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**Effect measurement – Norad's programme
for master studies (NOMA)**

by

**Christian Andersen
Anita E. Tobiassen**

FORWORD

This working paper documents the activity on SNF project 2996 Effect measurement – Norad's programme for master studies (NOMA). The main work on the project was done in the period March-April 2007.

We have benefited from comments and discussions with staff members on Norwegian Centre for International Cooperation in Higher Education (SIU). All conclusions and interpretations remain, however, our responsibility.

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Christian Andersen
Anita E. Tobiassen

CONTENT

1 Introduction

The objective of this study is to develop quantitative and/or qualitative indicators for effect measurement of NOMA activities for the programme period 2006-2010. In the terms of reference for the project SIU has defined the main NOMA activities, and presented a list of issues to be covered. The main concern is posed as "How to assess to what degree capacity strengthening among higher education institutions in the South has taken place".

To develop a relevant list of indicators, it is necessary to have a general understanding of problems with respect to capacity building. There are two relevant strands of literature. The first concerns the role of tertiary education and capacity building in education in the South. Secondly, there exists a general literature on institutional development and quality assessment in higher education. This has been developed through many years, partly as a result of internal processes in different countries (governance and control of higher education institutions) and partly as a result of globalization of education and the needs for standardisation and cooperation.

With respect to the first strand of literature, there is today an increased emphasis on tertiary education in the South. The World Bank (2002) stresses the importance of building capacity through targeted investments. Appendix 1 contains some references to this literature, but cannot be seen as a complete overview. It is argued that developing tertiary education raises questions of the framework for higher education institutions with respect to autonomy and relationship to government and society. It also raises questions with respect to internal organisational issues regarding faculty, students and research infrastructure. Some references are made to the discussion of the general framework, but the emphasis is on referring to the discussion on internal organisational issues. Academic fields advocated for priority in the literature are biotechnology, energy, health sciences, environment, agriculture and social sciences and governance. The general literature also emphasises the possibility of putting knowledge to use through relevant employment in the home countries.

The NOMA programme is directed towards institutional development through cooperation on specific master programmes. The perspectives from the literature on institutional development will therefore be important, and is discussed in Section two of this report. Appendix 2 contains a short overview of the active NOMA projects. It is seen that the academic fields compare well to what is emphasised as priorities in the literature. As the purpose of this report is to develop indicators for effect measurement, Appendix 2 also contains an overview of the success criteria proposed for the individual projects. It is seen that these criteria cover recruitment of students, institutional development and indicators for relevance of the programmes. The impact on society is considered to come both from employment of candidates in the targeted sectors and in educating candidates for the educational sector itself.

Section 2 in this report will refer to indicators for quality assessment so as to develop concepts and indicators relevant for evaluating strengthening of capacity of institutions of higher education. Section 3 discusses the different issues that are to be covered, while in Section 4 this background information is used to develop sets of indicators directed towards the different topics.

2 Indicators and quality assessment in higher education

2.1 General remarks with respect to indicators

The purpose of this section is to present examples of indicators and schemes for quality assessment used in different countries. It will, however, be useful first to refer briefly to some relevant concepts and problems in constructing indicators, with special attention to the difficulties associated with quality and performance assessment in higher education. The ability of indicators to represent what they are intended to is captured in the concepts of validity and reliability. Validity raises the question whether the indicator is relevant for measuring what it is intended to represent. Reliability concerns whether the indicators are well defined, if they are based on existing data and measured properly, in such a way as to ensure repeatability of the test.

Much discussion on the use of different types of indicators is, however, based on the possibility that a set of indicators not simply represent faithfully a given activity, but might alter the focus of the organisation towards obtaining high scores on the chosen set of indicators. The effects on an institution of a set of indicators depend on the degree to which reward or punishment is based on these indicators, but also on the degree to which the indicators are understood and accepted in the organisation. From this perspective it is important to learn from the indicators that have been proposed by the NOMA applicants themselves.

There are activities for which it is generally considered as difficult to develop simple indicators. This is highly relevant for complex products such as academic quality and critical thinking. Intertwined or collaborative activities between organisations or between parts of organisations can also be a challenge. This is especially so if different institutions control only part of total resources necessary to achieve the objective. A complex or unknown causality between resources and activities on the one hand and output and effects on the other hand will also make it difficult to use simple indicators. Generally quality is important in all kinds of educational activities.

In a multi task setting, attainment of results on one dimension might come at the expense of another dimension. A relevant example is the potential conflict between equitable access and high academic results. On the other hand, this potential conflict must be seen not only from at short term perspective. In al longer time span this conflict might be less relevant.

The aim and objectives of the NOMA program is defined in the Programme document. This document links the aims of the project with more specific and controllable objectives. It contains also guidance with respect to principles of cooperation between institutions in North and South and guidance with respect to the strategic direction for projects to be relevant in the programme framework. The different projects that have applied for funding under NOMA represent different strategies intended to obtain the main aims. They contain detailed plans for how this is to be implemented. Here the internal consistency of the strategy and the consistency with respect to the aims of the project are important. Generally, a project plan must detail the organization of the different tasks, and the principles of governance. This part must specify the necessary resources and a detailed time schedule for different parts of the project. Criteria for success and failure must be discussed and factors contributing to uncertainty have to be analysed. Interdependencies between different parts of the project must be handled properly. The necessary flexibility to cope with unexpected events must be emphasised in the strategy for governance.

The selection of projects that have received funding has been based on an assessment of the relevance of the projects for the aim of the NOMA programme, and the relevance and consistency of the implementation plan.

There can therefore be two purposes of indicators. The first is to assess what has happened upon completion of a project, i.e. if the aim of the project has been realised. The second is to assess whether the resources used and activities pursued in an ongoing project are in accordance with the original plan, and are contributing to realise the aims of the project. If the allocation of resources or activities is changed compared to the original plan, it is reasonable to discuss the reason and the possible consequences of this. Such changes may be necessary due to changed circumstances, or de to a better understanding developed during the implementation process. Adherence to the plan should therefore not be a purpose in itself, but any change must be seen clearly in connection with the aim of the project.

Seen in this perspective, the focus of indicators can be on different elements of the input-effect sequence. Using education as example it is possible to describe the four elements in the sequence as

- Resources (Number of teachers, cost etc.)
- Activities (Teaching, fieldwork etc.)
- Output (Number of students passing exam)
- Effects (Employment of candidates in relevant sectors, benefits to society from better educated staff).

It is seen that the distinction between output and effects can sometimes be difficult to define clearly. The employment of candidates could be seen as an output, while the benefits to society could be the effect. It can, however, also be argued that the educational institution is in control of the process only up to the passing of the candidate, and that other institutions and factors will determine whether relevant employment can be found. The time perspective can also be a relevant factor. Assessing relevant employment can only be done some time after finishing the educational activities. The availability and quality of data available to describe the four elements can vary, and many effects can only be assessed some after time project completion.

