

Cost & revenue structure at Landbruks- og matdepartementet's research institutes

Final report - November 3, 2010



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1 Executive summary

Landbruks- og matdepartementet (LMD) has commissioned the Norwegian Research Council to assess five research institutes (primærnæringsinstituttene) in order to strengthen the foundation for an even more robust and internationally competitive institute sector. The assessed institutes are:

- Bioforsk
- Norsk senter for bygdeforskning (Bygdeforskning)
- Norsk institutt for landbruksøkonomisk forskning (NILF)
- Norsk institutt for skog og landskap (Skog og landskap)
- Veterinærinstituttet (VI)

As a part of this assessment, an analysis of the activity, cost, cross subsidizing and revenue structure was done with help of Arthur D. Little, a management consulting firm. This report is a result of that analysis.

The institutes have four main categories of funding:

- *Basis funding (Basisbevilgning)*
Composed of two components, the basic funding (grunnbevilgning) and strategic initiative funding (strategiske instituttprogrammer, SIP). Funds are received from the Research Council and are utilized for research related activities.
- *Competition exposed research funding*
Funds utilized for research activities, granted in competition with others. Main financiers are the Research Council, EU and private financiers.
- *Funding for public administration support in accordance with assignment letter*
Funds assigned to the institutes for support to the public sector. The assignments and funded amounts are stipulated by the assignment letters (tildelingsbrev) from LMD and other relevant ministries.
- *Other funding for public administration support*
Funds generally granted in competition with others for assignments for the public sector not stipulated in the assignment letter.

In this report, private funding is defined as direct funding by private companies for research activities. This narrow definition excludes items such as, e.g., NFR fondsmidler and NFR jordbruksavtalemidler from the private funding category, this explains a lower share in this report than for example in the annual reports for the institutes. With this definition of direct private funding, Bioforsk, the institute with the largest share of private funding, has 13%, while the other institutes have around 2-3% of funding. These numbers are lower than those reported by for example NIFU-STEP. For example, in the case of Bioforsk, the annual reports state 19%, for VI 16% and the other three institutes 2-8% funding by industry (næringsliv) which includes for example funding through the NFR-administered Næringsfond, ref Figure 5, Private Funding 2009.

The here included private funding is funding that the institutes invoice to private companies. This is funding that the private companies are able to link to activities. Arthur D. Little proposes

to track this sort of direct private funding in addition to the other indirect private funding which is more difficult for the companies to follow up. The direct private funding which is possible for private companies to link to activities is a relevant indicator of customer involvement, which is a key success factor for value creation as explained in the report on that, also written by Arthur D. Little.

In general, all activities at the institutes (research and public administration support) are performed as projects for which costs are accounted. Each project is debited the man hours performed on the project as well as direct project costs, e.g. traveling, laboratory costs, etc. A proportional share of the indirect costs is also included as overhead. This added cost is indirectly debited the project as an overhead expense by the hourly rates.

The institutes all use the same basic principles for calculating their hourly rates. The income from the billable man hours is supposed to generate enough revenue to cover all indirect costs. Billable hours are those hours spent on activities that are in line with the institutes' research or public administration support (forvaltningsstøtte) assignments. This pricing principle is good and should be maintained. Including the overhead costs in the hourly rates resembles the way competitors need to do. Most competitors do not have fixed public funding and therefore it is good that the institutes practice similar pricing principles as their competitors need to do.

Fundraising is a common non-billable activity. The share of overhead varies between the institutes mostly as a result of the share of non-billable hours. The institutes use different methods to calculate billable hours in their price list calculations. Some institutes set individual billability targets per employee while others use the institute's outcome from previous year.

The institutes have a dual assignment which includes research and public administration support. As the cost structure is connected to performed activities and its financier, the institutes' revenues reflect the activities quite well.

Public administration support is a larger share of activities than research at all institutes except Bygdeforskning. The distribution of activities has been rather constant over the last years.

- Cross subsidizing is the practice of charging higher prices or charge more hours than performed to one group of beneficiaries and / or category of activities in order to subsidize another such group. The current accounting principles and the use of activity based costing limits the possibility for the institutes to actively practice cross subsidizing. Hourly time recording at most of the institutes also helps avoid this. Arthur D. Little agrees with Riksrevisjonen that cross subsidizing is not a big issue in any of the five institutes.

To increase the competitive robustness of the institutes, Arthur D. Little proposes the following:

- Develop incentives that stimulate costing and pricing that are as transparent as possible. The institutes need to increase the granularity in the accounting for public administration support, i.e., accounting should be more detailed and specific as for what the overhead component actually consists of
- The institutes should try to develop their culture to foster not only academic merits, but also increased orientation towards communicating the value creation of all activities more than before. Communicating value creation is about communicating output. Along with this, focus

on business control or, in other words, measure-analyze-act on more and more sophisticated accounting of time spend in research projects and overhead activities. This sort of cost and activity accounting is primarily input oriented. Arthur D. Little recommends that the output oriented value creation analysis grows in importance to balance the input focus that is already there. Currently the institutes have a typical academic culture where academic achievements are paramount. This is good and should remain a part of the “DNA” of research institutes

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2 Background

The Research Council of Norway (Norges Forskningsråd) is responsible for increasing the knowledge base and promoting basic and applied research as well as innovation. The Research Council has the mandate to give the government advice related to research, distribute research grants (some 6.2 billion NOK in total) and create arenas for meetings and network building.

Not only shall the Research Council identify research needs, set priorities and administer the financing, it is also responsible for following-up and evaluating both input (resources and costs) and output (value of produced research).

Landbruks- og matdepartementet (LMD), one of the financing government bodies, has asked the Research Council to undertake an extensive assessment of five research institutes (primærnæringsinstituttene) for which LMD is responsible. The assessed institutes are:

- Bioforsk
- Norsk senter for bygdeforskning (Bygdeforskning)
- Norsk institutt for landbruksøkonomisk forskning (NILF)
- Norsk institutt for skog og landskap (Skog og landskap)
- Veterinærinstituttet (VI)

The main objective of the assessment is to create a foundation for a more robust institute sector by identifying means to:

- Develop an effective institute sector with high quality, good judgment, and high international competitiveness
- Improve the processes and the division of work between the institutes and their public stakeholders in terms of the support activities the institutes conduct for the public sector

As a part of this overall assessment, an analysis of the cost and revenue structures of the above research institutes was undertaken. This assignment was performed by Arthur D. Little with important involvement from the Research Council and the institutes.

2.1 Objectives & Scope

The objective of this report is to enable the Research Council to better understand the revenue and cost structures of the above mentioned institutes.

This report is a result of the following activities driven by Arthur D. Little together with the institutes and their stakeholders:

- Establish an overview of the revenue structures, including revenues from private sector and international funding for the last 5 years
- Establish an overview of activities performed by each institute and connect these to their cost structures for the last 5 years
- Establish an overview of potential cross-subsidizing of activities within the institutes as well as financing of self-initiated activities
- Propose solutions to minimize potential cross subsidizing

- Propose pricing principles for assignments for private as well as public clients

2.2 Methodology

This assessment is based primarily on institutes' financial accounting, documentation studies including NIFU-STEP reporting, interviews and one workshop. A total of 31 interviews have been conducted with project managers and institute management, complemented with a workshop with 15 participants from the institutes. In addition, six external stakeholders ("customers") have been interviewed so far. For a detailed list of interviewees and workshop participants, see appendix.

