy of the expert statement and cost estimates for several alternatives. They proposed that before the project moved on to the detailed project planning phase the city should determine how much money it ultimately intended to spend on the project.

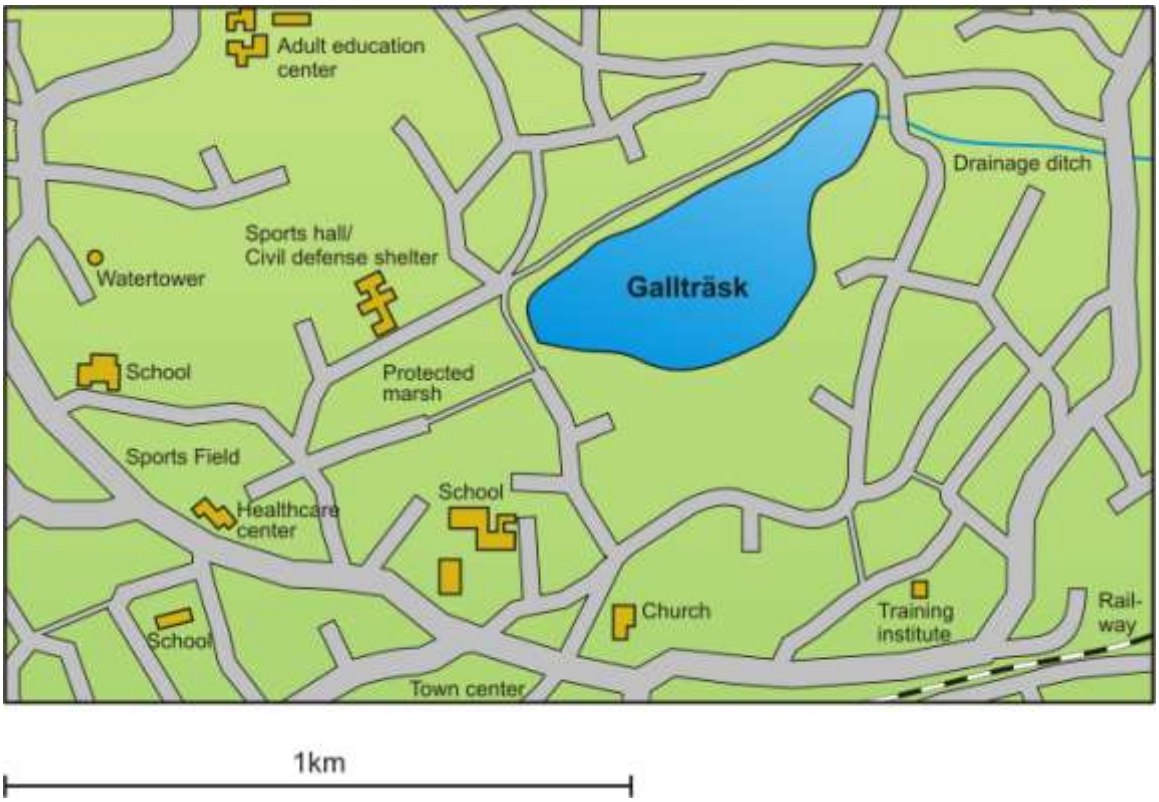
The city government, acting on a suggestion from the mayor, decided to ask for turnkey bids from contractors, an arrangement whereby the contractor would shoulder full responsibility for the project. Another consultant was hired to prepare new invitations to bid.

The bid invitations were never sent out, however, as the financial position of the city had weakened to the extent that a hike in the communal tax rate was being considered to deal with a widening budget shortfall. The project was postponed to save money. Only mild measures were budgeted to deal with the lake's eutrophied condition. The city's auditors then reminded city administrators that €200,000 had already been spent on consulting fees and that no detailed project plan had ever been delivered.

