AIFSHE

Auditing Instrument for Food Security in Higher Education

=== *English version* ===

December 2013

Education and Competence Studies Group
Wageningen University, The Netherlands

Contact information

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CONTENTS

1. Description of *AIFSHE*

1.1. Structure

The AIFSHE-method is based on a model for quality management, developed by the European Foundation for Quality Management, and enhanced by the Institute for Dutch Quality Management (INK). For this reason, it is called the "EFQM-INK model".
In the EFQM-INK model the idea is that organisations can be in one of several development stages with respect to a number of criteria. The model defines five of these stages.

The original EFQM-INK model has been developed to be used in commercial companies, for instance in industry.
By a group of Dutch Universities for Vocational Education an adaptation has been designed, suitable for Higher Education (see: HBO Expert Group (1999)). Instead of themes concerning production processes, in the educational version themes are described concerning educational processes. It is this model, which may be called "EFQM-HE", which has been chosen as a basis for AIFSHE.

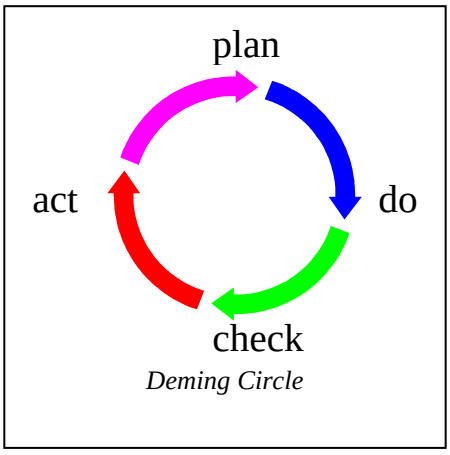
Below, a short description is given for each of the five stages, as they are defined in the EFQM-HE version. (In appendix X1 a more detailed description is cited from the third edition of the educational version.)

General description				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- Educational goals are subject oriented. - The processes are based on actions of individual members of the staff. Decisions are usually made ad hoc.	- Educational goals are related to the educational process as a whole. - Decisions are made by groups of professionals.	- The goals are student oriented instead of teacher oriented. - There is an organisation policy related to (middle)long-term goals. - Goals are formulated explicitly, are measured and evaluated. There is feedback from the results.	- The educational process is seen as part of a chain. - There is a network of contacts with secondary education and with the companies in which the graduates will find their jobs. - The curriculum is based on formulated qualifications of professionals.	- There is a long-term strategy. The policy is aiming at constant improvement. - Contacts are maintained, not only with direct customers but also with other stakeholders. - The organisation fulfils a prominent role in society.

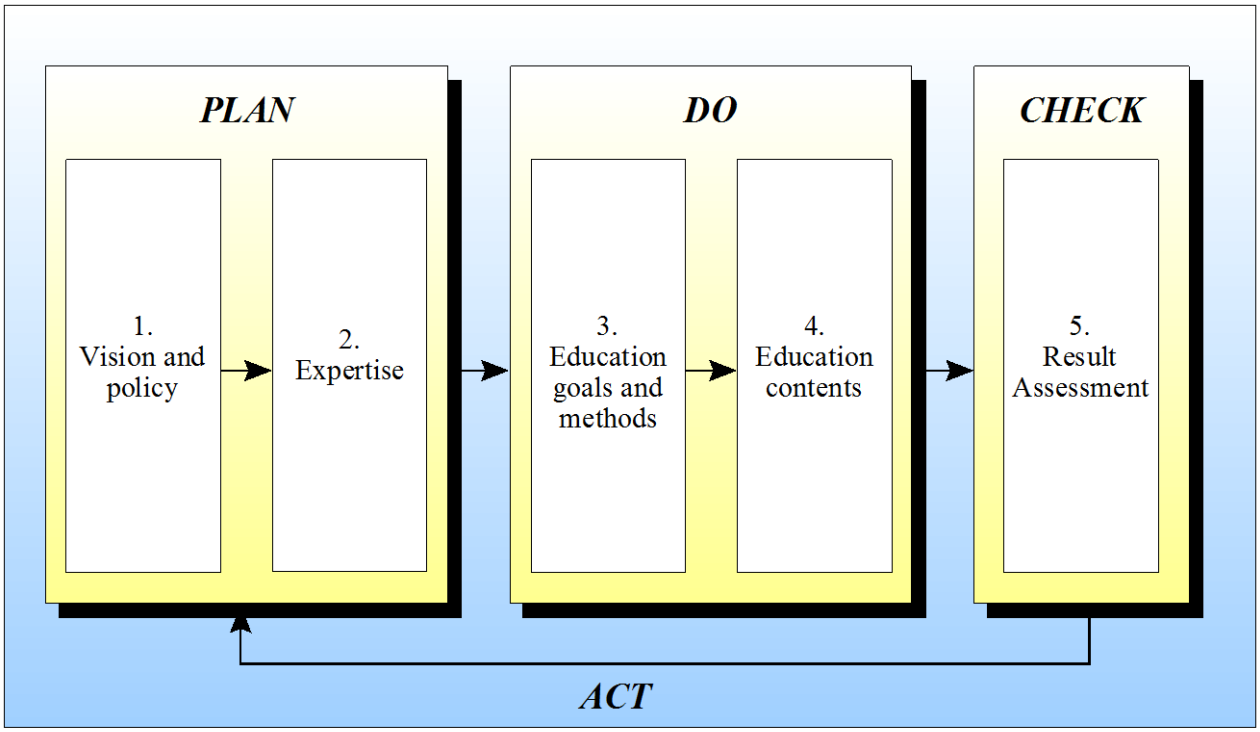
The criteria to which these five development stages are applied are of various natures. For instance, there are themes like the organisation policy and the strategy; human resourcement; management of processes; and the achieved results.

In the ***AIFSHE*** method, 20 different criteria are defined. They are clustered in five fields of attention. Following the EFQM model, these are put together in three categories, based on the first three of the four parts of the "Deming Circle" for quality management: "PLAN" - "DO" - "CHECK" - "ACT'.

The next page shows the five fields of attention in a schematic way.



Deming Circle



Each field of attention consists of four criteria, as the table below shows:

The criteria list	
== Plan ==	**1. Vision and policy** 1.1. Vision 1.2. Policy 1.3. Communication 1.4. Internal operations management **2. Expertise** 2.1. Network 2.2. Expert group 2.3. - - 2.4. Research and external services
== Do ==	**3. Educational goals and methodology** 3.1. Profile of the graduate 3.2. Educational methodology 3.3. - - 3.4. Student examination **4. Education contents** 4.1. Curriculum 4.2. Integrated Problem Handling 4.3. Internships, graduation 4.4. Speciality
== Check ==	**5. Result assessment** 5.1. Staff 5.2. Students 5.3. Professional field 5.4. Society

For each criterion, the more thorough description in chapter 2 offers a range of five possible stages: five short descriptions that might be characteristic for the situation with respect to an criterion in a university.
As an illustration, one criterion is shown here with all its five stages.

Example

Criterion 1.2: Policy				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- The policy with respect to food security is developed mainly top-down by the management. - Much of this policy is only implicit. - This policy development is usually motivated by incidental situations or events.	- Staff members have a visible role in the development of a policy with respect to food security - The food security policy is made explicit in documents. - The policy plans are related to short term developments*.	- Staff members and students are involved systematically in the development of the policy with respect to food security - This policy is translated in assessable* goals, and evaluated and (if necessary) adjusted. - The food security policy is middle long* term related.	- Also, external organisations (secundary education and the professional field, e.g. via graduates) are involved in the development of the policy with respect to food security - Activities related to this policy are developed and performed together with these external parties on a regular basis. - The food security policy is long* term related.	- The food security policy is developed and carried out in close cooperation with many actors in society, and contributes explicitly to the policy realisation of these actors. - In these contacts, the organisation has an active, anticipatory role, based on a deep expertise and experience.