Some of the questions in the assignment behind this report look for some sort of deviations from management or stakeholders directives, i.e., if reality is different from the official accounted for common view, not shown in the accountings. This means that it is obviously difficult to support some of the findings with data, hence interviews become an important input to the analysis. I.e., the assignment is partly about looking for real life practices that are not evident in documented accounting. In search of this sort of findings, Arthur D. Little has used interviews. In order not to stigmatize interviewees, Arthur D. Little does not reveal who said what.

3 Overview of revenue structure

The institutes have four main categories of funding, illustrated in figure 1.

- **Basis funding (Basisbevilgning)**

Composed of two components, the basic funding (grunnbevilgning) and strategic initiative funding (strategiske instituttprogrammer, SIP). Funds are received from the Research Council and are utilized for research related activities.

- **Competition exposed research funding**

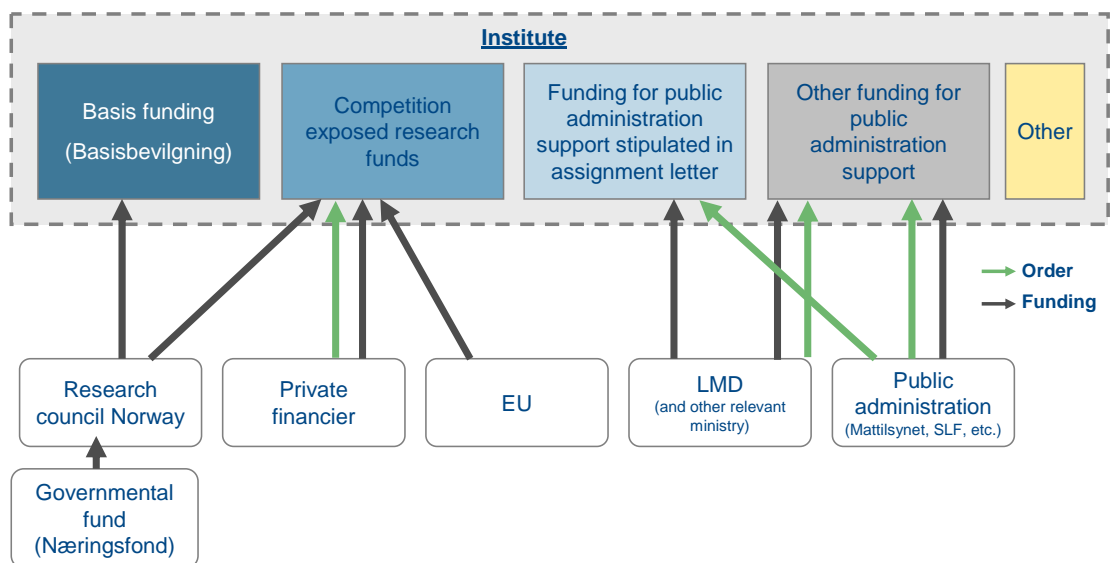
Funds utilized for research activities, granted in competition with others. Main financiers are the Research Council, EU and private financiers.

- **Funding for public administration support stipulated in assignment letter**

Funds assigned to the institutes for support to the public sector. The assignments and funded amounts are stipulated by the assignment letters (tildelingsbrev) from LMD and other relevant ministries.

- **Other funding for public administration support**

Funds commonly granted in competition with others for assignments for the public sector not stipulated in the assignment letter.

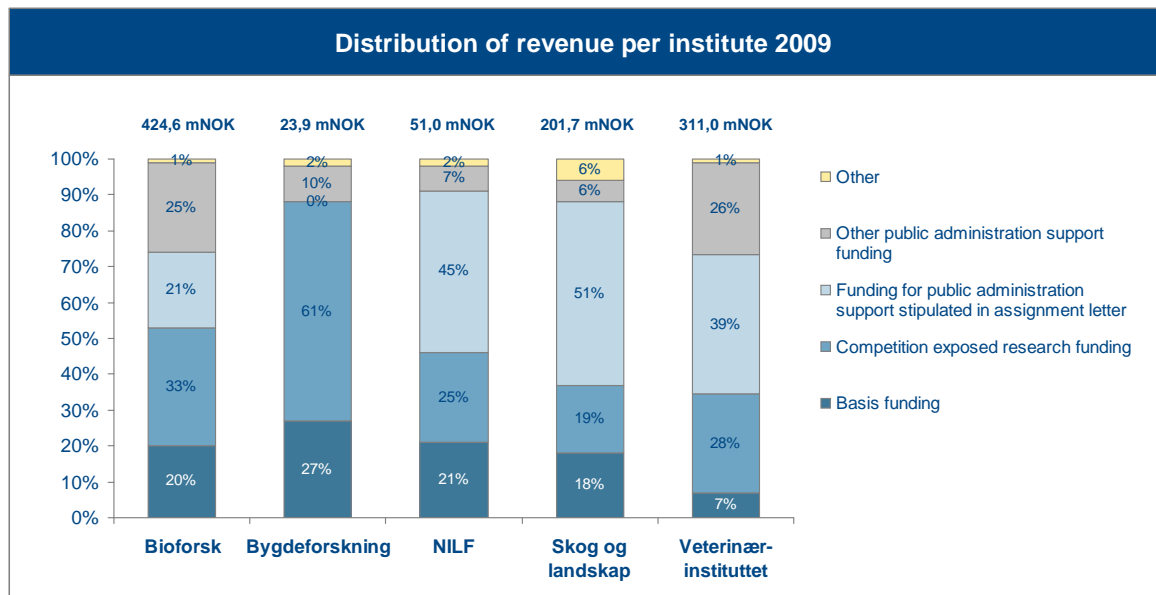


Source: Interviews, Arthur D. Little analysis

Figure 1: Overview of revenue structure for the institutes

In addition to the mentioned four categories, the institutes have other minor sources of income including for example minor profits and/or financial income.

The amounts and proportions of the four categories differ between the institutes. For example, Bydgeforskning does not have any public administration support funding stipulated by an assignment letter as the institute is an independent foundation. Figure 2 illustrates the distribution of the funding in the four main categories for the institutes.



Source: NIFU-STEP, Arthur D. Little analysis

Figure 2: Distribution of revenue categories per institute

3.1 Basis funding

In 2009, new guidelines for national funding of research institutes were introduced. The new guidelines are designed to facilitate the institutes to better deliver knowledge relevant to the public administration, to industry and to society at large, as well as contribute to increased internationalization of the institutes. The guidelines also give the Research Council a clearer mandate in facilitating the strategic planning for the institutes. This report emphasizes the importance of the Research Council fulfilling this mandate even more actively.

The funding in the new system for basis funds is partly performance based and is distributed based on a set of key performance indicators. However, the current share of the funding which is performance based is very limited, only 2.5%. This, very limited share, is based on:

- Scientific publications (30%)
- Collaboration with universities and colleges (10%)
- International revenues (15%)
- Revenues from the Research Council (10%)
- Revenues from national assignments (35%)

Figure 3 illustrates the development of basis funding from 2007 for the institutes.