At this point the city of Kauniainen had spent 40 years trying to hammer out a feasible plan for lake restoration. Costs including the value of working hours of city officials and spending on outside consultants could have easily covered one restoration project. What went wrong?

To even a novice project manager, the cause of the failure is obvious. Any experienced private-sector project consultant would have started by assessing the costs of several basic alternatives to the restoration of Lake Gallträsk. The consultant would have identified several analogous projects and assessed their technical requirements and costs with just a few phone calls. Preparation of an elaborated survey of the available project alternatives would have cost the city around €10,000. Suggested potential alternatives are summarized in Figure 3.1.

On the basis of the preliminary estimate, the city officials could have then decided to continue or pull the plug. Moreover, if they had decided to continue, they would have been in a position to set the scope of the project and to move on to a second phase, which involves pinning down the budget and scope of the project as much as possible to give bidding contractors a clear basis for preparing their tender offers and allow for input from contractors. The final investment decision would have not been made until the second phase was complete. The city paid a dear price for failing to keep to a simple format common to investment projects around the world.



1. Dredging (40,000 m^3), mixing sludge with peat and transportation €5,000,000 + VAT

- Mixing dredged wet sludge and peat on the sports field with about 4,000 heavy vehicle trips peat and mix transport.
- If dewatering of the sludge is applied, as much as €2 million could be saved.

2. Dredging (40,000 m^3) with removal of sludge by vehicle to dumping site €2,000,000 + VAT

- Storage and loading of sludge with about 2,000 heavy vehicle trips.
- If the sludge is dewatered in two phases (e.g. chemical dewatering and filter press), the weight of sludge to be handled is reduced with total cost savings on the order of €400,000.

3. Filtration cloth covered by thin gravel layer to consolidate sludge €1,300,000 + VAT

- Risky solution, probably best as partial solution.

4. Piling up sludge (40,000 m^3) on an artificial island €800,000 + VAT

- The sheet-pile contained island would be about 60 m in diameter. Water in sludge is compressed out by overweight.
- Later removal of the island, if desired, would cost about €200,000.

5. Removal of vegetation and trash fish (as earlier) €20,000 – €50,000 each time

- Lake Gallträsk would get a minor makeover at five-year intervals.
- No improvement in recreational value.
-

Figure 3.1. A summary of Lake Gallträsk remediation options by the author.

From a technical and economical standpoint, any project to restore Lake Gallträsk is somewhat novel and demanding. Finding a feasible solution is like breaking a logjam. This does not, however, require pushing a large number of logs, but rather finding the key logs in the jam that will release the flow. The ability to quickly identify such key issues in a project typically comes from expertise and experience.

A central question in the remediation of Lake Gallträsk is sludge water content, which is about 1,500 %. In other words, the water-weight involved is 15 times the weight of the solid matter to be dredged. Placing the sludge in a pile would push out the water much like wringing out a sponge. Chemical dewatering will easily remove about half of the water, reducing the volume of the mass accordingly. After drying, the volume of the mass is reduced by an order of magnitude. These properties can be exploited both in dumping and trucking the dredged mass away from the dredging site. Here, the overall compression properties of the mass should have been determined early on through small-scale routine studies. This important task was never done. The consultants (VTT and Finnish Environment Institute) were not up to the task.

Secondly, there was a strong economic argument for not reinventing the wheel and simply following international practices for dredging of contaminated sediments. Even heavily polluted sediments are dumped and isolated in an area in the vicinity of the dredging area, because transportation of the mass to a distant site is simply too expensive and does not add value. Only the most polluted sediments are sometimes trucked to a special facility to be processed or isolated. The Gallträsk plan called for transport of dredged mass that was largely water.

From society's standpoint the main question is how a simple remediation project turned into a communal nightmare. In the following discussion we shed light on the psychological and political dimensions of how the matter was handled.