The focus of indicators with respect to the four elements defined above will depend on the scope of the evaluation to be conducted. The indicators developed in the present project are to be used partly to develop procedures for reporting, partly as basis for a mid term evaluation of the programme. The focus on midterm and reporting of ongoing projects implies that a pure focus on effects will not be suitable. Indicators for use in the implementation phase will necessarily imply a focus on resources and activities.

In the application process, the activities defined within a given projects has been considered relevant for obtaining the aim of the project. One perspective on the implementation phase is therefore if have been resources employed and the activities envisaged have been implemented according to the plan. It is, however, important that flexibility in the implementation phase is legitimate and often a necessary response to changing conditions or unexpected events. The main focus must therefore be to assure that changes in implementation strategy represent the best way to obtain the aims of the project.

2.2   Using indicators in higher education

The Norwegian institution for quality assessment in higher education (NOKUT) has developed a set of criteria used for accreditation of master programmes. The main criteria are related to the structure or plan for the study, the faculty and the infrastructure. With respect to

plan and structure a plan with aims and progression must be defined and a corresponding curriculum must exist. Methods for student assessment and evaluation must be appropriate for the study and the aims. With respect to faculty, there must be a stable faculty sufficient to carry out the necessary tasks with teaching and supervision. At least 50% must be employed at the actual institution. At least 50% of faculty must have PhD or corresponding competence, and at least 25% must be professors. The faculty must be able to document research activity and active participation in international research networks. The relevant infrastructure includes technical and administrative services, IT resources available for students, adequate library functions and adequate buildings for teaching and research activities. The institution must have a plan for quality assessment of the study.

The British Quality assessment agency (QAA) conducts assessments of higher education institutions and subject areas. There are separate standards for different subject areas. An assessment is based on a self evaluation by the institution, which is followed up by visits and interviews by the assessment committee. The practice is documented in a review handbook.

Topics in the review include

>Aims and outcomes
>Curricula
>Student assessment
>Achievement
>Teaching and learning
>Student progression
>Learning resources
>Maintenance and enhancement of standards and quality

The handbook contains annexes that detail procedures and the review of the committee of the self evaluation. Skills and qualifications of reviewers are described. Assessments include interview with current and former students and employers and observation of teaching and learning.

Jongbloed & Vossensteyn (2001) discusses the use of performance based funding mechanisms. It makes a distinction between research and education and between input-oriented and output-oriented measures. A distinction is made between formula based funding and more informal output based budgeting. They demonstrate that teaching funding is predominantly input oriented, while research funding is more evenly distributed on input- and output oriented measures when comparing European countries. Input orientation in teaching gives weight to students' choice of university, which is partly based on reputation and achievement.

Langfeldt & Hovdhagen (2006) discusses the concepts of academic level and results. To describe academic level three concepts are used: Content, teaching and academic context. Qualitative or quantitative indicators are presented for each of these categories. With respect to content, the size and difficulty of the curriculum and the formal qualifications of the staff are relevant indicators. With respect to the staff, formal qualifications, publications, national and international network and practice are presented as relevant categories. With respect to teaching, the formal qualifications of the staff is relevant, but also methods used in teaching and assessment of students. The academic context describes the institution that the study is part of. This includes routines to assess and secure the academic level of the studies, the formal level of other studies and the reputation of the institution. The breadth of studies and the supporting infrastructure (general and specific) are other relevant concepts. With respect to methods for assessment they discuss criteria formal indicators or peer review, or hybrid

committees combining peers and other expertise. The discussion is especially relevant for internal academic and contextual issues.

2.3 Assessing collaborative and cross-border projects

This section discusses some problems especially relevant for joint programmes and cross border education. OECD (2006) distinguishes between different kinds of cross-border higher education: ¨

- Distance education; mostly delivered without face-to-face communication, often standardized curriculum

- Partner supported delivery; this include public and private partnerships, commercial arms of host institutions, for profit companies, professional associations, and governments.

- Full branch campus

The NOMA project can best be characterised as partner supported delivery.

The European University Association (2004) refers to the increasing use of joint programme. The joint programmes in this report are collaboration between institutions in different countries, where students take parts of a degree in different countries. They notice that sometimes there is weak anchoring of joint programmes in the institutions involved. The articulation of responsibilities within and between institutions can be problematic, and coordination and cooperation is crucial. A joint programme is a collaborative initiative supported and fed by two institutions. These institutions will in turn have their own coordination and decision structures, which will influence the collaboration. Important principles for success are quality assurance as a shared and integrated responsibility. It might be useful to identify key agents at each institution for each level.

The report on joint programmes raises several interesting questions. Have valid objectives been defined? Is the programme as a whole and each part suitable for obtaining the objectives? Is the organisation sufficient to obtain a consistent and suitable implementation, and are suitable resources available. Will fulfilment be assessed and is there in place routines to eliminate errors at all stages? Is the joint programme the only way to achieve the objectives, in what way does the joint programme contribute to the objectives?

There is an emphasis on evaluation of ongoing programmes. The question of quality includes fitness of purpose and fitness for purpose, concepts that was also emphasised by El-Khawas (2002). Work on quality includes attention to both content and implementation, and can combine bottom up self-evaluation and joint-analysis of contributions. Organisation of a joint programme must include plans for improvement and identification of challenges, activities and responsibilities.

Over the last decade, cross-border higher education has increasingly been regard as a potential lever of economic growth (OECD 2006). According to The World Bank some countries (typically emerging) encourage imports of cross-border higher education, however delivered, as a quick way to meet their unmet local demand and build capacity for their higher education system and for their human resources (i.e. capacity building). At the same time, new delivery modes and cross-borders providers have appeared, such as campuses abroad, electronic delivery of higher education and for-profit providers.

While in some countries the national frameworks for quality assurance, accreditation and the recognition of qualifications take into account cross-border higher education, in many countries they are still not geared to addressing the challenges of cross-border provision.

Further, the lack of comprehensive frameworks for coordination various initiatives at the international level, together with the diversity and unevenness of the quality assurance and accreditation systems at the national level, create gaps in the quality assurance of cross-border higher education. The challenge faces by current quality assurance and accreditation systems is to develop appropriate procedures and systems to cover foreign providers and programmes (in addition to national providers and programmes) in order to maximize the benefits and limit the potential drawback of the internationalization of higher education.

According to OECD (2006) little empirical data exist to evaluate the effectiveness of new forms of cross-border higher education as an economic development tool – and some pieces of evidence seem to downplay this possibility. Monitoring and evaluation are considered essential to capacity building within cross border activities, and this will require highly trained people.

Lange (2005) has evaluated the Norad Programme in Arts and Cultural Education. According to Lange, successful projects are characterized by having long term relationships with their partners. It takes time to build a good working relationship based on equality. By letting the students study in the south, far more students can benefit for the same amount of money compared to bringing students for long term studies in Norway (Lange, 2005). However, this issue must be seen in consideration with the quality and availability of higher education in the south within the actual field.