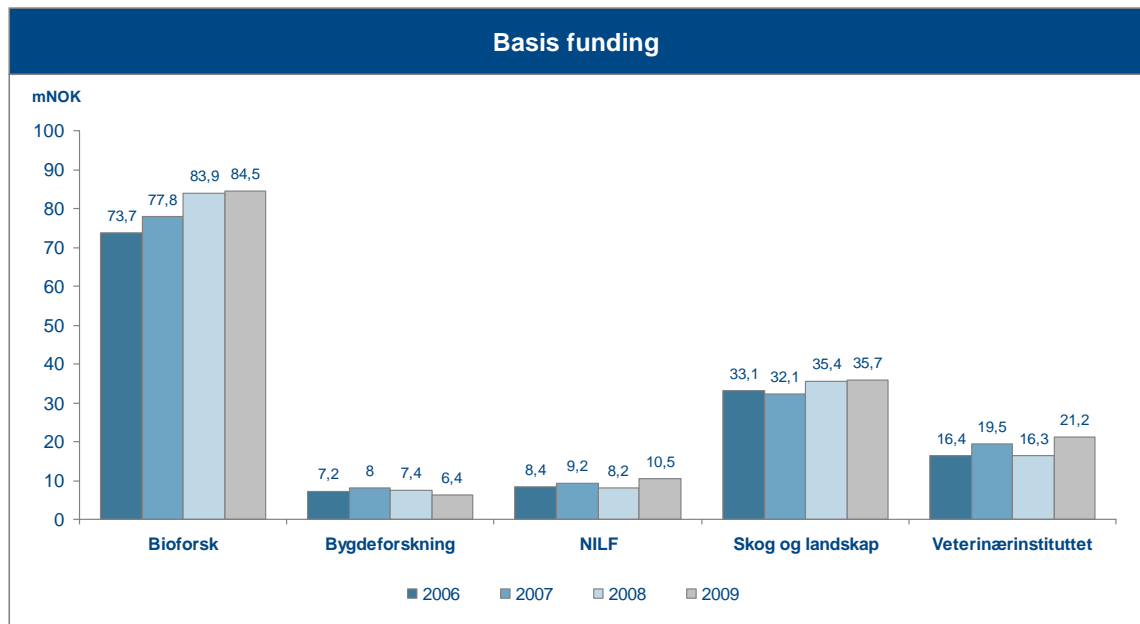
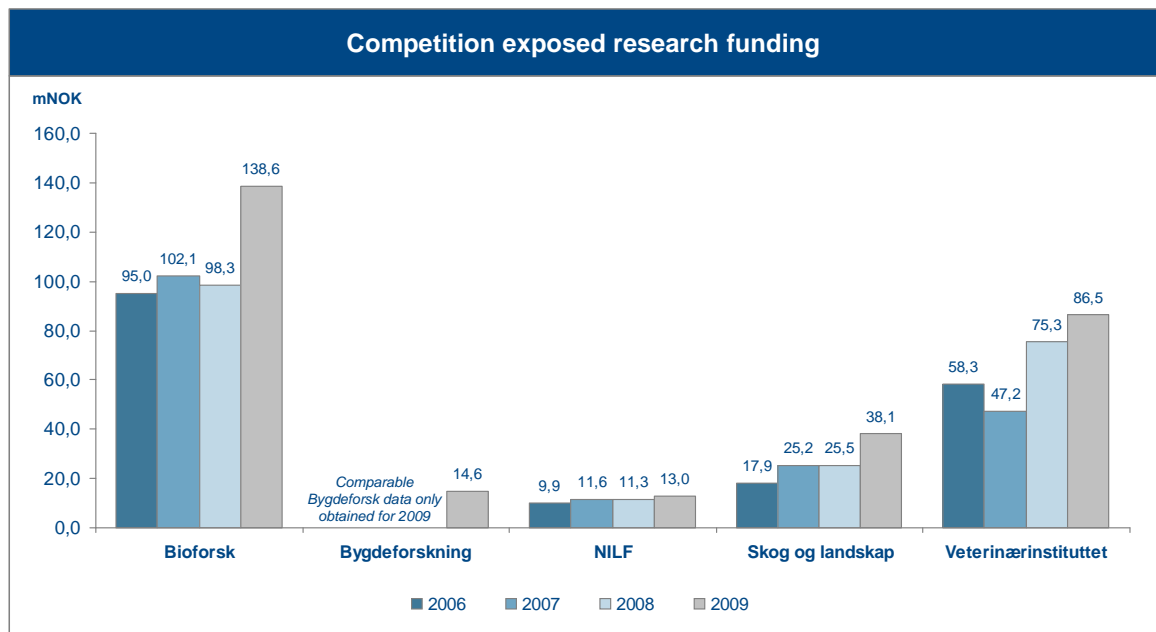


Figure 3: Basis funding 2007-2009

The basis funding is one of few sources of income that the institutes can control more independently. These funds are available to execute and stay in line with the defined strategy. However, an institute is much dependent on other sources of income, sometimes making it difficult for the institute to stay in line with the defined strategy. Institutes need to seek funding opportunities in adjacent research areas if nothing else is available. This demonstrates how crucial it is to do a thorough strategic planning which also takes into account the importance of a research area and the availability of funding. If nobody is willing to pay for the research, then the institutes need to think twice before investing time and resources into a certain knowledge area.

3.2 Competition exposed research funding

In addition to basis funding, the institutes compete, with other institutes for research funding. Figure 4 illustrates the development of competition exposed research funding 2006-2009.



Source: NIFU-STEP, Interviews, Arthur D. Little

Note: Competition exposed research funding contains international funding (e.g., EU), private funding and other assignment funding excluding ordered assignments for public administration support. It also includes funding from the Research Council other than the basis funding

Figure 4: Competition exposed research funding 2006-2009

This category of funding contains not only funding from the Research Council (outside the basis funding), but also private companies, EU and other national and international organizations.