The above example shows that in the ordinal scale from stage 1 to stage 5, there are several kinds of differences: several *dimensions*. Formulated a little bit loosely, these dimensions may be characterised as follows (indicating only the extremes of stage 1 and stage 5):

Dimension:	***goes from …..***	-	***….. till:***
• ***Concerns:***	individual …	-	… society
• ***Ambition:***	high acc. to oneself …	-	… excellent acc. to others
• ***Policy:***	ad hoc decisions …	-	… strategic, pro-active
• ***Time perspective:***	this semester …	-	… long term
• ***Quality:***	incidental evaluation …	-	… evaluation by all stakeholders
• ***Result assessment:***	once at most …	-	… comparison with the best

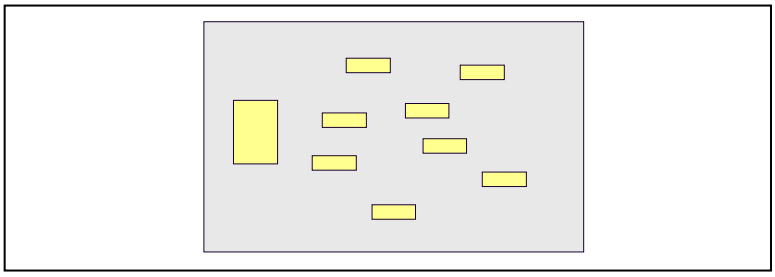
If you want to have a more thorough look at this, you can study the next table (next page).

Some dimensions				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- Concerns Individual staff member	Team, study programme	Whole organisation	Chain: Secundary education – higher education – professional field	All of society
- Ambition Good in own eyes	Good according to the management	Good according to the organisation	Good according to the customers	Excellent in comparison with colleague institutions
- Policy Ad hoc decisions	Operational policy	Tactical, passive policy	Strategic, active policy	Strategic, pro-active policy
- Time perspective Now (= e.g. this semester)	Short term (1 to 2 years)	Middle long term (up till 5 years)	Long term (up till 10 years or more)	Long term (up till 10 years or more)
- Quality Incidental evaluations	Beginning of quality management	Systematic evaluations plus feedback: Policy circle	Evaluation involvement of customers (students and professional field)	Evaluation involvement of all external stakeholders[1]
- Result assessment Performed maximally once	Performed several times, trends are known	Result comparison with targets posed	Result comparison with colleague organisations: *Benchmarking*	Result comparison primarily with excellent colleague organisations

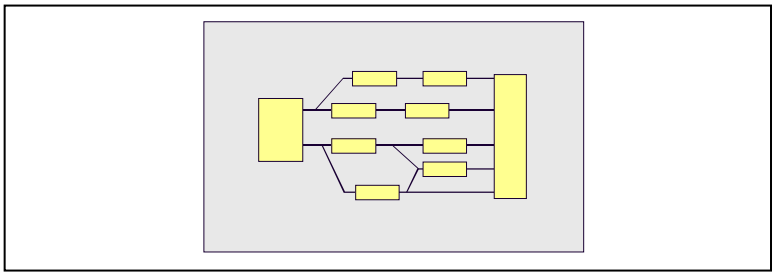
On the next page, the five stages are characterised again, this time in a graphical way.

[1] E.g. by a Visitation- or Accreditation Committee

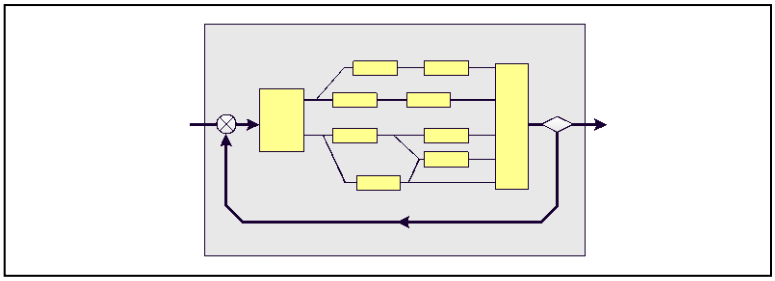
The five stages, presented graphically:



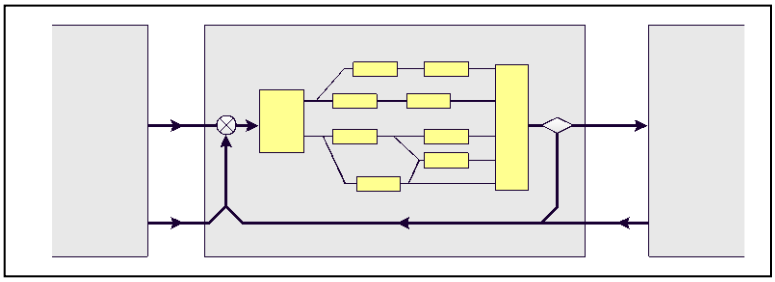
Stage 1:
Separate parts



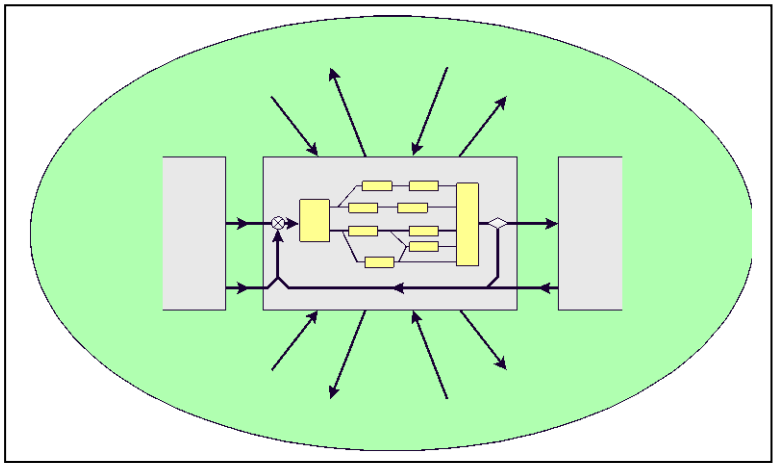
Stage 2:
One process



Stage 3:
Process with feedback



Stage 4:
Part of a chain of processes



Stage 5:
Part of society

Step 1: Preparation with the internal assessment leader

1a: Determination of the internal assessment leader

The internal assessment leader is the person who will co-ordinate the process internally, i.e. within the organisation. Possibly, this person is appointed on beforehand. If not, he or she must be determined first. E.g. it could be a member of the management team, a quality co-ordinator, a food security co-ordinator, etc.
The allocation of tasks between the external AIFSHE consultant and the internal assessment leader and possible other people involved (for instance the secretary of the meetings) will have to be made clear.

1b: Determination of the target organisation

The method is meant to be used in a department or a university: a faculty, or a separate study programme. It is also possible to use AIFSHE in relation to a complete university, if this is an educational institution which is not too large or complex, and if there is a clear unity of policy with respect to education, for example with respect to the educational vision and –methodology.
Unambiguously must be made clear, which part of an institution will be the object of the assessment, so that no problems about this can arise during the process.

In the text of AIFSHE, the term "organisation" will be used regularly. This term will consistently mean this selected target organisation, i.e. the faculty, department, study programme or the whole educational institution that has been agreed upon.

1c: Determination of the context and the meaning of the application

AIFSHE may be used for several reasons:

X As an *internal* audit: to assess the present situation in the organisation with respect to food security; to get starting points for a future policy in this subject; and to get a group of people involved in the activities undertaken to carry out this policy, in short: to create support and involvement.

X As an *external* audit: e.g. to evaluate the present situation with respect to a Protocol for SHE, in order to investigate if the demands for a Certificate have been met; or in relation to visitation or accreditation. If an external audit is going to take place, probably other people will be involved too, and perhaps the procedure will need some adaptations. At the time of the publication of this book, no information about this is available.

Before the actual assessment starts, the goals of the assessment will have to be made explicit.

Besides, the starting situation is of importance. Possibly, AIFSHE has been used before within the target organisation, or in a part of it; that is, it is possible to repeat the assessment, for instance after a period of a year.

On the other hand, it is possible that relevant information about the organisation has been acquired in another way, for instance information about the general quality management, or about the internal environmental management. If an AIFSHE assessment is done as a part of a larger assessment, the results have other implications, compared to a situation in which there is only an assessment about food security in education.
Information about this kind of subjects is to be brought together, and has to be sent to all people who are involved in the process.