The gap between Norway and the recipient countries in Africa is very big, and therefore it may be beneficial that more than one partner in the south are included (Lange, 2005). This may also encourage cooperation between the institutions in the south. It was seen that none of the visited institutions in the south refer directly to the programme in their strategic plans. One reason may be that the institutions often have to relate to many different donors.

Lange (2005) found that partners in the south are generally very positive about all the projects. However, the impression was that the respondents were careful not to say anything negative that could affect the prospects of further funding negatively. Further, there is also a chance that stake holders in the south may give very positive evaluations of projects that have benefited them personally (i.e. through allowances), but not really contributed to strengthening of the institution. On the other hand, staff members who have not benefited from a project may find it hard to appreciate the positive role the project may have had for the institution as such. If the Norwegian partner is being in charge of the money, there is a chance that institutions in the south will be careful not to criticize aspects of the projects that they are less satisfied with, and also accept priorities of the north that they do not necessarily fully prioritize themselves.

Lange (2005) states that it is important to be aware of the possibilities of favouritism, in that institutions in the south may favour students who are in some way related to either teachers at a college or to high ranking officials in the relevant Ministry. According to Lange (2005) one solution to the problem of favouritism would be that the institution in the north makes its own voice stronger in the selection process.

3 Framework for indicators

3.1 Aim and objectives of the NOMA programme

As stated earlier, the aim of the NOMA programme is to contribute to the education of staff in all sectors (private or public sector or civil society) through building capacity at the Master level in higher education institutions in the South.

The way to obtain this aim has been made more precise in a set of objectives:

- To support the development of Master programmes at HEI in the South through close collaboration with HEI in Norway in accordance with national needs
- To achieve, in a longer term perspective, sustainable capacity of institutions in the South to provide the national work force with adequate qualifications within selected academic fields of study
- To stimulate South-South-North cooperation through support to the development of regional master programmes
- To enhance gender equality in all programme activities
- To strengthen and further develop the competence of Norwegian HEI to integrate global as well as developmental perspectives in their professional work

The perspective of cooperation between HEI in Norway and countries in the South is central in obtaining the aims of the programme. There has been defined a set of basic principles for cooperation

- Equality between partners
- Transparency at all levels
- Norwegian students should be encouraged to enrol in modules in the South
- A plan for anchoring an increasing number of course modules in the South
- Contact with Norwegian embassies and development projects
- Anchoring of cooperation in strategic plans at institutional and national levels in the partner countries

In the terms of reference for this project a number of issues were defined, that were to be covered in the analysis. These issues cover all the concepts under strategic direction for the NOMA programme, except stimulation to regional cooperation. The issues in the terms of reference, however, include equitable access, social change, cost effectiveness and different models of cooperation. We will use the combined list of issues to group indicators.

The elements used for characterising the project plan in the programme document are very detailed and cover the relevant topics for describing the activity of the programme. These elements are

- Institutional development
- Curriculum
- Study Modules
- Study visits
- Student scholarships
- Staff exchange
- Seminars and workshops
- Teaching methodology

- Staff development
- Joint studies or research

3.2 Discussion of the different issues to be covered

The terms of reference for the project defines main objectives of the NOMA programme, and specifies special issues to be covered. In the following the different issues will be discussed, and more detailed definitions will be provided if needed. There will be made reference to the international literature relevant for the different issues.

Relevance

In the NOMA programme document the eligible academic fields are listed in Section 5.3. These fields have been based on Norwegian priorities and identified needs in the cooperating countries. The eligible fields are in accordance with academic priorities that can be found in the general literature, as was seen in Section 2.

Within a relevant academic field, projects will differ with respect to the focus on job-market candidates or focus on developing teaching capacity or increased or changed skill of faculty members of academic institutions. As capacity strengthening is important, education of candidates for faculty positions might be important

For a given country it could be argued that for example the oil sector is very important. Within this sector we can distinguish between different activities and institutional sectors. The public sector will be responsible for regulation and overseeing activities, taxing private companies. Private or publicly owned oil companies will be responsible for the technical, legal and commercial aspects of the activity. Technical activities can be related to exploration, drilling, transportation etc. What is the most important problem will differ between countries, and it might change over time for each country.

In the handling of project applications, the relevance of the project has been evaluated. The indicators that should be used must therefore concentrate on the implementation, outcomes and effects. The orientation of the programme with respect to educating people for the job market or faculty is relevant. The number of candidates within different fields is relevant with regard to outcome. To evaluate the effects of the programme, indictors on job market experience will be relevant. It is relevant to control for different economic and institutional sectors. Both candidates and employers assessment of relevance of education can be interesting.

Mode of cooperation

Mode of cooperation can refer both to the overall design of cooperation and to the more detailed implementation and division of tasks between institutions. How best to achieve the educational needs will depend on the specific situation and institutional capacity both in the South and in Norway, so it is difficult to specify general rules for this.

An interesting perspective is whether the mode of cooperation affects the attainment of anchoring and sustainability. It might be that concentrating collaboration on a limited number of partners will lead to deeper cooperation, less administration and better anchoring between UIN and UIS. On the other hand, programmes with many collaborators can stimulate regional cooperation. Lange (2005) argues that the number of partners from the South will affect the balance of influence on the programme.

With respect to the detailed implementation the responsibility for different tasks, where the educational activities are carried out etc. will be relevant. Both the actual activity and changes with respect to the original plans will be relevant. When it comes to assessment of the overall design, it will be necessary to compare results with respect to anchoring etc. for different designs. A specific set of questions to the different institutions about the experience with the mode of cooperation will also be relevant.

Anchoring

The main objective with the NOMA programme is building capacity and institutions in the south. A core element is therefore anchoring of programmes in the South. This implies that awarding degrees and development of institutions responsible for the master programmes is important. Institutional development includes academic, administrative and managerial perspectives. The general literature on quality in education contain detailed descriptions of institutional elements that must controlled for, to assure that an academic institution is well functioning. The functioning of these different dimensions must be controlled for in an evaluation. In the implementation phase activities on the different dimensions can be controlled, and comparison with the original project plan will be relevant. Ex post it will be relevant to evaluate the status of the institutions in the South, and the degree of change that can be attributed to the NOMA programme.

Sustainability

Sustainability implies that the capacity strengthening obtained through the NOMA projects can be continued after the programme period is over. That it can be continued implies that the necessary competence and quality in academic and administrative matters have been achieved, that necessary infrastructure has been implemented, and that the cost of continuing is not prohibitive. It is possible at an early stage in the implementation process to identify projects for which sustainability is a critical issue. The relevant dimensions are specific academic capabilities and competencies, special or costly equipment or infrastructure or very costly types of teaching. Where one or more of these dimensions are identified, there must be a plan for assuring sustainability during the implementation phase, and plans for securing necessary financing after the programme period.

Academic quality

The terms of reference emphasises research based knowledge in organisation and content of the programme, and that the studies instil in learners the critical thinking necessary for responsible citizenship.