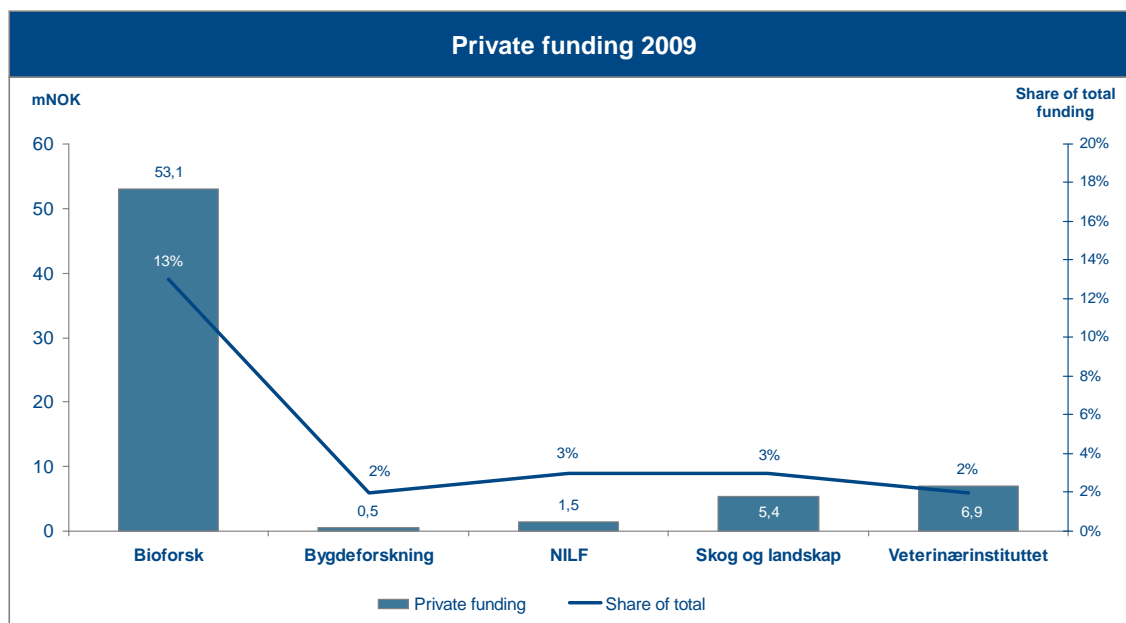
3.2.1 Private funding

The financier of competition exposed research funds is most often the Research Council which sometimes partly funds in combination with commercially oriented, largely private financiers. Figure 5 illustrates the private funding the institutes received in 2009. Private funds are defined as money paid to the institutes by private companies (which theoretically could have some public involvement or ownership but that is not the point) for research activities.

NIFU-STEP as well as the annual report related to the primærnæringsinstituttene do also report commercial funding (funding with commercial objectives), however, the institutes themselves report and advocate a more narrow definition of private funding. Arthur D. Little agrees with this and has defined private funding more narrowly than NIFU-STEP, excluding items such as, e.g., NFR fondsmidler and NFR jordbruksavtalemidler which are very indirect private fundings. This explains a lower share in this report than for example in the annual reports for the institutes.

With Arthur D. Little's definition, the here included private funding is funding that the institutes invoice to private companies. It is funding that the private companies are able to link to

activities. Arthur D. Little proposes to track that sort of direct private funding rather than other indirect private funding which would be difficult for the companies to follow up. The direct private funding which is possible for private companies to link to activities is a relevant indicator of customer involvement, which is a key success factor for value creation as explained in the report on that, also written by Arthur D. Little.



Source: Institute accounting, Interviews, Arthur D. Little analysis

Note: Private funding is defined as funds paid to the institute by private companies for research purposes

Figure 5: Private funding 2009

Three common types of projects with private involvement exist.

- **Contract research**

The financier pays the institute to perform research connected to a specific project.

- **Knowledge-building Projects with User Involvement (KMB)**

Projects with the purpose of developing skills and expertise in an area that has high relevance and major growth potential in relation to future industrial development and value creation. A minimum of 20 percent of the project costs must be funded by monetary contributions from industry or other users.

- **User-driven Innovation Projects (BIP)**

Projects executed jointly with the user. Funding for BIP projects are granted for up to 50 percent of approved project costs (cost generated both at the institute and at the user) by the Research Council. This funding is supposed to cover the institute's cost, while the user funds its own costs.

In the report, *Pricing and value creation by Landbruks- og matdepartementet's research institutes*, also written by Arthur D. Little, a comparison is made looking at the amount of private funding compared to the perceived commercial and business related value creation. That analysis illustrates that Bioforsk, which has a high share of private funding, also delivers high commercial and business value. Interviews with stakeholders such as private companies and

industry organizations that have been involved in for example Bioforsk's or VI's projects clearly confirm this value creation.

3.2.2 International funding

The institutes receive some of their funds from international organizations. Bioforsk and Skog og landskap are the two institutes with the largest portions of international funding. The development of this type of funding is illustrated in figure 6.

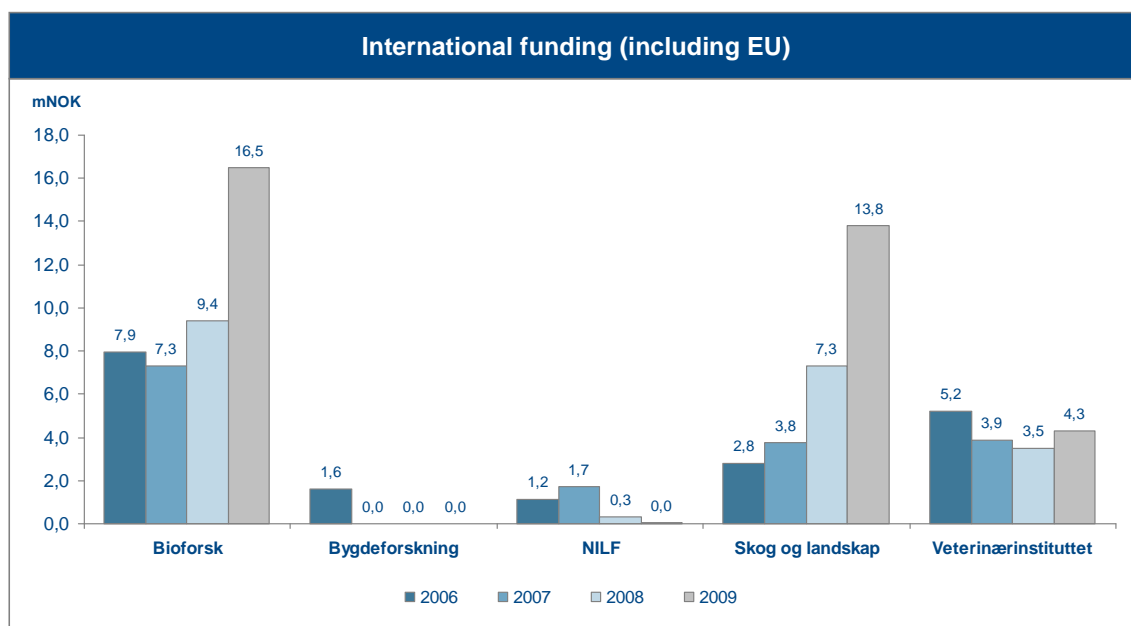


Figure 6: International funding 2006-2009

EU grants are one important source for international funding together with funding from Nordic organizations. Only Bioforsk received private international funding during 2009. (Company name to be verified by Bioforsk).

3.3 Funding for public administration support stipulated in assignment letter

All institutes, except Bygdeforskning, receive funds from LMD for public administration support assignments. The assignment letter stipulates the activities that the institutes are expected to perform for this funding. Skog og landskap is not only giving support to public administration, but also performs some of its administrative services, for example the geodata analysis which the former Norsk institutt for jord og skogkartlegging (NIJOS) performed before the merger into Skog og landskap.