Quickscans
Especially, it is possible to gain insight in the level up to which four different groups of stakeholders (i.e. staff, students, professional field and society as a whole) have appreciation for the organisation policy on food security. For this goal, the four quickscans can be used that are offered in this book (with the criteria 5.1. to 5.4).
Performing such a short preliminary investigation forms a good preparation to an AIFSHE assessment.

Furthermore, it is important to determine on beforehand , what will happen with the acquired information afterwards. Will the results be published, and if so, anonymised or not, and by whom? Preferrably, agreements about this are made on beforehand and communicated.

1d: Determination of the participants
Next, a group of participants is formed. In small organisations (up to about 15 staff members) each staff member can participate. In larger organisations a group of 10 to 15 participants is selected. The group has to be representative for the complete teams of the staff members and the students, so there have to be one or more managers, a number of teachers (professors, lecturers, etc.) coming from a wide variety of disciplines and curriculum parts, some students, and perhaps one or more members of the non-teaching staff.

It could be interesting to ask other people to join: for example, graduates or (other) representatives of the professional field, i.e. of the "customer". If the organisation is – on average – still in a rather low stage (up to stage 2 or 3), probably this will not be a very good idea. But if the organisation is in a number of criteria in a higher stage (3 to 4 or higher), participation by external peolpe will probably be worth while.

The members of the selected group participate on a basis of 100% equality; the opinions of all participants or equally important.
The discussions will be chaired by the AIFSHE-consultant, or if hè/she is absent, by the assessment leader, and *not* by a manager of the organisation.

!!! It is absolutely vital that all participants join the *whole* process. It is impossible to have some participants being present only in the first or in the second meting.

1e: Determination of the criteria and appendices to be treated
It is not necessary to treat all 20 criteria of AIFSHE at the same time. Especially if the organisation has no experience in using AIFSHE or similar instruments, it may have an advantage to make some restrictions.
If AIFSHE is used in a situation of an external audit, it will probably not be the organisation itself which determines which criteria are going to be investigated, but the external assessor.

The same is true for the use of appendices (see chapter 4): decisions about this can be made on beforehand. In principle the complete assessment can be done without the help of the appendices, but it is possible that certain criteria can be clarified by the use of them.
Decisions about this may also be made during the group meetings.

Step 2: Introduction for the participants group

2a: Distribution of information
Long before the assessment,, at least a month or so earlier, each participant receives information about what is going to happen, including dates and times.

Later, e.g. one or two weeks before the first meeting,, each participant receives a package with more information. This contains all details about the various meetings: dates and times (again), places, list of participants etc., and it also contains a copy of the AIFSHE book (i.e. *this* book), plus a reading guide.

2b* (optional)*: Preparation: the theme "food security and higher education"
If the participants of the assessment are quite well-informed about the concept of "food security" and of the relations of it with higher education, perhaps this step may not be becessary. But if this is not the case, it may be a good idea to spend some time first (a couple of hours, or half a day or so) on these subjects. This can be done through a meeting with the group of participant (plus perhaps some other managers, employees and students), where the AIFSHE consultant presents a paper, or leads a group discussion or a workshop.

If necessary, a separate preparatory meeting with the management can be organised.

2c: Explanation of the AIFSHE assessment procedure
The way in which an AIFSHE assessment is done (i.e. the explanation you are reading at this moment) is explained verbally with the participants. All relevant information about decisions made during the preparation is presented, for instance about the publication of the results at the end, and about the intended targets of the assessment.
The explanation, preferably given by an AIFSHE-consultant, will take about 45 minutes. (If all participants studied the written information thoroughly, less time will be needed.)

The next step (step 3) can best be done consecutively.

!!! Participants should not determine their individuele scores before the introductory meeting has taken place.

Step 3: Individual scoring

Each of the participants works individually, uninfluenced by the others, through the list of criteria. For each (selected) criterion he/she forms an own opinion about the situation in the organisation.
Probably, with most criteria the organisation will not exactly match one of the five descriptions. Nevertheless, usually one of them will come nearest to the actual situation. Based on this, for each criterion a stage is selected.
An important "rule of the game" is: it is only allowed to conclude that a certain stage has been reached, if, if all preceding stages have been reached completely, too! All stages of a criterion are meant to be "cumulative", so the demends for stage 1 are again valid for stage 2 and higher; the demands for stage 2 are again valid for stage 3 and higher, etcetera.

Thus, every participant works individually through the criterion list. For each criterion hè/she decides on a stage. The conclusion can be filled in directly in the AIFSHE book: for this purpose, a box is available with each criterion description.
It is importnat nor just to select a number! Please, also write down the reasons why the selected stage is the right one. For this too, with each criterion a box is available, marked with "Comments".

Criterion x.x: Xxxxxxxxxx				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
Xxxx xxxx xxx	Xxxx xxxx xxx	Xxxx xxxx xxx	Xxxx xxxx xxx	Xxxx xxxx xxx
Selected stage:	**** in this box you insert the right stage, according to you ****			
Comments: **** in this box you write down (just for yourself) the reasons why you think the stage you selected is the right one.* *Later, you will bring your notes to the consensus meeting ****				

At the end, when all 20 (or less, if this was decided) criteria are treated individually, the participant fills in all the scores in a score form, which is in this book, a few pages further on, and which is also handed out as separate pieces of paper, in order to be handed back after completion.

The individual scoring of the complete list (all 20 criteria) will take 60 to 90 minutes.

Step 4: the consensus meeting

4a: the composite form

The completed forms are gathered. The scores are inserted together on one score form, this time not as marks but as numbers.
By using different colours, a distinction will be made between the various categories of participants: managers, teachers, students and others, unless objections are made against this.
This composite form is copied for each of the participants.

4b: the consensus meeting

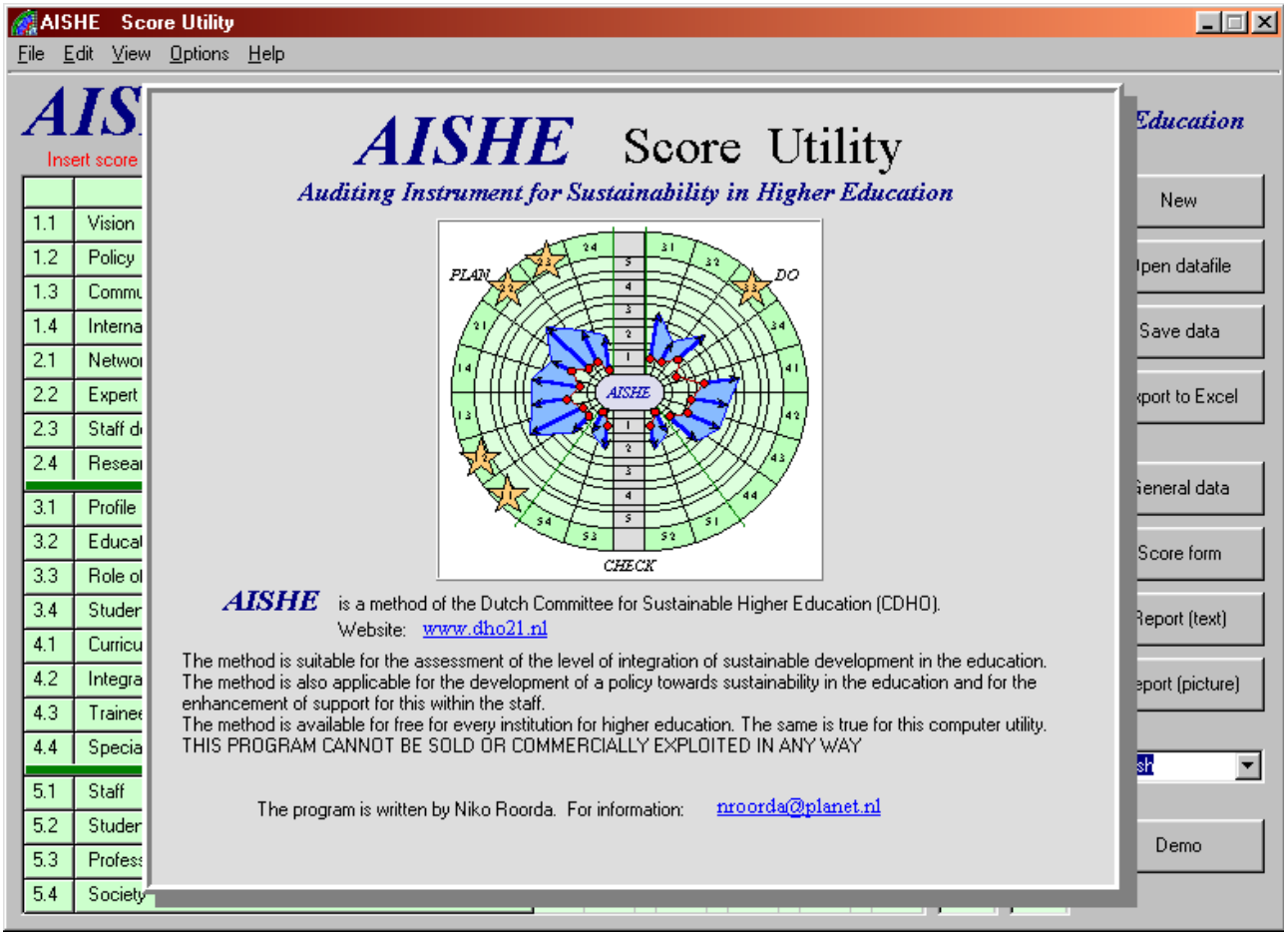
A meeting takes place in which all of the participants are present. At the beginning (or earlier) the copied composite form is distributed.
As before, every participant has the AIFSHE book, in which the own scores and annotations are written: these are essential for the meeting.
The meeting is chaired by the AIFSHE consultant, or if there is no external assistance, by the internal assessment leader. All participants have an equal weight in the discussions, in the proceeding of the conversation and in the decision making.
The chair can influence the process, for example by clarifying concepts, by guarding a careful decision process, by reflecting critically to the explanations of the opinions of the participants, and by guarding that no participants try push forward to decisions by using their position within the organisation. The assessment leader him/herself does not participate in the decision making.