With respect to academic quality, this has been the main emphasis of the literature study in Section 2 and 3. Many relevant dimensions was described that can be used as basis for indicators. Important elements are curriculum, infrastructure, teaching and staff competence. The NOMA programme document gives an explicit description of the components of a project plan, and these supplements the general literature with respect to characterisation of activities in higher education.

Synergy

With respect to the NOMA programme synergy is defined as the possibility of contact and collaboration between a NOMA project and other Norwegian development projects in the relevant countries. This possibility could be accounted for in the project application. The possibility for contact or cooperation could, however, also be controlled for after the project is initiated. It is interesting to evaluate the effort expended to look for possible synergies before

or after project initiation. This could e.g. be contacts with embassies or NORAD. If potential synergies are identified, the question is what is done to realise these synergies.

Gender

It is stated as an objective of the NOMA programme to enhance gender equality in all programme activities. This can be taken to imply gender equality with respect to students admitted in the programme, but in a longer perspective also with respect to faculty and administration. It is also important to know how men and women fare with respect to completion, timeliness, and work experience. With respect to admission, the relative number of female students admitted in programmes must be known. This can be compared to the percentage of admitted students in relation to applications for each gender. It can be relevant to compare the gender composition of applications for the NOMA programme with comparable studies (with respect to academic subject) outside the NOMA programme.

Equitable access

The question of equitable access comprises two problems. The first concerns whether the criteria for access are objective and well defined? Has the possibilities been communicated to potential applicants. The procedure for handling the applications should also be documented.

The second problem is to what degree NOMA programmes have contributed to improved access to higher education among students from less privileged groups. What is to be considered "less privileged groups" will depend on each country and the context of the programme. It is therefore difficult to establish standards for comparison. It is not given that comparison with other studies or faculties will be relevant, as comparison should be made with other institutes with the same type of study. The NOMA applicants also have to be in job before applying, a condition that might exclude some groups from entering.

The most realistic approach is to ask how this perspective has been taken into consideration in each programme. Compare applicants and admitted students with respect to relevant dimensions. Possible dimensions are urban/rural, different regions and special social groups.

Social change

This issue focus on whether the project contributes to social change in accordance with Norwegian development priorities. Norwegian development priorities are

- Poverty and vulnerable groups
- Least developed countries
- Peace and conflict reduction, democracy, human rights
- Cooperation based on partner countries priorities

The first bullet point is considered with respect to recruitment to the programmes. The second and third point has been taken care of in the specification of the NOMA programme.

Social change is a long term effect that can hardly be tested in s short term perspective. It cannot be expected that a small project will have clear effects. It is, however, relevant to ask if the direction is correct. There are different potential sources of change. One is bettering the educational system in itself. A second is the composition of students with respect to gender, social composition, geographical origin and the effects of jobs in administration, private sector or NGOs. Short term indicators can therefore be taken from these dimensions.

Cost efficiency

The NOMA programme introduces a new method for contributing to increased education in the South. It has been considered to be more cost effective because the cost per student in the

South generally is lower than in the North. On the other hand this new collaboration scheme will imply higher costs for coordination and cooperation. It is therefore interesting to assess how the total cost compare to the traditional organisation of cooperation. This could in principle be done using the project budget, but it must be controlled whether the actual spending during implementation changes due to unforeseen events.

4 Development of indicators

4.1 General remarks on indicators

As it has been described in the earlier sections of this report, there are several categorisations of concepts relating to higher education. It has, however also been demonstrated, that there seems to be a common understanding with respect to the issues to be covered. In developing a categorisation of indicators for the NOMA projects two criteria has been used. The first is that it can be easier to respond to categories and concepts that have already been introduced in the project generation and application period. It will be important for the results of the assessment that the academic faculty responsible for the projects can recognise and understand the categories used. On the other hand, it is important that the categories and indicators are relevant compared to those used in the general literature on tertiary education and quality assessment.

It is important to focus on the main objective of the NOMA evaluation process, that is, to assess whether capacity strengthening has taken place in higher educational institutions in the South. The implication is that further development of the different topics must pay attention to change within institutions in the South, and whether this change can be attributed to the NOMA programme activities.

Indicators can be used in different phases of a project life cycle. In a former section we distinguished between the planning and concept development phase, the implementation phase, and the phases for outcome and effect assessment. As the planning and concept development phase is completed, the basic orientation and methodological approach of the projects must be considered as established. The indicators developed here must therefore be seen from the implementation and effect evaluation perspective.

There are several methods for practical implementation of quality assessment. It is often seen that a combination of different methods and indicator types are used. This will be appropriate for complex organisations and activities.

A basic question is whether quality assessment is to be performed by academics with first hand knowledge of the relevant academic fields (peer review) or administrative bodies will be able to conduct the enquiry. With respect to academic and scientific quality, peer review can be important. In this particular process, the main focus is not quality of research or curriculum in itself. The focus is on increased capacity in the South, and the collaboration does give a degree of peer-review. A second methodological question is the proper means of obtaining information. Generally one will find that combinations of questionnaires, interview and self assessment are used. The implication of this is also that a combination of qualitative or quantitative indicators can be used.

There are three relevant questions with respect to the indicators. The first is when they are to be used, i.e. during implementation or to control output and effects after a project phase has been completed. The second is who are the respondents or responsible for supply the information. This can be students or the administrative responsible for the project. It can also be relevant to get information separately from the institutions in the North and the South. The third question is how the information is to be collected, e.g. using qualitative or quantitative methods.

4.2 Sets of indicators

Recruitment of students

Gender equality and equality of access is a priority in the NOMA programme. This section of questions is directed toward recruitment of students. Has the gender perspective been relevant in the recruitment process? The questions can be directed at the institutional level responsible for recruitment.

For each of the categories below, a breakdown on female and male students, respectively

- Applicants to the master programme
- Recruited to the programme
- Students that have completed the programme
- Students that have completed timely
- Excellence in completion

Equitable access

- How was the new study communicated to potential applicants
    - What were the main criteria used for selecting applicants
    - Were the priorities and selection criteria known to potential applicants
- How was the recruitment and selection procedure organised
- Are there other groups that are considered as important with respect to recruitment to higher education by the authorities in the relevant country
    - If yes, has this priority been considered in recruitment to the NOMA programme
- What are the most important groups to consider
    - Minorities (ethnic, religious)
    - Geographical regions, rural areas, cities
- How is the percentage of students with respect to gender and vulnerable groups at other levels
    - At the university level
    - At other master programmes that are comparable with respect to subject (eg. Science, health, social sciences)
- What is the effect with respect to equal access of the NOMA programmes conditions for persons that can apply for scholarship or participation in the programme.
- Are there plans for changing the procedures for recruitment in al later student intake?

Relevance

The relevance of the project has been described in the application procedure. The following section of questions is therefore more directed toward changes or new experience obtained during the implementation of the programme.