Throughout the years, various terminology has been used to define the public administration support activities. The current terms are:

- Development of knowledge, knowledge transfer and emergency planning – "Kunnskapsutvikling, kunnskapsformidling og beredskap" (Bioforsk and VI)

- Economical documentation and analysis – “Næringsøkonomisk dokumentasjon og analyse” (NILF)
- Development of knowledge and knowledge transfer in the area of land resources, forest and landscape – “Kunnskapsutvikling og kunnskapsformidling om arealressurser, skog og landskap” (Skog og landskap)

Development of knowledge (“kunnskapsutvikling”), which is part of the public administration support assignment, is closely related to research, creating a grey zone between the two assignments. This grey zone is probably the most important synergy between the two assignments. The grey zone enables the public administration competent scientists while it gives researchers important lead user/client involvement.

Figure 7 summarizes the development of public administration support funding stipulated in assignment letters from LMD and other ministries.

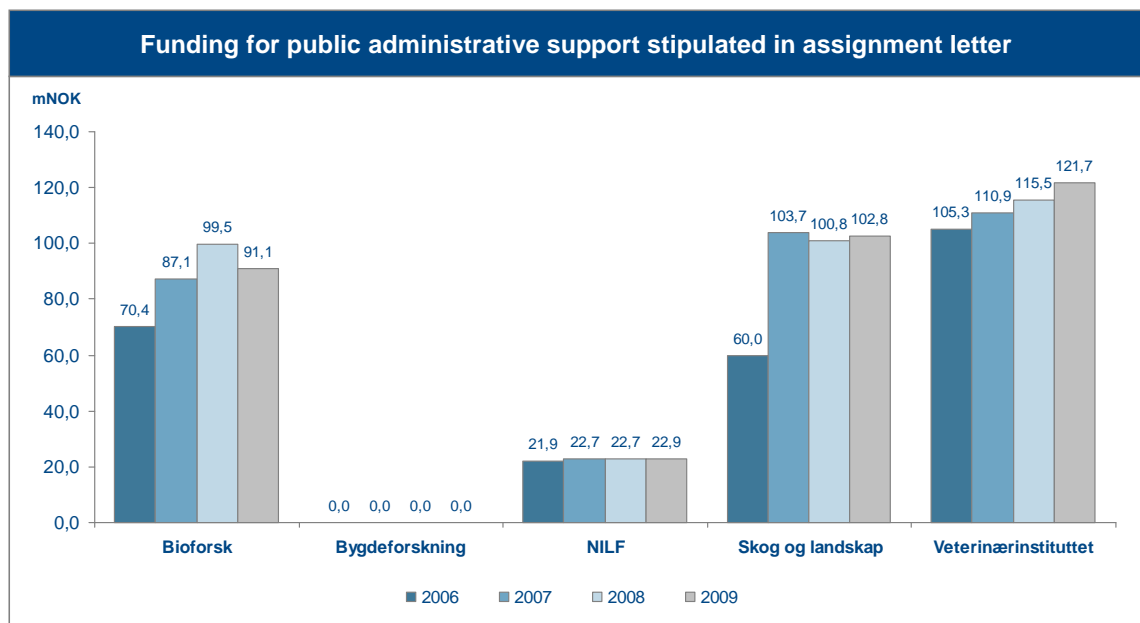


Figure 7: Funding for public administration support 2006-2009

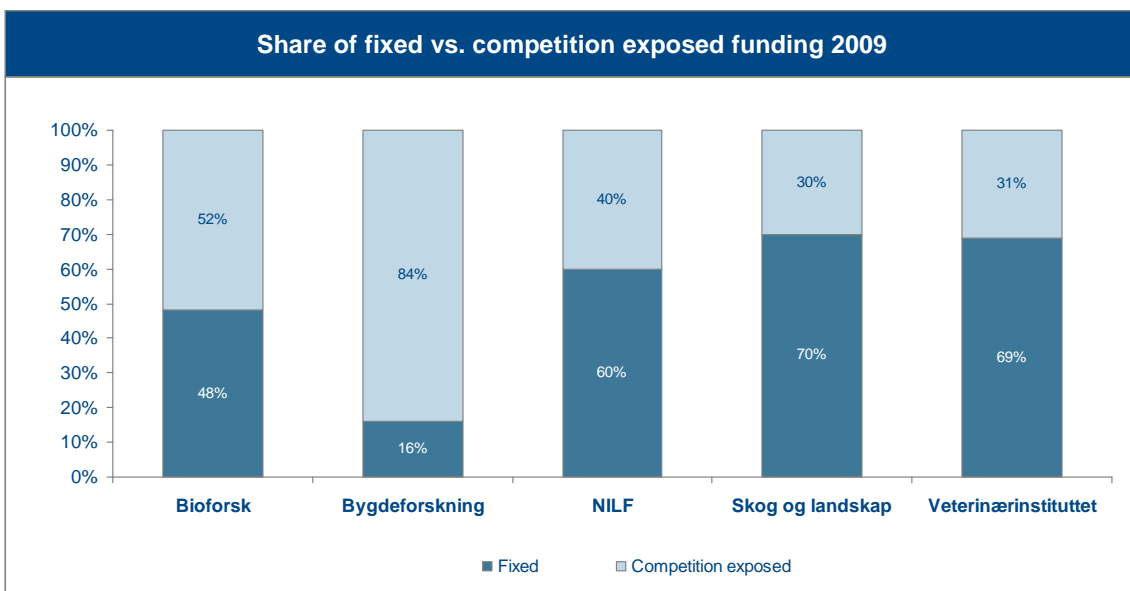
3.4 Other funding for public administration support

In addition to public administration support stipulated in assignment letters, the institutes can also receive funding for other assignments for the public administration. Typical assignments include evaluations and assessments for ministries or local/regional public bodies (e.g. kommune, fylkesmannen, etc.).

Some of the funding in this category is competition exposed, other is not. An example of non-competition exposed funding is VI’s funding from Mattilsynet and Direktoratet for naturforvaltning of 79,8 mNOK.

3.5 Aggregation of fixed vs. competition exposed funding across funding categories

As explained in the chapters above, the institutes' funding is partly fixed and to partly granted in competition with others. Figure 8 shows the total share of competition exposed funding per institute.