Following the community planning board's instructions, Kauniainen's environmental chief studied remediation of Lake Gallträsk and went so far as to engage some young researchers from the University of Helsinki. The researchers went to many different organizations and individuals to collect information needed to decide on an appropriate remediation strategy. Even so, it appears the environmental chief began to create her own solutions for lake remediation based on the use of peat to absorb water in the dredged mass.

At the same time, environmental issues were gaining political importance in Finnish society. Rather inexperienced people felt obliged to contribute to the discussion. Perhaps the Kauniainen community planning board honestly thought that research and development was part of the environmental head's job description and her effort were truly in the interest of the city. Apparently, a number of city leaders were swept up in this spirit of innovation – a textbook example of how political posts confer an illusory aura of expertise.

From the municipality's standpoint, the arrangement had several problems:

- In-house ideas became darlings, which made it easy to reject superior options;
- It is rarely cost-effective to develop a novel method for use on a small scale project;
- Good results are rarely achieved in a project lead by amateurs;
- The city's credibility suffered as they called around to experts for free advice to support in-house project ideas.

When the city finally committed to the project, responsibility moved from the community planning board and the environmental chief to the city council, mayor, and the head of public works (although the environmental chief retained an active role in the project). In connection with this, it was decided to hire a consultant to assist in pushing through the project. The benefit of an invitation to bid was that the consultant was expected to review all options spelled out in the invitation. The down side was that the letter requested a fixed price for oversight of the project from initial planning to completion without any indication of the scope of the project.

Two offers were submitted, but only VTT was willing to give a fixed bid. At least one party solicited to bid never bothered to submit an offer as it had become frustrated with the city's vacillation over what it actually wanted to do.

From the political standpoint, the remediation of Lake Gallträsk has long provided an intersection for the collision of conflicting interests and pressures. Lake Gallträsk's remediation has enjoyed decades of wide support among Kauniainen residents. Many city leaders have profiled themselves as supporters of such a project. For some city leaders the value of family property would be enhanced by cleaning up Lake Gallträsk. There were also a few influential city leaders who wanted Lake Gallträsk to be preserved in its natural state. The city environmental chief sought to patent a method for mixing sludge and peat and apparently one city leader handled her patent application.

It seems that the real power circle in Kauniainen was ready to push through a poorly thought-out plan of undefined scope with force. The few city leaders who expressed skepticism over early cost projections and asked what the project was actually going to cost and what the money would buy were now silenced. Yet even with the opposition quieted, the city administration felt a need to turn to an outside authority. Based on strong public reputations, the selection of VTT as lead consultant and the Finnish Environment Institute as sub-consultant appeared to be excellent sources of such authority.

The selection of such organizations as consultants was fundamentally flawed, because public research institutes are not planning consultants. Indeed, there are fundamental differences between the roles of the consultant and the researcher. A consultant must reach decisions on the basis of available information, and from that information devise a rational path to a final solution. A researcher, in contrast, may well have an excellent theoretical grasp of a single issue, but little or no experience with practical matters such as water-related construction, project planning, and project implementation.

Researchers avoid being conclusory as part of their job to be vigilant for new ideas. When they are put on the spot to provide an answer, the standard reply is "Further study is needed." In the Gallträsk case, researchers tested the use of a vibration method to pack down the loose bottom sediment. When measurements by city officials found no evidence that the novel vibration strategy did anything, the researchers merely moved on to study other approaches.

When the planning project got under way, the researchers began to do research. They continued to find new things to study, but could not shape solutions with cost estimates. The consulting costs quickly got out of hand. The idea of a robust city leadership with VTT and Finnish Environment Institute as knowledge providers began to seem like the blind leading the blind.

In the end, the city found itself considering a solution whereby the sediments were to be absorbed into peat in an experimentally demonstrated ratio of 1 to 4. Thus, heavy vehicles were to bring in 160,000 m^3 of peat to the Kauniainen sports field from a source over 100 kilometers away. At the same time, 40,000 m^3 of bottom sediment from Lake Gallträsk were to be pumped onto the Kauniainen sports field. The peat and the sludge would then be mixed at the sports field in a specially-constructed absorption process. The wet mixture would then be transported elsewhere by heavy vehicles, where it would have supplemented with the other fertilizers and then trucked further on to be spread on fields some 100 kilometers away.