- Has there during the implementation phase been changes in the orientation of the programme or relevant experience with respect to educational needs

- What is the academic field of the project

- What specific skills or sectors been considered as especially important

- Recognition of programme in civil service and society

  - What has been done to promote the programme or inform relevant institutions or potential employers of the programme and candidates

  - Have representatives of other sectors or institutions been involved in the development of the programme

  - What cooperation exists between the programme and other relevant sectors or institutions

    - Seminars/meetings

    - Visits or practice periods by students

    - Other activities

Synergy with respect to other development projects in this country

- Which contacts or cooperation exist with other development projects

- Has there been contact with Norwegian embassy in the application phase or after the project has been initiated

- What has been done to identify relevant projects of cooperation in the application phase or after the project has been initiated

Institutional perspectives

The organisation of the programmes implies that the master is divided into modules that can be taught in different institutions. The following topics are relevant for assuring the standards of each module and to assure that the connection between modules and their part of the master is understood. The topics are relevant both in the implementation phase and after programme completion. Questions based on these topics should be directed both to the institutions responsible for the different modules and to students.

Educational standards of modules

- Clear formulation of aims and expected outcome of each module, and of the connection of each module with the overall master programme

- Appropriateness of curriculum

  - Is the curriculum updated and relevant

  - Size and difficulty

  - Choice of language

- Organisation and relevance of field work

  - Length of period

  - Supervision before and during field work

  - Relevance for the module/entire master

- Organisation of thesis work
    - Sufficient supervision capacity
    - Availability of necessary equipment and data
- Appropriateness of teaching methods
    - Different methods such as lectures/group works/assignments/laboratory
    - Use of e-learning
    - Seminars and workshops integrated in teaching of modules
- Assessments
    - Type of evaluations
    - Regularity of evaluations
- Regular use of student evaluation of modules and teaching

An important objective of the NOMA programme is to strengthen capacity of higher education institutions in the South, and to enable these to be responsible for the master programmes. The two following sections are directed towards the academic and organisational infrastructure of the institutions in the South. The purpose is to get relevant data for the status and development of this infrastructure during the programme period. With respect to academic infrastructure, it can be relevant to have data covering both the institute responsible for the master programme, and for the members of faculty actually participating in the programme. The first is relevant for capacity strengthening of the institute, while the latter is relevant for assessing the quality of this particular master programme. As change is relevant, the data should be collected more than once.

Academic infrastructure

- Research based teaching
    - Research activities at institution
        - Publications internationally
        - Participation in conferences
    - Academic network
        - National
        - International
- Instructors qualifications
    - Share with PhD
    - Share of professors
- Experience staff
    - Teaching
    - Research
    - Work in relevant sectors (private/public, administration/industry)
- Share of instructors employed at institution
- Full time instructors

- Stability of faculty

The following topics on organisation are relevant for assessing the standards at the institute level, but also to complement students' assessment of the quality of the programme.

Organisation

- Infrastructure for teaching and research
    - Laboratories
    - Computer lab and IT facilities
    - Library
    - Buildings
- Academic administration
    - Courses, instructional staff and support services fit in coordinated way
    - Administrative services and facilities are available as needed
    - Methods for maintenance and enhancement of standards and quality
- Facilities and accommodation for students
    - How is accommodation organised for students in the programme
    - Special factor determining living conditions for students (safety, language problems etc.)

The North-South and South-South cooperation one of the characterising features of the NOMA programme. The following set of topics is directed at the overall mode of cooperation but also the more detailed division of task and responsibility. The target of these questions is responsible persons at the institute level in North and South. Questions concerning the original plans for organisation can be answered at an early state, but questions concerning the experience will have to be answered during implementation.

Mode of cooperation

- Perspectives on the overall structure of cooperation (bilateral/multilateral, number of participants, regional participation etc)
    - Which mode of cooperation was described in the application, and what was the reason for choosing this specific mode
    - How is the assessment of this mode of cooperation in light of the experience gained during implementation of the programme
    - Have changes in collaboration been implemented or are changes planned for the remaining project period
- How is the responsibility for programme development organised between the participating institutions, both for the planning and the implementation phase
- Has the planned cooperation been realised in the areas listed below? If there has been change from the original plans, what is the reason for this?
    - Recruitment of students from different countries

- o Educational activities and study modules in different institutions or countries

  - o Progression of candidates compared to the study plan

  - o Exchange of staff between the collaborating institutions

  - o Visiting students between the collaborating institutions

  - o Study visits of staff from the collaborating institutions

  - o Student scholarships

  - o Joint seminars and workshops organised

- What is the most important knowledge and experience developed by UIN

- Has there been taken initiatives towards joint curriculum by institutions in South

- Spread effects of experience in institutions in North and South

  - o Has experience and knowledge gained from the cooperation had effects for other institutes than those actively participating in the programme

  - o Are there established routines for enabling this kind of experience transfer

- Are there plans for integration of students, staff and stakeholders from other countries than the country of the institution responsible for teaching

- Clear articulation of responsibilities within and between institutions

  - o Is there stability of key persons responsible (academic and administrative) at each institution involved

  - o Is the programme anchored in higher levels at the institutions involved

  - o Is the programme part of the strategic plan of the institutions involved

- Has quality values and responsibility for quality been discussed and integrated in the cooperation plan

- Are there established routines to eliminate errors and improve performance during and after completion of modules

Anchoring relates to how much of the academic and administrative responsibility is situated in the South but with a special emphasis on the academic and organisational infrastructure build up so as to assure the independent continuation of the programme in the future. Many of the activities and responsibilities have been described in detail under other topics. Sustainability relates to the priorities with respect to financing and infrastructure necessary to continue the master programme independently in the South. The questions can be directed at the institutional level both during the programme and near the end.

Anchoring

- How much of the teaching and supervision within the master programme is done at UIS

- Is there a plan for transferring tasks from UIN to UIS, and as this plan been followed.

- Is there, or will there be sufficient capacity at UIS to award the title of Master to students completing the programme

- Have staff and students from the institution in the South been included in PhD programmes relevant for the master programme

- What is the number of students from programme employed at UIS

- Is there a plan for assuring capacitating of local staff to take over teaching and supervision for the modules not situated at UIS at present

Sustainability

- Is there critical equipment or infrastructure that has to be build or developed in the South

- Will it technically be possible to do this in time

- Is this included in the long term plans for the institution with respect to
  - Investments necessary
  - Operational cost

- Is the master programme included in the long term financing plans of the UIS, and can the necessary expenditure be covered by the institution or at the national level

- Is the continuation of the programme dependent on extra financing at the institutional level or changes in priorities within the institution

- Will the UIS have the administrative capability to arrange logistics, accommodation, field studies and laboratories

Cost effectiveness

In the applications detailed budgets have been presented. This should also be sufficient to evaluate the cost effectiveness of the NOMA model, when it is combined with information on outcomes of the programme. There might, however be changes to the budget priorities or other types of financing that have been effectuated during the programme implementation. The following topics are directed towards this possibility.