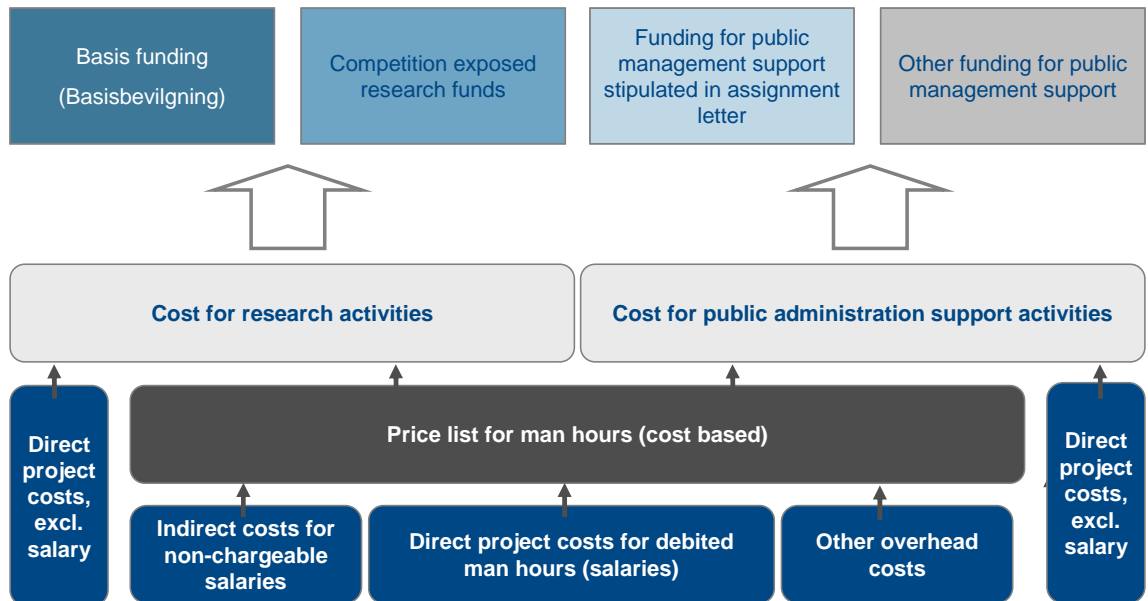
Source: NIFU-STEP, Interviews, Arthur D. Little analysis
Note: Fixed funding consists of basic funding, funds stipulated in assignment letter and other fixed funding for public administrative support assignment
Competition exposed funding consists of SIP grants, competition exposed research grants (incl. private and international funding) and competition exposed funding for public administrative support activities

Figure 8: Share of fixed vs. competition exposed funding

The competition exposed funds can either be for research projects or public administration support assignments not stipulated in the assignment letter. Bygdeforskning and Bioforsk are the institutes that have the largest shares of these funding categories.

4 Overview of cost and activity structure

In general, all activities at the institutes (research and public administration support) are performed as projects for which costs are registered. Each project is debited the man hours performed on the project as well as direct project costs, e.g. traveling, laboratory costs, etc. A proportional share of the indirect costs is also included as overhead. This added cost is indirectly debit on the project as an overhead expense in the hourly rates. (Illustrated in figure 9)



Source: Interviews, Arthur D. Little analysis

Figure 9: Simplified overview of cost components

4.1 Calculations of hourly rates

The institutes use the same basic principles for calculating their hourly rates. The income from the billable man hours is supposed to generate enough revenue to cover all indirect costs. Billable hours are those hours spent on activities that are in line with the institutes' research or public administration support assignments. Figure 10 shows the most commonly performed non-billable activities for VI during 2009, where administrative related activities represent the majority of the institute's non-billable hours. VI was selected as an example here because they were able to provide the most transparent accounting of this.

Veterinærinstituttet

Non-billable activities	Number of hours	Non-billable activities	Number of hours
Administrasjon/ledelse	85258	Personalarbeid	620
Regnskap	4534	Personalarbeid	620
Kommunikasjon/Web info	4445	Kommersialisering	463
Veterinærinstituttet 2018	4059	Kompetanseutvikling, ikke faglig	440
Glassforsyning	3010	Driftteknisk service	401
Drift IKT	2721	Sentralbord/resepsjon	247
Kvalitetsarbeid	2556	Kantine	237
Fagforeningsarbeid	2546	Ombygging Bergen 09	215
Interne møter	2421	VI Bedriftshytte	175
Innkjøp	1700	Julebord	116
Utvikling IKT	1424	AquaNor Messe	110
Budsjettarbeid	1293	Ombygging MBE 09	41
Arbeidsmiljø/sosiale aktiviteter	793	Lønnsarbeid	22
Medarbeiderseminar	643	Grand Total	120488

Source: VI accounting

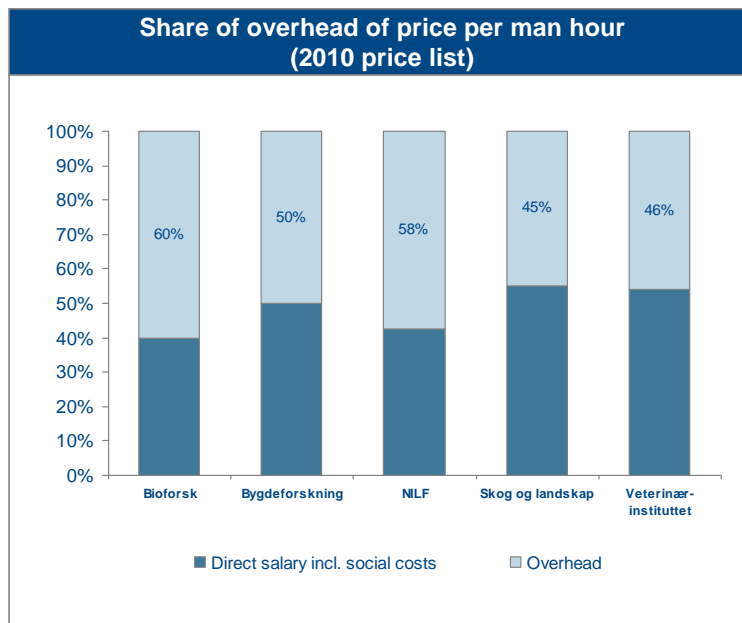
Figure 10: Table of non-billable man hours at VI during 2009

Another common non-billable activity for the other institutes is fundraising. VI has not classified fundraising activities as non-billable time, but instead uses its basic funding to pay for these activities. Again, VI is selected as an example not because it is better or worse than anyone else in terms of its non-billable share of activities, but because of this accounting being most available and transparent at VI. In that sense VI is a good practice example.

The institutes are similar in their practice of bundling large amounts of overhead activities into one or few accounting items. The VI-example above is an illustration of this and similar examples could be described for other institutes: Skog og landskap's Avdeling 10 for example accounts for half of its administrative costs as "Felles" which corresponds to some 81 man weeks for 2009.

The share of overhead varies between the institutes mostly as a result of the share of non-billable hours. The institutes use different methods to calculate billable hours in their price list calculations. Some institutes set individual billability targets per employee while others use the institute's outcome from previous year. Figure 11 summarizes the split of direct salary and the added overhead for the institutes. Arthur D. Little has used the same calculation method and definition of overhead on all institutes to make the numbers comparable.

Arthur D. Little has no reason to conclude that the current overhead cost levels are inadequately high. Instead, the main issue is that current accounting makes it difficult to identify what sort of opportunities for productivity improvements there are. This is why Arthur D. Little recommends overhead accounting to be more broken down to smaller pieces so that the institutes can measure-analyze-act on productivity improvement opportunities.