Somehow, VTT concluded that a massive truck transport operation in the remediation of Lake Gallträsk was consistent with the principles of sustainable development. They even held out hopes for getting EU support. Any builder with practical experience could have calculated in a single day the potential costliness of this option, which had been proposed right at the start of the project.

Another problem was the general fixation to the belief that the dredging mass had to be transported elsewhere. This belief seems to have originated with one city leader many years ago. The complicated and costly logistics of dewatering, compression and transport were never considered, yet the belief was never dispelled or elaborated by the researchers.

The regional environmental center issued a statement that dredging of sediment with absorption into peat did not require a water permit as long as the water contained in the sediment was not allowed to flow back into Lake Gallträsk. This, combined with the promise to provide a quick fix, limited the planning options further.

In order to grasp what happened, we need to realize that Kauniainen carefully cultivates its public image. Led by wise city fathers, Kauniainen is widely viewed as one of the most efficiently operated municipal administrations in the country. The tragedy here was the city fathers apparently believed their own press. The image of efficiency comes from the lowest municipal tax rate in the country, but the city also has by far the best tax base in the country and thus a rich budget. There was strong political pressure for implementation of the Lake Gallträsk restoration project. Pushing the ambitious project through to completion after decades of studies would have stood as a monument to the power of several key politicians.

The project started with unrealistic expectations. When it was not completed, the credibility of the city government was shaken to the core. This may be why they grasped at any chance to get results by authorizing spending to yet another study.

When the citizen's committee approached the city with a statement and cost estimates, the situation reached a head. Now a range of options was available. With a little extra effort on interpreting the material, a decision could have been made on the general feasibility of the project and on the possible implementation framework.

The impulse, however, came from the outside. Its approval would have meant that the city's own efforts and the completed consulting work were money down the drain. Moreover, confess to their own mistakes was just too mentally and politically burdensome for the city's leaders. They no longer had the will to make the decisions needed to move the project forward.

Instead, VTT was praised for its valuable research study. The city formally stuck to the plan of utilizing the innovations of contractors, even though the actual conditions for implementing the project (permits, basic geotechnical data, and a general framework for the project's implementation) were never spelled out in the turn-key bid. With a single elegant maneuver, mistakes were swept under the rug.

Toward the end of the process, city officials appeared to totally lose their grip on administering what should have been a straight-forward project. The dispirited organization had become dysfunctional, due, at least in part, to demands to perform absurd tasks, conflicting pressures on officials, and the insinuation of power politics into routine city functions.

The new study of Lake Gallträsk restoration was re-launched after Kaunianen residents protested the shelving of the project. The new study suffered from a fatal planning assumption: that the winter ice on Lake Gallträsk would support the deposition of a half-meter-thick gravel layer that would sink to form a bottom lining when the ice melted and consolidate the sludge. In fact, the ice would have broken while the gravel was being spread. Currently, small-scale suction dredging and filtration of sludge with a geotube is being tested.

The significance of the Lake Gallträsk restoration project is minor to Finnish society as a whole, but it reveals a number of common features to public governance with wider significance:

- The sustainable development ideology acts as a cliché, behind which politicians and theoreticians implement their own goals at a heavy cost to society;
- The prevailing perceptions that common matters are handled efficiently and that public research institutes possess overwhelming competence are illusions;
- Sanctimonious and soaring language is often used to cover up poorly administered and dysfunctional public organization;
- Public administration would rather cover up its mistakes, even at a high cost to taxpayers, than deal with its own problems and thereby improve the public service;
- We are all at fault when we rush to judgment without taking time to consider what we really want and at what price.