- With respect to the categories described in the original project budget, has there been any changes within the original budgetary framework

- Has the programme received financing in addition to the NOMA financing

- Has the programme received support in kind through activity by academic or administrative personnel or use of infrastructure, that is not covered over the original budget

Employment of candidates

The overall aim of the NOMA programme is to contribute to the education of staff in all sectors in the eligible countries. The following section of topics is directed at the experience of candidates with respect to employment. The questions presuppose that candidates and employers can be contacted for information one year after finishing the programme.

- Number of candidates employed one year after completion

- Number of candidates unemployed one year after completion

- Country of employment

- o Country of candidates origin
- o Other countries in South
- o Other

- In which economic sector are candidates employed
  - o Examples of economic sectors are energy, health, etc
  - o Does this sector correspond to the academic field of the programme

- In which institutional sector are candidates employed
  - o Institutions of higher education
    - ▪ Staff
    - ▪ PhD/Post doctor
  - o Public administration
  - o Publicly owned firms (eg. State owned oil companies)
  - o Private firms
    - ▪ National firms
    - ▪ Multinationals
  - o Non governmental organisations
  - o International organisations
  - o Other

- Evaluations from employers and employees
  - o Have routines been established for obtaining feed-back from employers regarding qualifications of candidates. If no, is such activity planned. Refer to the results of such feed-back, if existing.
  - o Have routines been established for obtaining feed-back from candidates regarding relevance of studies for employment situation. If no, is such activity planned. Refer to the results of such feed-back, if existing.

- With respect to the employment situation one year after finishing the programme: How was contact established between the employer and the candidate
  - o Contact established before starting the programme, or former employer
  - o Through personal contacts or acquaintances
  - o Through contact established during the master programme
  - o Other possibilities

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6   Appendix 1: Capacity building in the South

This section contains references to literature discussing aspects of capacity building in the South. It is a short review, not intended to be a full review of the literature. The purpose is to highlight some problems and concepts, relevant for assessing the impact of the NOMA programme.

New emphasis on tertiary education

During the 1990's there was increasing recognition of the importance of tertiary education in the south. For many years tertiary education in Africa was considered as irrelevant with respect to economic development. Newer studies point to increased importance of higher education for development (NORAD 2005). During the past two or three decades, attention has focused on primary education, especially for girls. This has led to a neglect of secondary and tertiary education with higher education in a perilous state in many, if not most, developing countries (World Bank 2000). This raises the question of how higher education can contribute to social and economic development, and the institutional transformation needed to contribute to this end. There is a growing focus on the need for a focused effort to develop an African cooperation structure on higher education that would allow for relevant graduate programmes, research activities and capacity building through national and international networking (HEENA 2007).

Although the mechanisms through which tertiary education contributes to social and economic development are not fully understood and precise measures of these contributions are not available, research indicate that there are some positive effects, both at the public and private level. Competence development may result in increased participation in democratic processes (Blundell et al., 1999), increased tolerance towards other ethnic groups (The Institute of Education, 2003), transform people's life and enables them cope with the multifarious stresses of daily life and discontinuous social change; to contribute to others' well-being by maintaining community and collective life (Schuller et al., 2002), better health (Feinstein, 2002) and reduced crime. Further, an increase in human capital seems to be positively associated with physical investments and the adoption of new technology (Sianesi and Van Reenen, 2003). However, some argues that primary and secondary education is even more important than tertiary education for less-developed countries (Gemmell, 1996). At the private level, the effect on earnings of higher education is much studied, and it seems like higher education has a positive effect (Booth and Bryan, 2002; Cohn and Addision, 1998, Blundell et al., 1999). Further it increases a person's employability and job security (Bassanini, 2004).

The World Bank (2002) has made an effort to map the interactions between education and social and economic effects. This is presented in table 1.

Table 1: Potential Benefits from Tertiary Education

Benefits	Private	Public
Economic	Higher salaries Employment Higher Savings Improved working conditions Personal and professional mobility	Greater productivity National and regional development Reduced reliance on government financial support Increased consumption Increased potential for transformation from low-skill industrial to knowledge-based economy
Social	Improved quality of life for self and children Better decision making Improved personal status Increased educational opportunities Healthier lifestyle and higher life expectancy	National building and development of leadership Democratic participation; increased consensus; perception that the society is based on fairness and opportunity for all citizens Social mobility Greater social cohesion and reduced crime rates Improved health Improved basic and secondary education

Source: The World Bank, 2002, p. 81.

A report from the World Bank (World Bank 2002) presents directions for tertiary education development for low-income countries. There are three priorities:

a) building capacity for managing and improving the basic and secondary education system, including capacity for training and retraining teachers and principals

b) expanding the production of qualified professionals and technicians through cost-effective combination of public and private nonuniversity institutions, and

c) making targeted investments in the fields of advanced training and research in chosen areas of comparative advantage.

The quality of a country's higher education sector and its assessment and monitoring is not only key to its social and economic well-being, it is also a determining factor affecting the status of that higher education system at the international level. The quality and relevance of research, teaching, and learning have tended to decline in public tertiary education institutions in developing countries. Many universities operate with overcrowded and deteriorating physical facilities, limited and obsolete library resources, insufficient equipment and instructional materials, outdated curricula, unqualified teaching staff, poorly prepared secondary students, and an absence of academic rigor and systematic evaluation of performance (World Bank 2002). In both public and private institutions the lack of full-time qualified teachers is an important contributor to poor quality. In Latin America, for example, the share of professors with doctoral degress teaching in public universities is less than 6

percent, and the share with a master's degree is less than 26 percent. More than 60 percent of the teachers in the public sector work part time, and in private universities even less are full time employed (World Bank 2002).

Special problems with respect to higher education in South

According to Chapman and Austin (2000) there are five critical issues with which higher education institutions in the developing world must grapple as they respond to changing contexts, offers examples of institutional responses to these issues, and considers them within a systems perspective which recognizes that each response impacts how institutions respond to other critical issues. These critical issues include:

1. *Seeking a new balance in government-university relationships.*

   The relationships between governments and higher education systems are characterized by shifts toward privatization and decentralization. This implies that goals sometimes collide and system components change at different rates. Conflicts that emerge among rules, operating procedures, and incentive systems can threaten to undermine the very changes being sought.

2. *Coping with autonomy*

   Institutions often want more independence in governance without giving up their dependence on public funds. Governments on the other hand, often want institutions to be more financially self-sufficient, but may not want to relinquish state authority over the operations of higher education institutions. The search for balance is a central challenge of higher education reform in the developing world.

3. *Managing expansion, while preserving equity, raising quality, and controlling costs.*

   Generally there is a tension, and sometimes a direct trade-off, among the political necessity to expand enrolments, the moral imperative to increase equity, the educational desire to raise quality, and the overwhelming need to control costs. Governments are being forced to choose between the politically prudent, the socially important, the academically desirable, and the financially feasible.

4. *Addressing new pressures and forms of accountability.*

   The downward pressure on quality associated with rapid enrolment increases, the financial autonomy being granted to many public institutions, the rise of private institutions, and the growing prevalence of online courses gives new importance to the design and control of quality assurance procedures.