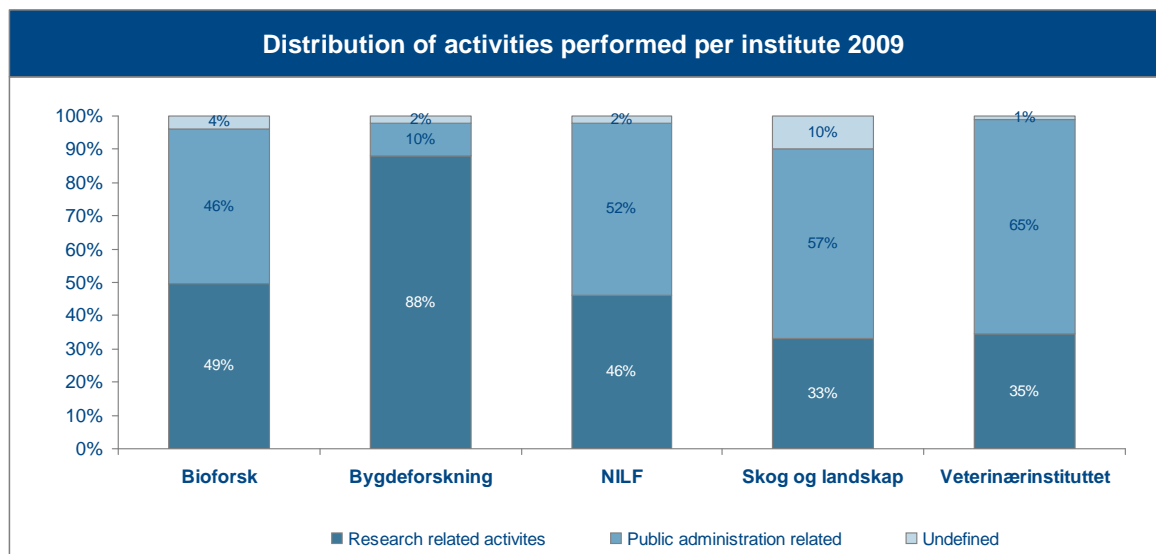


Source: Institute price list calculations, Institute budgets, Arthur D. Little analysis
 Note: Overhead is defined as all costs not directly allocated to a billable project (e.g. administration and management of staff, facility costs, depreciation, non-billable time)

Figure 11: List price split between direct salary costs and overhead

4.2 Activities performed at the institutes

The institutes have a dual assignment which includes research and support to the public sector. As the cost structure is connected to performed activities and the respective financiers and there is limited cross subsidizing (to be explained in chapter 5), the institutes' revenues reflect well the activities they perform.



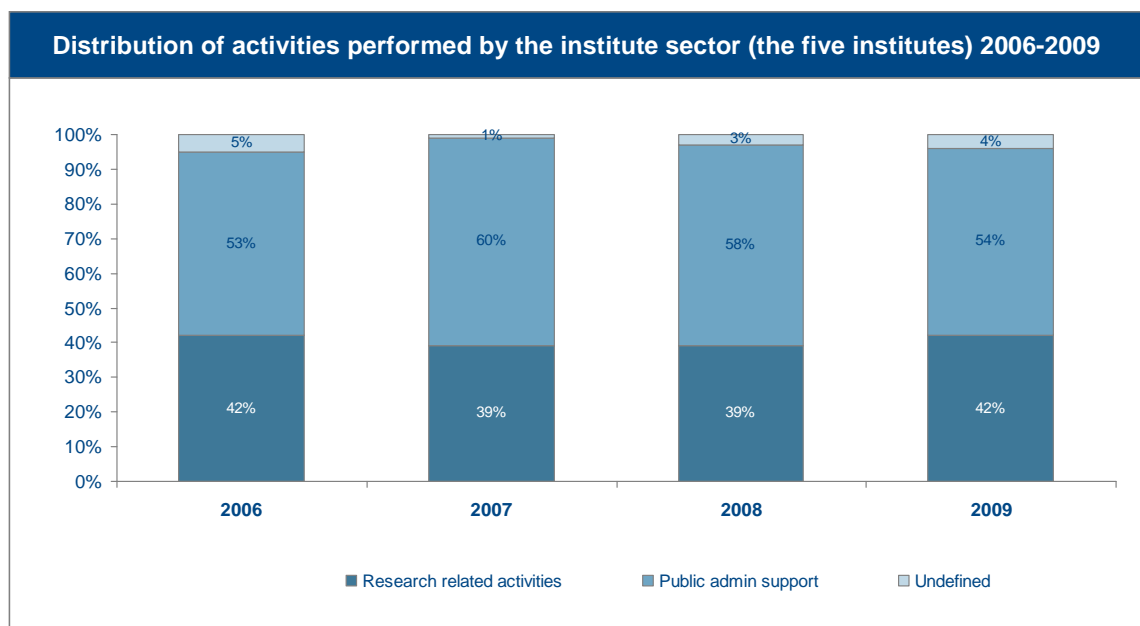
Source: NIFU-STEP, Institute accounting, Arthur D. Little analysis
 Note: Undefined means activities funded by financial incomes and profits

Figure 12: Distribution of activities per institute 2009

Figure 12 illustrates an estimate of the distribution of activities performed at the different institutes. Undefined activities are those financed by financial revenues and profits.

Administrative support is a larger share of activities than research at all institutes except Bygdeforskning. It is not within Arthur D. Little's mandate to remark on this distribution. However, it is important to state that the above distribution should continuously be reviewed with respect to the institutes' missions and strategic priorities. This is analyzed more in the value creation assessment in the report *"Pricing and value creation by Landbruks- og matdepartementet's research institutes"*, written by Arthur D. Little.

The distribution of activities has been rather constant over the last years. Figure 13 illustrates the consolidated activities for the institute sector (the five assessed institutes) 2006-2009.



Source: NIFU-STEP, Institute accounting, Arthur D. Little analysis
 Note: Undefined means activities funded by financial incomes and profits

Figure 13: Distribution of activities 2006-2009 for the institute sector

4.3 Administrative support activities

Figure 14 illustrates an example of cost associated with performed public administration support activities by VI financed by LMD. The largest share is however spent on unspecified support activities followed by diagnostics.

Veterinærinstituttet

Activity	Amount	Share of total LMD funding
Forvaltningsstøtte LMD	52 180 931	55%
Diagnostikk LMD	8 184 824	9%
Komp.utv. og formidling LMD	7 119 429	7%
Beredskap/overvåking (ikke aktiv NOK) LMD	5 779 763	6%
Nasjonale referansefunksjoner LMD	5 536 774	6%
Blåtunge	6 096 606	6%
Svineinfluensa 09	2 147 382	2%
Norecopa	1 152 763	1%
Rådet for dyreetikk	794 729	1%
HACCP/Desinfeksjon	573 896	1%
Dyrevelferd LMD	500 032	1%

Source: VI accounting

Figure 14: Activities performed by VI using LMD funding

5 Overview of potential cross subsidizing at the institutes

Cross subsidizing is the practice of charging higher prices or charging more hours than performed to one group of beneficiaries and/or category of activities in order to subsidize another such group.

The current accounting principles and the use of activity based costing limits the possibility for the institutes to actively practice cross subsidizing. Hourly time recording at the institutes also hinders this. The Office of the Auditor General of Norway (Riksrevisjonen) analyzed this recently and concluded that this is not much of an issue. Arthur D. Little agrees with this conclusion.

In its interviews with institute management and project leaders, Arthur D. Little has learnt that cross subsidizing sometimes does occur at the institutes, to very limited extent, sometimes favoring research but also vice versa.