Each (selected) criterion is discussed. On a basis of intrinsic reasoning, a common conclusion is looked for about the right score of the organisation.
If possible, decisions are made based on consensus. If, however, for some criterion no consensus can be reached, the chair will conclude that, of all proposed scores, the *lowest* is the one that is decided upon: this is, because a (higher) score has only definitively been realised if all participants agree with it. In *no* case at all, decisions are made by voting.

!!! Decisions are never made by majority voting.

As before, during the meeting a conclusion that certain stage has been reached can only be made if all preceding stages have been completely too: remember, the stages are meant to be cumulative.

During the meeting, notes are taken. For this purpose a computer utility is available ("AIFSHE Score Utility", see the image), in which the notes can be typed in directly. For every criterion not only the stage is decided, but also the reasons why this stage is the right one.



Scores "in between"
If the group has the opinion that for a certein criterion a certain stage has almost been reached but not yet completely, it is not allowed to conclude that that this stage is the right answer: this is only allowed when that stage has been realised 100%.
In such a "almost but not quite"-case it is allowed to score halfway between two stages. For example, it can be decided that the score (for the criterion in question) is: "2, going to 3".
The score form offers separate columns for this.

Desired situation, priorities, policy
During the discussion of the criteria, naturally a number of possible improvement points will rise. This will enable the group – for each criterion – to formulate a *desired* situation. This desired situation is defined, not only in the form of a stage to be reached, but also in the form of a series of concrete targets and associating activities that will lead to the desired stage.

In order to guarantee that the necessary concreteness is really achieved, at the beginning of the consensus meeting a decision is made about the (future) policy period the desired situation is related to. This may for instance be a period of one year, starting at the moment of the assessment.

When for all 20 criteria, or for a major part of them, policy intentions are defined in this way, a large list of goals and activities will be formed on which work can be done in the coming period. But then of course the danger is that if this list is rather huge, in reality probably many of them will not have much of a chance: it's a well-known fact that a policy plan with more than 3 to 5 priorities usually has not much chance of success.
This is why the meeting ends with the assignation of those elements in the list of policy ideas that the group thinks are most important: those elements receive highest priority.

So, the result is:

- A description of the *present* situation, in the form of a number (the stage) for each criterion plus a description for each criterion in words;
- A ditto description of the *desired* situation;
- A *date* in which this desired situation has to be reached;
- A list of first priorities that are considered to be crucial in order to be permitted to conclude that the policy will have been successful.

In the end, this package has the status of "recommendations to the management".
It is rather likely that this set of recommendations has a good chance of being accepted and to become a part of concrete policy plan. This is because the management itself is represented in the group of participants (and that is exactly why that is so vital!); and the recommendations have – if all went well – been chosen in consensus by a representative group from the staff and the students, so it is likely that there is support for the conclusions.

For an assessment in which all 20 criteria are investigated, the consensus meeting(s) will probably take 4 to 6 hours.

4c: Report

The computer utility automatically turns the separately typed in decisions and comments in a report, which can be printed and distributed.
The report does *not* have any information about which positions and opinions were taken by which persons.

The report is sent to all the people that were selected to have one during the preparation.

Circular form

As an aid for the representation of all results a circular form is used, which can be found in paragraph 1.4 (a few pages from here).
After filling in, it might look like the fifth picture shown on the next page.
The computer utility produces the completed circular form automatically.

***AIFSHE* report (example)**

University	University of "XX" (anonymized)
Department	Department of "X"
Assessment leader	Olivier Bello
Function	Member of the CAADP project
Accessible through	
Secretary	Mr. ….
Assessment date	February 22, 2013
Date of latest assessment	
Date of desired situation	January 1, 2014

The five stages of AIFSHE are:

Stage 1: Activity oriented
Stage 2: Process oriented
Stage 3: System oriented
Stage 4: Chain oriented
Stage 5: Society oriented

For more information: mail to Olivier Bello, Olivier.bello@wur.nl

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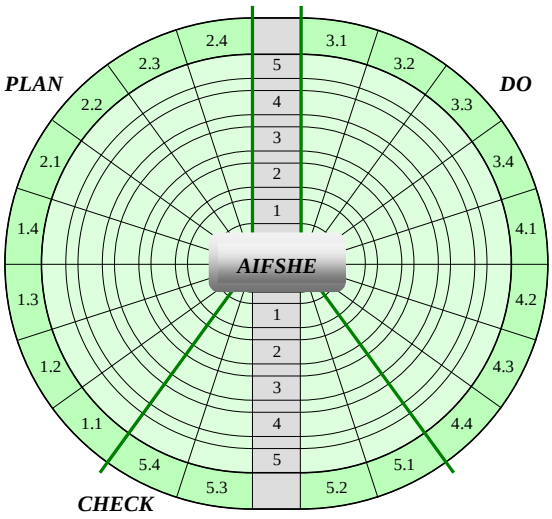
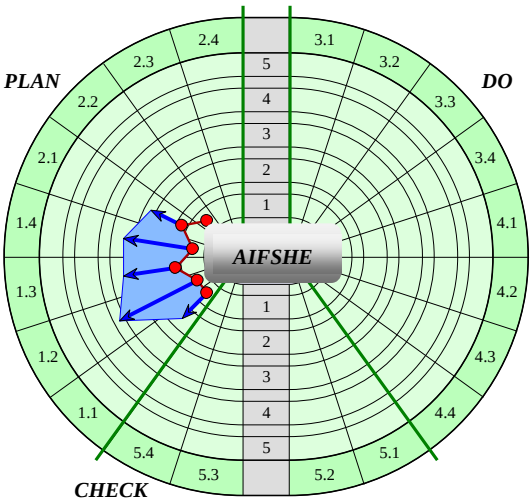
=== *PLAN* ===

1. Vision and policy

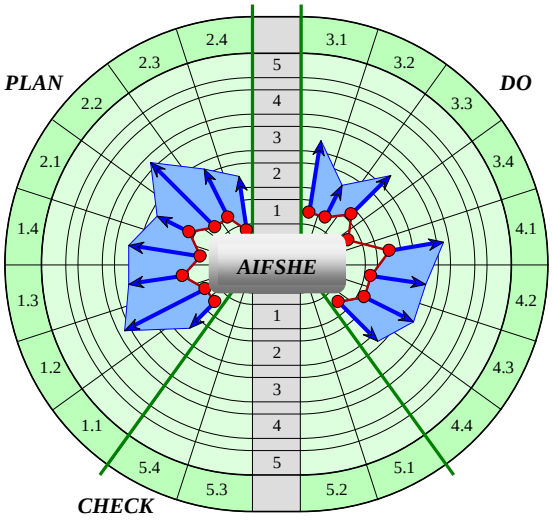
Criterion 1.1. Vision
Present situation: Stage 1
The Protocol on Sustainable Education and Food Security has been signed for the university as a whole. There are good intentions, but there is no thoroughly developed vision.
Desired situation: Stage 2 - ***High Priority***
Explicit vision, put down in documents.