5. *Supporting academic staff in new roles.*

   The pattern of underpaying university faculty while allowing, and sometimes also encouraging, them to supplement their income through private consulting has been a rather common way of subsidizing higher education across the developing world. Consequently, institutional administrators have little control over faculty time. Initiatives to channel faculty time to improving instructions, conducting research, or providing service are often lost due to faculty members' struggles to maximize their own income. Reformulating incentive systems to attract new faculty members is needed, but improved incentive systems alone will not be enough. Faculty are coming under new pressure to offer instruction better aligned with the knowledge and skills graduates will need in the labor market, to give more emphasis to fostering students' critical thinking and problem-solving abilities in their instruction, and to assist

students in their college-to-work transitions. This also means that it is necessary with practical strategies for establishing faculty development programs.

Also The World Bank (2000) presents a list of issues, considered as important for success for higher education institutions:

- high-quality faculty
  - many faculty members have little, if any, graduate level training
  - teaching methods are often outmoded
  - improving the quality of faculty is difficult because of the ill-conceived incentive structure (low pay, do not reward teaching and research)

- committed and well-prepared students

  - overcrowded classes
  - inadequate library and laboratory facilities
  - distracting living conditions
  - few student services
  - poor basic and secondary education

- sufficient resources

  - often underfunded

Most higher education institutions in developing countries suffer severe deficiencies in each of these areas. World Bank (2000) presents much background information about higher education in the South, and emphasises the importance of equal opportunities, of governance of education in general and of the individual institutions.

In developing countries, there is a need to continue to build capacity for quality assurance that is appropriate and sustainable to the different context each country may be facing. Issues of weak and fragile economies, limited resources for quality assurance (QA), overstretched human resources, and the challenges involved in post-conflict development are just some of the challenges that must be addressed while assessing the QA potential for a nation's tertiary education system (Hopper, 2006).

Perspectives from quality evaluation and accreditation

Quality assurance has been given major attention in recent policy debates on higher education (El-Khawas, 2002). A growing number of countries have established evaluation or accreditation bodies to promote higher-quality teaching and learning. Depending on the context, systematic modes of quality control and enhancement can take different forms. The most common approach has been a national evaluation or independent accreditation agency with authority over both public and private tertiary education institutions (World Bank 2002).

There are several areas of debate regarding assessment of higher education. One set of problems is whether accreditations should apply to specific courses or programs or whether entire institutions should be evaluated, whether accreditation should be voluntary or mandatory; whether performance indicators should be closely linked to financial rewards; and whether the same evaluation modalities should be used for different segments of the tertiary education system and different delivery modes (in-person teaching, distance education, and online programs) (World Bank 2002).

Self-evaluation can promote a sense of institutional responsibility by allowing teachers and administrators, with student inputs, to identify areas of strengths and weaknesses and propose corrective actions in the form of a plan for institutional self-improvement. This process can be

enhanced by independent assessments carried out by a professional association or a government oversight agency. Quality assurance mechanisms should preferably apply to both public and private tertiary education institutions, to create a level playing field (World Bank 2002).

According to the World Bank (2002) tertiary education institutions should be in a position to exercise meaningful control over the principal factors affecting the quality and costs of their own programs. Autonomy includes among its many characteristics the ability of each institution to set its own admission requirements, determine the size of its student body, assess tuition and fees, and establish eligibility criteria for financial assistance to needy students. They must also be free to determine their own employment conditions, such as hiring and staff remuneration, so that they can be responsive to new and rapidly changing labour market demands.

There are a variety of approaches to quality assurance. In the past, some countries under pressure to develop quality assurance policies have adopted already established practices, especially those found in Western Europe. It is not obvious how and whether such practices could be usefully translated to a different setting. Indeed, many countries realize it may not be wise to adopt practices developed in specific national contexts, with distinctive circumstances and infrastructure, and with differing educational traditions. Significant cultural, structural, political, and technical issues can affect any attempt to translate practices from one country to another (El-Khawas, 2002). Many countries that are new to quality assurance have adopted a gradualist or staged approach. Indonesia for example, began with a focus on evaluating and strengthening its teacher training programs. Poland began with an assessment of scientific research, and then gradually added an assessment of teaching programs. A staged approach may be especially valuable in countries that are undergoing rapid expansion of higher education enrolment. Each country should make its own decisions about what components of an approach are most suitable to the country's circumstances (El-Khawas 2002).

The definition of quality and quality assurance is not a straightforward concept. El-Khawas (2002) gives a useful operating definition of quality, based on three main concepts:

- Sufficient capacity (resources, effective planning and administrative procedures)

- Effectiveness (high achievement levels for graduates, achievements are relevant to society and the economy)

- Efficiency (low unit costs, high completion rates, timely completing).

Suffcient Capacity:

It is important to have (and maintain) an infrastructure adequate to the accomplishment of objectives, both physical and human resources. This includes the ability to operate with regularized administrative procedures, to conduct planning that allows the institution to monitor its operation and results, and to have the resources to improve those results based on what is learned. Effective planning and administration in higher education has two components:

- academic administration – courses, academic staff, and support services fit into place in a coordinated way,

- administrative practices – services and facilities are available as needed

"Capacity" is one criterion on an institution's ability to offer academic programs of good quality. For many developing countries questions about inputs and processes, are pressing concerns. Some important issues are questions about adequacy of resources and infrastructure,

about the qualifications of teaching staff, and the appropriateness of curriculum content. Quality of libraries and other elements of research infrastructure

Effectiveness

What the institution does with its resources, whether it has developed a good academic program, whether or not it is maintaining the right activities to accomplish its goals (Brennan de Vries and Williams, 1997). Effectiveness requires a look at outcomes, what an institution accomplishes, but also questions about whether graduates are well-prepared, have the knowledge and skills that they - and the society – expect as a result of their studies. Questions about outcomes are inevitably related to the quality of the curriculum and the quality of teaching. Effectiveness in not a unidimensional concept, but depends on the way that various resources work in combination, for example the problem of low instructor salaries, which cause that instructors to take second jobs; funds for ancillary materials may be low, making it impossible to hold labs, class trips, tutoring support, and so forth.

Efficiency

The provision of effective education at low unit costs are sometimes considered an aspect of quality. Some measures of outcomes reflect both efficiency and effectiveness goals. Several difficulties arise when efficiency goals are applied to higher education. If institutions of higher education are very restrictive, only admitting highly qualified students, or if large numbers of student drop out in their first term of study, the institutions could appear to be very efficient, i.e., keeping unit costs down. Other choices, like depress instructor wages to such a level that staff turnover is disruptive of student progress, may also improve efficiency (that is, achieve low unit costs) but at the cost of effectiveness. In considering how efficiency relates to quality for higher education institutions, questions need to be raised about the interplay among the various aspects of quality.