Reasons for cross subsidizing mentioned in interviews:

- *An intrinsic research culture and incentive structure at several of the institutes favors research at the expense of administrative support*

Many at the institutes are scientists who are driven by research and academic publication most of all. Individual researchers will likely try to spend as much time as possible doing its research at the expense of their public administration support tasks.
- *Research put aside for critical public administration support assignments*

Generally the institutes do not get extra funding for project deficits in administrative support assignments. The consolidated result of the institute will be independent of the financier, hence profits from research assignments will help to cover such deficits.
- *Rough, ungranulated time recording at some of the institutes*

Limitations in time recording and follow up of activities at some of the institutes enables both intentional and unintentional cross subsidizing.
- *Allocation principles for overhead might not fully mirror the reality*

The overhead included in the hourly rate represents roughly 50% of the rate, meaning it represents possibly a large source of error in allocating cost between research and public administration support. But still, a large share of the overhead should be distributed proportionally to man hours, e.g. administration and facilities. A source of error, and a passive cross subsidization, is the non-billable time connected to fundraising. All institutes except Skog og landskap have the same price list for all activities.

6 Recommendations

Arthur D. Little proposes the following:

6.1 Improvements related to activity based costing

For the institutes analyzed here, the most important ambition in the pricing and activity based costing area is to develop incentives that stimulate costing and pricing that are as transparent, detailed and specific as possible. The transparency will give fact and reality based funding decisions to stakeholders. This will enable clear linking between value creation analysis and funding, i.e., enabling the value for money analysis that stakeholders always have in the back of their heads.

The institutes need to increase the “granularity”, i.e., the transparency and level of detail, in the accounting for public administration support. Improvement in transparency is in the interest of the stakeholders. The institutes also need to improve the documentation of funding from private financiers.

6.2 Broadening the incentive structure to foster academic ambition, customer orientation and business controlling

Arthur D. Little recommends, based on interviews with institute staff and management, the institutes to develop their management culture to even more take into account the unwritten rules, that imply what people really do, rather than what they say they do. Currently the institutes have a typical academic culture where academic achievements are paramount. This is good and should remain a part of the “DNA” of research institutes. However, in parallel with this, the institutes should develop their culture of “customer” (“bruker”) orientation of research projects. In this context it is important to distinguish between basic research and applied research: Customer involvement is much less relevant for basic research than it is for applied research. The institutes have an important share of their activities in basic research aiming to answer the questions nobody has been able to define yet. In that context customer involvement is less relevant.

The institutes should even more recognize, promote, demand and reward continuous improvements in the cost/revenue aspects of project managers’ work besides the academic achievements which are the most natural ideals of the institute culture. This can be done by creating career paths for project managers that are based more on value creation and cost/revenue objectives. This starts with the recruitment profiles for future staff, it is also much influenced by increased customer participation in projects, particularly participation of non academic stakeholders.

Aligned with this should be a no blame culture for the rather normal event of project resource needs deviating from initial budgets. This should be an expected event and be tackled as a “follow on sales opportunity”. This culture can only be achieved if the value creation dimension is as important as the academic dimension. A need for additional funding is a “follow on sales opportunity” if it is agreed with the beneficiaries in terms of value creation. This way of looking at

costing, project management and funding implies a management culture resting on several pillars:

- Academic ambition
- Customer orientation
- Business controlling

The institutes are by no means alien to any of these today, however, academic ambition dominates. Achieving a cultural shift requires incentives. Recognition (e.g., praise in public), career promotion criteria, recruitment criteria, balanced scorecards on individual and team basis influencing salaries and promotions are proven such incentives.

7 Appendix

7.1 List of documentation used in this assessment

In addition to excerpts from the institutes accounting system and time recording system, the following document categories have been used as sources for this report:

- Assignment letters (Tildelingsbrev)
- Institute constitutions (vedtekter)
- Strategy documents
- Annual reports
- Descriptions of current pricing structure
- Institute self-assessments (Egenvurderinger)
- NIFU-STEP reporting
- Value creation and value capture – A multilevel perspective; Academy of Management Review 2007: (32) 180–194
- The new partnership between research & technology institutes and industry, Prism 2010: (1) 39-49
- Review of supports for exploitation of Intellectual Property from Higher Education Research, Arthur D. Little report

7.2 List of interviewees

Name	Institution	Position / Role
Ivar Ekanger	LMD	Involved in Skog & landskap projects
Eiliv Sandberg	Fylkesmannen Hedmark	Involved in Bygdeforsk projects
Johan Chr. Mørkved	Fylkesmannen i Nord Trøndelag	Involved in Bygdeforsk projects
Hege Hopen	Norgesfôr	Involved in VI projects
Maria Strandberg	Svenska Golfbundet	Involved in Bioforsk projects
Bjornar Bjelland	G3 Ungplanter	Involved in Bioforsk projects
Harald Lossius	BioForsk	Director
Terje Granli	BioForsk	Admin director
Nils Vagstad	BioForsk	Research director
Johong Liu Clarke	BioForsk	Project manager
Trygve Aamlid	BioForsk	Project manager
Bernt Hoel	BioForsk	Project manager
Egil Petter Stræte	Bygdeforskning	Director
Linn Heidi Vinje	Bygdeforskning	Office manager
Marit S. Haugen	Bygdeforskning	Research manager
Katrina Rønningen	Bygdeforskning	Project manager
Gunn-Turid Kvam	Bygdeforskning	Project manager
Magnar Forbord	Bygdeforskning	Project manager
Ivar Petersen	NILF	Director
Klaus Mittenzwei	NILF	Project manager
Arne Bardalen	Skog & landskap	Director
Nina Brøgger	Skog & landskap	Organization director
Idun Thorvaldsen	Skog & landskap	Controller
Hildegunn Norheim	Skog & landskap	Department director
Dan Aamlid?	Skog & landskap	Department director
Geir-Harald Strand?	Skog & landskap	Department director
Østein Dale	Skog & landskap	Department director
Andreas Treu	Skog & landskap	Project manager
Ingrid Tenge	Skog & landskap	Project manager
Birger Vennesland	Skog & landskap	Project manager
Harald Gjein	VI	Admin director
Janneche Utne Skåre	VI	Research director
Nina Grøttan	VI	Admin director
Frode Granås	VI	Controller
Tormod Mørk	VI	Project manager
Live Nesse	VI	Project manager
Merete Hofshagen	VI	Project manager

Figure 15: List of interviewees

7.3 Workshop participants

Name	Institution	Position
Harald Lossius	BioForsk	Director
Terje Granli	BioForsk	Admin director
Johong Liu Clarke	BioForsk	Project manager
Egil Petter Stræte	Bygdeforskning	Director
Magnar Forbord	Bygdeforskning	Project manager
Ivar Petersen	NILF	Director
Klaus Mittenzwei	NILF	Project manager
Hildegunn Norheim	Skog & landskap	Department director
Østein Dale	Skog & landskap	Department director
Andreas Treu	Skog & landskap	Project manager
Ingrid Tenge	Skog & landskap	Project manager
Harald Gjein	VI	Admin director
Janneche Utne Skåre	VI	Research director
Tormod Mørk	VI	Project manager
Live Nesse	VI	Project manager

Figure 16: Workshop participants