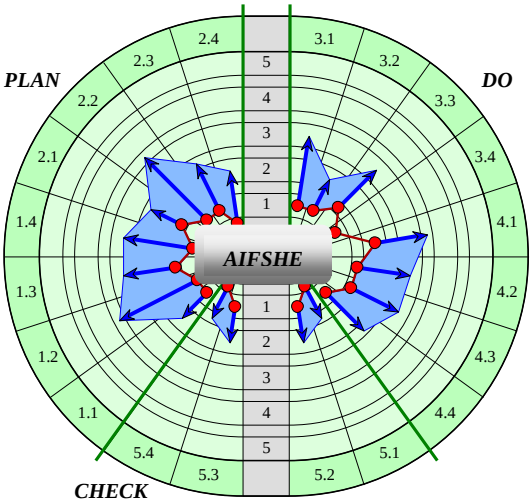
1. Empty score form: the consensus meeting is about to begin.



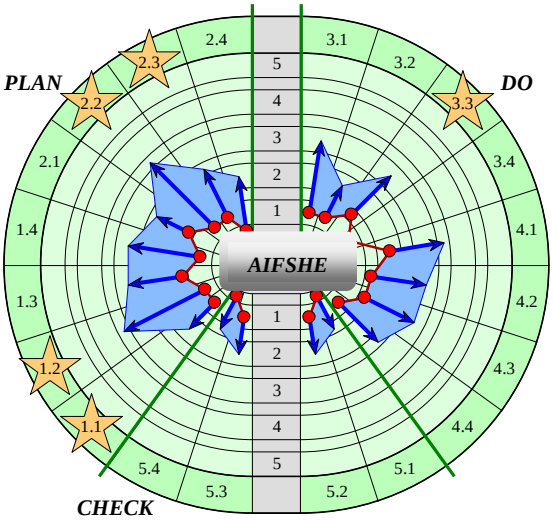
2. Criteria 1.1 till 1.2 are finished: there is consensus on the present and the desired situation. Criterion 2.2 is in discussion.



3. The PLAN and DO parts are finished. For criterion 3.4, no improvement is desired.



4. All criteria have been duscussed. In the CHECK part, no large improvements are foreseen.



5. Now, the priorities for the policy are discussed. The decisions are shown in the diagram as stars.

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Figure 2: an example of the way in which AIFSHE can be used as a policy instrument

4d: Global indicators

The computer utility automatically calculates five indicators that give a global image of the organisation with respect to food security and education.
The box shows a possible result:

Global indicators:	Present situation	Desired situation
Median	1	2
PlanDo balance	+3,5	+1,5
Policy ambition		16

MEDIAN:
One could be tempted to calculate the *mean* stage, in order to get an indication about the situation in general.
Unfortunately this is not allowed: the stages belong to ordinal scales, and so they can't be averaged.
Instead, the *median* can be used. This is to be found as the middle value of all scored stages, after they have been put in an ascending order.

***PLANDO* BALANCE:**
The *Plan Do* balance is the difference between the sum of the *DO*-scores and the sum of the *PLAN*-scores.
If this balance is less than zero, relatively much attention is given to the preparation ("*PLAN*"), which is not yet implemented in education in an equal proportion ("*DO*").
If the balance is greater than zero, the education has been made sustainable in a relatively strong amount, but this is not very well anchored in the organisation.
This indicator should be used with great care! Here too it is true: the stages form ordinal scales, and so it is not allowed to add or subtract them. Because of this, the result can only be interpreted as a very rough and global indicator. A difference between a Plan Do balance of e.g. 2.5 and one of 3 cannot be interpreted as significant.[2]

POLICY AMBITION:
= the sum of all differences between the desired and the present stages.
The same cautiousness goes for this indicator: a difference between an ambition of e.g. 6 and one of 7 is not significant. But since practical tests have shown that there exist remarkable differences (policy ambitions varying between 6 and 24), the policy ambition is nevertheless an interesting quantity.

4e: Review with internal assessment leader

It stands to reason, that afterwards a short review takes place with the internal assessment leader, with or without the group of participants. In this review, the results and conclusions are evaluated briefly again, as well as the process. Arrangements for some aftercare are made, or – if they had been made before – they are repeated and/or altered in relation to the results.

[2] Objections from a theoretical standpoint can be made against such an indicator. But, if used in a cautious way, it is possible to draw some conclusions from it. Some strong precedents exist. The Eco-indicator, for instance, is in the same way an aggregate quantity, in which variables of an incomparable magnitude are added together through the use of weight factors. One could say: in the Plan Do balance, to all AIFSHE criteria a weight factor of 1 is given.

1.2. Score form

A. Individual Score form

AIFSHE - Score form

Auditing Instrument for Food Security in Higher Education

Name: *(may be anonimous)*	**Function:** Teacher / Manager / Student / Other: …….
University:	**Department:**
Date:	*Last AIFSHE Audit:* **Date:**

	Field		Criterion	? - 0	1	2	3	4	5
PLAN	1. Vision and policy	1.1	Vision						
		1.2	Policy						
		1.3	Communication						
		1.4	Env.operationsmanagement						
	2. Expertise	2.1	Network						
		2.2	Expert group						
		2.3	--						
		2.4	Research and external services						
DO	3. Educational goals and methodology	3.1	Profile of the graduate						
		3.2	Educational methodology						
		3.3	--						
		3.4	Student examination						
	4. Education contents	4.1	Curriculum						
		4.2	Integrated Problem Handling						
		4.3	Internships, graduation						
		4.4	Speciality						
CHECK	5. Result assessment	5.1	Staff						
		5.2	Students						
		5.3	Professional field						
		5.4	Society						

2. The 20 criteria

== *Plan* ==

Field of attention 1: Vision and policy

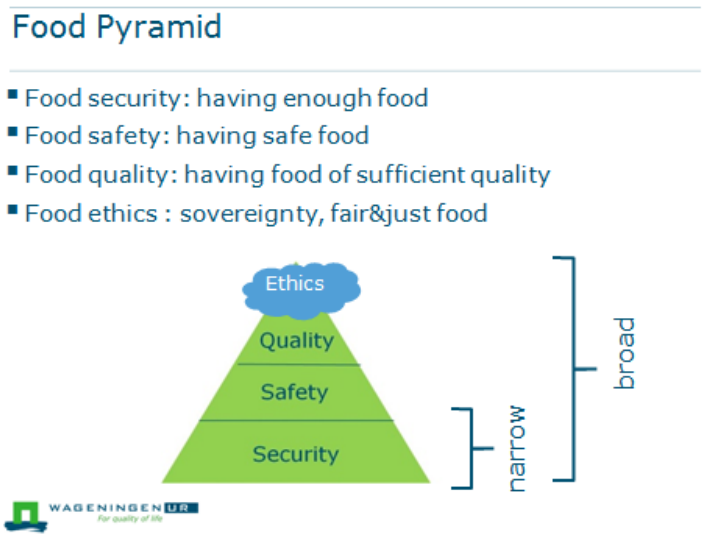
Criterion 1.1: Vision				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- The management has a vision on food security* and education. - This vision is only implicit*. ---------- *(Every * in the text refers to an explanation below.)*	- The management vision on food security has been formulated in documents*. - The management offers opportunities and facilities to work out the vision as concrete consequences for the organisation* and the education.	- The organisation vision on food security and education has been expressed in the mission statement*, and is translated in a concrete policy. - The results of the policy are evaluated regularly, using these goals. - Staff and students are involved in the vision development.	- The vision development about food security and the translation of it in a concrete policy takes place in interaction with the professional field* and with the secondary education.	- The organisation vision on food security and education is integrated with the vision on long term development of society and the role therein of the organisation. - The vision is constantly kept up to date in interaction with many actors* in society.
Selected stage:				
Comments:				

Description:
The organisation, or at least the management, has a vision on food security in general, on aspects within the own fields of expertise and on the consequences of this for the organisation policy. The vision is expressed in the strategic policy.