The relationship between capacity, efficiency, and effectiveness is not easily understood. Over the short term, capacity can be reduced, thereby increasing efficiency without doing harm to effectiveness. To judge efficiency, then, it is critical to distinguish between short- and long-term situations, and to be able to ascertain whether apparent gains in efficiency are in fact only documenting declines in capacity.

Most issues of quality for a large, complex entity such as higher education need to be examined in terms of how quality is distributed (El-Khawas, 2002). The problem can only be addressed if its components are considered. If it is believed that universities do not have high enough standards for their students, is this a problem of uniformly weak levels of achievement for all students or, instead, is the problem due to low levels of performance for only a certain segment of students? Are students in some fields, in some institutions, or some programs not doing well? It is also important to keep in mind that the larger purposes of quality assurance involve capacity-building.

In 2006 an international conference on accreditation, quality assurance and recognition of qualifications in higher education was held in Africa (Communique, 2006). The conference was organised around three sub-themes. These were accreditation and quality, recognition of academic and professional qualifications and brain drain/gain. With respect to accreditation and quality reference is made to the Bologna process in Europe. With respect to cross border education, the guidelines from UNESCO/OECD should be taken into consideration and customised for local use. The document identifies areas that should have priority for regional development: biotechnology, energy, health sciences, environment, agriculture, social sciences and governance.

The programmes can contribute to capacity-building only if the students stay or go to their home countries (when training is abroad) and do get the opportunity to put use their newly acquired knowledge or skills. Thus at issue is not only the phenomenon of "brain drain", but also what could be called "brain neglect" for lack of a better term (Krasulin et al., 1998). Another limiting factor to capacity-building is often the lack of an enabling environment. There are cases where the candidate cannot fully contribute to a sustainable development because their working conditions are not conducive to efficiency. Therefore, poor or inadequate impact cannot necessarily be blamed *per se* on the quality of the training received. Most experts also agree that human resources development usually go in tandem with institution building and strengthening. This may be a problem in some developing countries.

7   Appendix 2: Overview of NOMA projects

As stated previously, the NOMA project is aimed at strengthening capacity in tertiary education in the South through collaboration between higher education institutions in Norway and countries in the South. The relevant countries are Norway's main collaboration partners. The relevant academic fields have been defined by NORAD. The increased focus on capacity building in tertiary educations has been discussed in section 2, and the list of academic fields contains many of the areas that have been singled out for priority in the literature.

There were 32 applications for funding for the NOMA project period starting from 2007. Of these 17 projects were approved. The table below presents some main characteristics of these projects. In the table, the 17 projects are characterised with respect to different concepts. Bilateral projects are projects between a Norwegian institution and one institution in a country in the South. Multilateral projects do involve more institutions or countries in the South. It was possible to apply for projects for one student cohort of two years or two student cohorts, i.e. four years. It is seen from the table above that the main part of the approved projects are multilateral projects of four years duration.

Of the 17 projects, 11 are in subcategory one, i.e. projects which have received start up funds aimed at developing new Master programmes, and that accordingly have developed a programme to implement. Two projects are in subcategory 3, i.e. Master courses already anchored in the South. Two projects are in subcategory 4, i.e. new regional Master courses. A regional course implies cooperation between more countries in the south. Only one course is in subcategory 5, for which the programme has to be in Norway because scientific or technological reasons make it impossible to realise the project in the South. No projects are in subcategory 2.

For the NOMA programme, the following academic fields are eligible

- Education (Edu)
- Environment, economic development and trade (Env)
- Good governance, democratic development, human rights and migration (Gov)
- Health (Hea)
- HIV/AIDS (HIV)
- Oil and energy (OE)
- Peace and conflict resolution (PCr)

It is seen that environment, health and energy projects are important. Many projects are concerned with governance issues within the main field. Most of the projects combine more academic fields. Social science is the main discipline for 7 projects, while engineering and medical science accounts for 5 and 3, respectively.

Project	Category		Subcategory					Academic fields								Main discipline
	Bilateral	Multilateral	1	2	3	4	5	Edu	Env	Gen	Gov	Hea	HIV	OE	PCr	
M.Sc. Programme in development management		4 years	X						X		X					Social sciences
Graduate program in democracy studies		4 years	X							X	X				X	Social sciences
International education and development		4 years	X					X	X	X	X	X	X		X	Social sciences
Master of Arts in political science	4 years		X								X				X	Social sciences
MSc Fisheries, Aquaculture Management and Economics		4 years				X			X							Social sciences
MSc in Development and Natural Resource Economics		4 years	X						X							Social sciences
Masters level programmes in Higher Education Studies		4 years			X			X	X		X					Social sciences
Angolan Norwegian higher education initiative (ANHEI)	4 years		X											X		Earth/engineering
Environmental and industrial projects at Univ. Moratuwa	4 years		X						X					X		Engineering
Sustainable energy systems in East Africa		4 years	X											X		Engineering
MSc program within the petroleum sector in Asia and Africa		2 years	X					X	X					X		Engineering
MSc in hydropower development	4 years						X							X		Engineering
Conflict, peace building and development		4 years	X							X	X				X	Combination
Health policy and management		4 years				X				X	X	X				Combination
Health information systems – Tanzania and Ethiopia		4 years			X			X			X	X	X			Medical sciences
Public health research in Asia		2 years	X									X	X			Medical sciences
MMed and MSc degrees in clinical medicine		4 years	X									X				Medical sciences

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Success criteria proposed for the individual projects

The table below contains a list of evaluation criteria based on suggestions that form part of the application from the 17 accepted projects.

Students	Institution	Relevance	Other indicators
Number of students recruited.	Members of junior staff participating	Sustainable development	Critical thinking
Country of origin.	Joint development of programme	E-learning principles	Evaluations from students and employers.
Gender of students	New skills learned by UIS	Industry needs	Evaluations fieldwork, thesis, dissertation
Number of applicants	Knowledge and experience developed UIN	Gainful employment	Laboratories, computer lab, library
Gender of applicants	Well functioning programme in UIS	Recognition of relevant knowledge	Integration of students staff and stakeholders from other African countries
Pass percentage, completion, gender in completion	Establishment of master programme in UIS.	Interest in continuation from students and institutions	
Excellence in completion	Continuation of programme based on local competence	Develop skills in health disciplines	
Number of students from backward regions and major cities	Recognition of programme in civil service and society	Combating pandemics	
Number of students returning	Masters awarded in south.	Energy sector	
	Extent of local staff capacitated to take over teaching and supervision.	Gas sector	
	Instructors with PhD	Ratio of unemployed students one year after completion	
	Staff and students from institution included in PhD programmes	Level of cooperation between programme and power development projects	
	Joint curriculum by institutions in south. Spread effects in institutions	Involve stakeholders in developing curriculum. Higher education jobs and doctoral studies	
	Regular evaluations		
	Numbers students employed at UIS		
	Numbers in other institutions or NGO or industry		
	Exchange of staff, visiting students		
	Part of studies taken in UIS.		
	Capability of UIS to arrange logistics, visa accommodation, field studies and laboratories		
	Establish joint master programme		