* **Stage 1:**Several definitions of terms related to the concept of "Food security" have been proposed at the Wageningen workshop 2012:

- *Food security:* Is achieved when all people at all times have physical, social, psychological and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for a healthy and active productive and reproductive life.
- *Food security (II):* Households have adequate access to sufficient food to maintain an active and healthy life, without depending on humanitarian assistance. This implies adequate food available; that households have adequate resources to obtain sufficient food; and that they are healthy enough to receive the nutritional value of the food; that households are not under psychological pressure due a lack of food.
- *Food availability:* Physical existence of food, either from own production or from the markets. At national level, food availability is a combination of domestic food production, domestic food stocks, commercial food imports and food aid.
- *Food access:* Guaranteed when all households and individuals within households have sufficient resources to obtain appropriate foods for a nutritious diet, which depends on the level of households resources – capital, labour and knowledge , as well as prices.
- *Nutritional value:* Deals with adequate food of sufficient diversity to meet nutrient needs.

We can also summarize these definitions in two main ways to look at food security: the narrow and broad way:



* **Stage 1:** "Implicit": i.e. is not formulated explicitly in documents.

* **Stage 2:** "Organisation": i.e. the university, or the department, which is selected as the object of the AIFSHE assessment.

* **Stage 2:** "formulated in documents" can relate to internal documents, but may also mean that a generally accepted declaration has been signed, for instance the Copernicus Declaration, the Talloires Declaration, or the (Dutch) "Handvest voor Duurzaam HBO".
Appendix 1.1-4 contains a list of the most important of these declarations.

* **Stage 3:** "mission statement": An example from reality. The *mission statement* of a Dutch university says:

> The Technical University of Eindhoven:
> - Wants to be an institution for technological-scientific education and research of a high quality according to international standards and with a societal relevance.
> - Aims the generation and the proliferation of knowledge especially at a sustainable development of society
> - Fulfils a stimulating role in the industrial development, especially in the own region
> - Characterises itself by its multi-disciplinary approach and the relation of technology with economical, social and ecological aspects.

* **Stage 4:** "Professional field": the total of all possible (and reasonably likely) future employers of the students. This may concern companies, but of course also governments, societal organisations, research centers, educational institutions, etc. In this relation (stage 4) they act as *direct* stakeholders, in contrast with the situation as described with stage 5.

* **Stage 5:** "Actors in society": for instance
- local, regional and national governments;
- (inter)national networks on education;
- primary and secondary schools;
- NGO's (non-governmental organisations), like environmental groups, welfare organisations, local agenda 21-groups, science shops, law shops, third world development projects, assistance for allochthones, etc. etc.

In contrast with stage 4, where these same institutions may be stakeholders in a direct sense (as the furture employers of the students), in the context of stage 5 they act as representatives of society as a whole.

Criterion 1.2: Policy				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- The policy with respect to food security is developed mainly top-down by the management. - Much of this policy is only implicit. - This policy development is usually motivated by incidental situations or events.	- Staff members have a visible role in the development of a policy with respect to food security - The food security policy is made explicit in documents. - The policy plans are related to short term developments*.	- Staff members and students are involved systematically in the development of the policy with respect to food security - This policy is translated in assessable* goals, and evaluated and (if necessary) adjusted. - The food security policy is middle long* term related.	- Also, external organisations (secundary education and the professional field, e.g. via graduates) are involved in the development of the policy with respect to food security - Activities related to this policy are developed and performed together with these external parties on a regular basis. - The food security policy is long* term related.	- The food security policy is developed and carried out in close cooperation with many actors in society, and contributes explicitly to the policy realisation of these actors. - In these contacts, the organisation has an active, anticipatory role, based on a deep expertise and experience.
Selected stage:				
Comments:				

Description:
A vision of the organisation on food security and education is nice, but it doesn't necessarily have actual consequences: in itself, it is just an opinion. The policy translates the vision in concrete plans to do something with this vision. Goals* are formulated, and activities are designed that will have to lead to the realisation of these goals.

Criterion 1.3: Communication				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- Efforts of individual members of the staff or of parts of the organisation to enlarge the attention for food security take place.	- food security in education, research and operations is a regularly appearing subject in meetings and in internal and external publications*.	- The management has a knowledge of the opinions about food security and education of staff members and students. - This information is used to shape the communication about food security	- Secondary education and the professional field are involved actively in the communication about food security: the communication is in both directions. - The communication is about food security in a "broad sense": not only referring to the own subjects but in a transdisciplinary way.	- A wide variety of societal actors are involved in the communication about food security: the communication is in both directions. - Publications by the organisation, by staff members and/or students, are leading.
Selected stage:				
Comments:				

Description:
Communication takes place within the organisation and with the outside world.

* Stage 2: "Publications": These may be scientific publications in journals. But also: proceedings of meetings, annual reports, university magazine, brochures, PR posters, press releases, etc.
Appendix 1.3-1 shows a larger list of possible channels for communication and publications.

Criterion 1.4: Internal operations management				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- Individual staff members and/or students look after certain aspects of food related issues on the campus	- food related issues is a part of the policy and the management of the organisation. - Certain aspects of the internal food/catering management are managed (rather) effectively: • Material flows • Catering • Energy efficiency • Waste prevention and separation - The students are involved in some way in the food management.	- There is a functioning food management system. - Annually an environmental report is published. - The food management is used intentionally for the education, e.g. as an example of good practice and as an object for exercises.	- The food management system includes demands for suppliers, a traffic plan for the personnel, and a long-term vision on the buildings and the surroundings. - The food management system is certified*. - Students have an active role in the continuous improvement and the performing of the food management plan.	- The food management system is an integral part of the total quality management of the organisation. - There is an optimal embedding in the surroundings and the natural environment. - In the development of this, the organisation, represented in part by students, had an active role.
Selected stage:				
Comments:				

Description:
AIFSHE concentrates on food security in education, as this is the primary task of a TAE. Other aspects, like research related to food security, the food management within the institution itself, don't get emphasis.
Nevertheless, AIFSHE attributes some attention to this food management, because it play a role with respect to education. This is true in two ways:
- as an *example* ("*modelling*") of how an organisation takes care of environmental matters ('Walk your Talk');
- as an *educational tool*, e.g. for:
  - the energy management (for mechanical engineers)
  - the management of the material flows (labs etc., for chemists)

An example of an overview of subjects belonging to the food management is shown herebelow:

Organisation
Purchase
Solid waste
Problem materials
Soil, water, air, noise
Energy
Country planning / building
Nature conservancy
Traffic

* Stage 4: "Certified": This can be based on e.g. ISO 14001, EMAS or BS 7750.

Field of attention 2: Expertise

Criterion 2.1: Network				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- Individual staff members have contacts with companies and/or centres of expertise in the professional field, and so enlarge their knowledge and experience about food security.	- The organisation has contacts within the professional field. - The education benefits from the expertise about food security that is present there: directly, e.g. through appearances of guest teachers, and indirectly, through enlargement of the knowledge of the teaching staff.	- From the perspective of the curriculum contents, regularly the need is investigated for expertise about food security. Based on the results, a network of external relations is maintained. - The expertise in this network is transferred to the organisation and the education.	- Regularly, exchange takes place between staff members of the organisation, of secondary education, and of the professional field. - This happens e.g. as a secondment, in which the role of food security has been made explicit: together, practical projects are done, education is developed, and guest colleges are given.	- The network of expertise is international and interdisciplinary. - Societal organisations are a part of it. - The organisation itself has a clear role in it as a centre of expertise with respect to food security.
Selected stage:				
Comments:				

Description:
The organisation maintains permanent contacts with companies and other organisations having expertise with respect to food security, or else having an interest in using the own expertise. These contacts are used to enlarge the expertise of the staff, and besides to bring knowledge and experience from outside the organisation directly to the students.

Such external organisations could be: commercial companies, government institutions, centres of expertise and public organisations (NGO's) which may function as a source of knowledge and expertise about food security, or else may profit from the knowledge that is available in the organisation about food security.
Food security may be interpreted in the widest possible sense. Relevant subjects are, apart from food security in its literal meaning, for instance: environmental problems, developmental problems (Third World), war & peace, social problems.

Criterion 2.2: Expert group				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- One or some members of the staff, with a special interest in developments around food security within their own course, take initiatives to integrate elements of it in the curriculum.	- There is a group of staff members who, facilitated by the organisation, keep their knowledge about food security within their own and related fields up to date and exchange it among them. - The group is involved with education development.	- An institute (or a department, a group etc.) forms a permanent centre of expertise within the organisation. - This institute participates in the educational development, and has a direct relation with the management.	- The institute has an integral vision on food security and the consequences for education. - It forms a permanent connection with the professional field and with centres of expertise, and it sees to it that knowledge from them reaches the management and the staff, everywhere where it is needed.	- Members of the institute are (inter)nationally leading with respect to food security and the way this is integrated in education. - The organisation propagates this expertise actively, nationally and internationally.
Selected stage:				
Comments:				

Description:
Within the organisation, there is a permanent group of staff members that possesses large and deeply integrated knowledge and expertise about food security.
This group fulfils a guiding role with respect to food security. It sees to it that the vision and the knowledge of the organisation and of the education are kept up to date.
For the other staff members and for the management the group has the role of address and anchorpoint.

Criterion 2.3: - -				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
Selected stage:				
Comments:				

Criterion 2.4: Research and external services				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- In research and external services by the organisation, aspects of food security are present. - Incidentally the teachers and/or the education profits from the expertise acquired in this way.	- The organisation is working on the development of a range of researches and external services in which food security is expressly important. - There is a policy enabling the teachers and/or the education to profit from the expertise acquired in this way.	- Based on its policy, the organisation sees to it that in a large percentage of its research and external services food security is a main aspect. - In a systematic way, the staff and the education profit from the expertise that is gained with it.	- With respect to research and external services, an intensive co-operation exists with external institutes having special expertise concerning food security, aiming at acquiring new knowledge on both sides. - Teachers and students are involved directly in this co-operation.	- With respect to research and external services concerning food security, the organisation belongs (inter)nationally to the best institutes.
Selected stage:				
Comments:				

Description:
Research done by personnel and/or students of the organisation contributes to the integration of food security in education. The same is true for external services.
Aspects of food security are used for the selection and the execution of research and services.

An example: The Technical University of Eindhoven (TUE) has a center for Technology in Food security (TDO). Proposals for research which have to be carried out by that center of want to have some cofinancing from it, of course have to meet some scientific, organisational and financial standards. But the list of criteria also comprises the question:

> Does the project contribute to the goals of the TUE-center TDO: does it contribute to the enlargement of knowledge necessary for the development of technology which makes it possible to meet the needs of the present generation without compromising the possibilities of future generations to meet their needs?

== *Do* ==

Field of attention 3: Education goals and methodology

Criterion 3.1: Profile of the graduate				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- The profile of the graduate contains some visible aspects of four major elements of food security*.	- Food security is mentioned explicitly in the profile of the graduate. - The staff is actively involved in the determination of the four major elements of food security s in the profile. - Within the own professional fields, the profile contains a fairly complete image of knowledge and skills with respect to food security, according to the organisation itself.	- The students are also actively involved in the determination of thefood security in the profile of the graduate. - Food security in a broad, multidisciplinary sense* is recognisable in the profile. - Regular evaluations and adjustments of the profile take place.	- The professional field is also actively involved in the determination, evaluation and improvement of the food security elements in the profile of the graduate. - The profile contains all or most of the aspects of food security in a broad, *inter*disciplinary sense*, in a balanced way.	- Many actors in society are also actively involved in the determination, evaluation and improvement of the food security elements in the profile of the graduate: a transdisciplinary approach. - Compared with sister-institutions the organisation fulfils a leading role with respect to the determination of the profile.
Selected stage:				
Comments:				

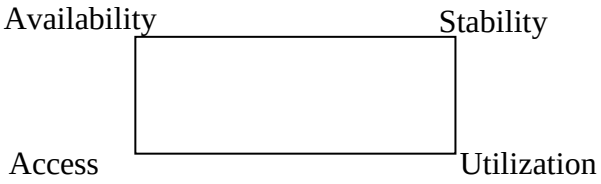
Description:
The "profile of the graduate" can also be interpreted, if other terms are more appropriate, as: "educational programme goals"; "professional profile"; "professional competencies"; enz.
Universities, departements or programmes that don't educate towards a certain professional profile but rather to some kind of scientific researcher, may also interpret the term as "scientific profile" or similar terms.

Usually, a separate educational institution cannot determine a profile of the graduate in complete freedom: often directions exist on a national level, from the government or from educational or professional organisations. Nevertheless, the organisation itself takes part in the determination of the profile, in two ways:
- formally: by determining the free space that usually exists, because not all 100% is determined on a national level but only e.g. 70%;
- informally, because there will always be opportunities for interpretation or coloring of the nationally determined norms.

*Stage 1:
Four elements of food security:

- Access – refers to the ability to produce one's own food or buy it, which implies having the purchasing power to do so.

- Availability – still a problem in areas where food production does not meet population needs, thus raising the question—does our planet have the capacity to feed the growing millions whose consumption habits are on the rise.
- Food quality– from a nutritional, sanitary, sensory and socio-cultural point of view. Food security integrates the notion of food safety.
- Stability – in terms of availability, accessibility and quality. This fourth pillar incorporates issues of price stability and securing incomes for vulnerable populations



An overview of the aspects of food security with respect to sustainable development are shown in the table below:

Availability	**Physical Supply** Domestic food production Stock levels Net trade and import Agricultural Research
Access	**Physical Resource** Land and water Technology Food safety Markets/Values Chain Development **Economic Resource** Income Expenditure Markets Prices
Utilization	**Nutritious** Feeding practices Food preparation Diversity diet **Safe** Quality management, Environmental Management System Toxicity, safety, health **Sufficient** Consumption patterns and culture Distribution of food
Stability	**Climate** Adverse weather **Economic** Market and trade Risk Management/Mitigation **Environmental** Emissions, waste disposal, pollution Biodiversity, ecology Landscape, noise Ecological footprint **Technological** Resources and energy Life cycles, reuse, recycling

	Product development System innovation **Eco-efficiency** **<u>Political / law</u>** International trade reforms and trade liberations Laws and regulations Democracy, human rights War and peace North-south

*** Stage 3:** "Food Security in a broad, multidisciplinary sense": not only relating to the own fields of profession, but to all thefour elements of food security are related to each other in a multidisciplinary way.

> In a **multidisciplinary** approach there is cooperation between the four elements of food security, keeping intact every separate set of theoretical concepts and methodological.
>
> In a **interdisciplinary** approach there is cooperation between the four elements of food security, where a common methodological approach and theoretical fundament is looked for, as a synthesis of the participating disciplines. Participants try to speak "one language".
>
> In a **transdisciplinary** approach, not only co-operation takes place between specialists of the four disciplines of food security, but also others are directly involved: users, problem owners, clients, stakeholders, etc. (transdisciplinary = (literally:) *beyond* the disciplines)

* **Stage 4:** "Food Security in a broad, *<u>inter</u>*disciplinary sense": ample attention is given to a broad variety of the four elements of food security which are related with each other in a balanced and interdisciplinary way.

*** Stage 5:** "Transdisciplinary": see the box.

Criterion 3.2: Educational methodology				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- Now and then the student meets situations in which reflective* skills in food security can be practised.	- The curriculum contains on planned places parts in which the student is gesticulated to develop a reflective attitude.	- The education methodology and the learning setting are designed in such a way that the student regularly meets realistic situations in which a reflective attitude is demanded. - The teachers provide the student feedback on this on a regular basis.	- In the process of this feedback to the individual student, regularly the relation is discussed between choices and behaviour of the student and the consequences of this for food security in food security on the short and the long term.	- In the course of the educational process the student receives this kind of feedback from a variety of actors in society *.
Selected stage:				
Comments:				

Description:
* **Stage 1:** "Reflective": The educational methodology is designed in such a way, that the education contributes to the development of a number of personal characteristics of the future professional that are essential to enable them to contribute to food security .
Such chraracteristics may be called *reflective*, such as:

- sense of responsibility
- critical attitude
- eye for the distinction between facts and values
- respect for opinions of others
- capability of making decisions

* Stag**e 5:** "actors in society": see the description of stage 5 of criterion 1.1.

Criterion 3.3: - -				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
Selected stage:				
Comments:				

Criterion 3.4: Student examination				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- In the examination of certain curriculum parts, the four major elements of food security are present implicitly or explicitly.	- All relevant aspects of food security are examined in some way somewhere during the course.	- The systematic examination of food security subjects are spread over the curriculum in a carefully considered way, taking into account an increasing complexity, study- and examination methods, etc. - This is formulated explicitly in the examination regulations*.	- The systematic examination of food security is evaluated and improved regularly, with the aid of external experts. These are also involved in the actual judging the student achievements on crucial moments.	- The examination of food security is integrated with other, possibly conflicting societal or business-related interests. This appeal to the decision capacity and the responsibility of the student as a future professional.
Selected stage:				
Comments:				

Description:
Examination of the achievements of the students in relation to **food security** is an essential part of the education. If examination is missing as part of the curriculum, the students will have an impression that **food security** is a kind of secondary consideration (a "subject beyond the line").

Student examination on **food security** is relevant for all kinds of education methods. For instance:

- preliminary and final examinations about theoretical subjects;
- reports and pieces of work belonging to problem oriented education and project education;
- reports on internships and graduation projects;
- oral presentations;
- publications in professional magazines.

The evaluation may take place through questions with an explicit relevance towards **food security**, or through questions and tasks with a partially, perhaps implicit **food security** background, or (especially in practical projects) through a judgement supported by checklists of relevant **food security** subjects.

* **Stage 3:** "Examination regulations": i.e. in the education examination regulations, or in related documents, like the study guide or the internship guide.

Field of attention 4: Education contents

Criterion 4.1: Curriculum				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- Certain education modules contain relevant aspects of the four major components/dimensions of food security.	- Basic knowledge of food security has its own position in the curriculum*. - The rest of the curriculum contains the four elements of food securityelements of food security, building on this basic knowledge - The whole of basic knowledge and later food security subjects is related in a well-considered way to the profile of the graduate*	- Food security is Implemented systematically in the entire curriculum, in accordance with the profile of the graduate. - The relation between all education units with respect to food security has been made explicit. - The educational modules containing the knowledge on food security have, wherever possible, been placed in an appropriate framework .	- The systematic structure of food security modules in the curriculum is evaluated and adjusted regularly with the aid of experts in the various professional fields and with regards to local community needs. - In the education, using realistic practical situations, the relevance of knowledge about food security for the professional practice is shown and exercised.	- Besides, in the education, using realistic practical situations, the relevance of food security in its full complexity for society as a whole is shown and exercised. -Impact of education in food security on communities is timely assessed and adjustments made wherever possible.
Selected stage:				
Comments:				

Description:
In the curriculum, the introduction of different elements of food security will not mean that in every Semester there will be separate course on food security. Although a basic module for an introduction to food security may be a good idea, in most cases it might be preferable for the higher curriculum parts to integrate food security themes in existing education modules, i.e. in theoretical parts and (mainly) in practical projects.
This means that the introduction of food security in the curriculum will, in many cases, not have to have strong consequences concerning credit points: "crowding out" of existing curriculum parts will not have to play an important role. Nevertheless, some space will have to be created for specific techniques and methods covering different aspects of food security.

*Stage 1:
Four elements of food security:

- Access – refers to the ability to produce one's own food or buy it, which implies having the purchasing power to do so.
- Availability – still a problem in areas where food production does not meet population needs, thus raising the question—does our planet have the capacity to feed the growing millions whose consumption habits are on the rise.
- Food quality – from a nutritional, sanitary, sensory and socio-cultural point of view. Food security integrates the notion of food safety.
- Stability – in terms of availability, accessibility and quality. This fourth pillar incorporates issues of price stability and securing incomes for vulnerable populations

* Stage 2: "basic knowledge": this is integrated in an early part of the curriculum, either as a separate module, or as a part of a larger whole. Due to the early positioning it is possible to build on it in the rest of the study programme.

Criterion 4.2: Integrated Problem Handling				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- Based on initiatives of individual teachers, integration of some elements of food security takes place on a subject level.	- The curriculum contains on planned places parts components of food security in which the student is gesticulated to develop a reflective attitude.	- The curriculum is designed systematically so that students practice in a growing complexity relating with each other varying aspects of food security within and without the own field of study. - Catchwords: = multidisciplinary = product innovation = functional orientation	- Catchwords: = chain management = interdisciplinary = natural constraints = middle long term	- Catchwords: = transdisciplinary = international = intercultural = societal constraints = long term
Selected stage:				
Comments:				

Description:

The curriculum has been designed in such a way that the students acquire a wide range of knowledge and practical experience with an integrated food security problem solving style. This means that problems, derived from the professional practice are approached and solved while taking into account many different facets and points of view.
Problems can be complex for many reasons. Especially when food security plays a role, it is necessary to include all such kinds of complexity in the problem approach, because otherwise wrong solutions, suboptimalisation and rebound effects will result.

Complexity of problems: some aspects	
Functional orientation	Consumer needs
	Societal constraints
	Natural constraints
System orientation	Product improvement
	Product innovation
	System innovation
Future orientation	Short term (operational)
	Middle long term (tactical)
	Long term (strategic)
Integral chain management	Business: Management of the company chain
	Technical: life cycle assessment
	Economics: Integral cost calculation
Interdisciplinarity	Monodisciplinary
	Multidisciplinary
	Interdisciplinary
	Transdisciplinary
International	Geographical variety
	Cultural variety
	Climatological variety

Criterion 4.3: Internships, graduation				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- Incidentally, practical student projects include elements of the four components of food security.	- If possible, in practical student projects attention is given to food security aspects. - All students are informed that this is expected from them.	- In at least one internship, graduation or other practical student project one the four components of food security is the main aspects. - This is written in the examination regulations*. - This demand is a part of the systematic integration of food security aspects in the curriculum.	- At least one practical student project with food security as a main aspect has to be performed as a member of an interdisciplinary team. - This is written in the examination regulations*	- The interdisciplinary team consists of members coming from other sectors of education or businesses. - The team of the examining board consists of members coming from other sectors of education or businesses - The audience of the public defence comes from other sectors of education or businesses - The project includes ethical aspects, in which the personal responsibility of the student as a (future) professional is expressed.
Selected stage:				
Comments:				

Description:
In (a part of) the practical tasks (internships, graduation, perhaps other practical projects)the students meet facets offood security. They are stimulated to take position on these subjects, and let them have a role in their decisions and recommendations.
The design of the task, the choice of the subject and the selection of the surroundings enable this.Students are invited to perform at least part of their project as a member of an interdisciplinary (student) team.

* **Stage 3 and 4:** "Examination regulations": i.e. in the education examination regulations, or in related documents,like the study guide or the internship and graduation regulations.

Criterion 4.4: Speciality				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- Students have the opportunity to select an optional subject related to food security, if necessary in another educational institution.	- The organisation makes available a series of optional subjects in which one of the four components of food security is a main aspect. - Students are enabled to obtain a special certificate or an annotation on the diploma.	- Students have the opportunity to become a specialist on the area of food security*	- Starting from a specialism, students have the opportunity to follow a wide, interdisciplinary course in which food security plays a main role, and so graduate as a generalist with respect to food security.	- This wide, interdisciplinary course is (inter)nationally known as a top level education programme.
Selected stage:				
Comments:				

Description:
Students who desire so, are enabled to specialise during their course as an expert in food security within the own professional field.

This may be realised through (a combination of): a (partly) individual education traject; a suitable choice for internship(s), for graduation projects and eventual other projects; and new curriculum elements that are developed by the student him-/herself.

***Stage 3:**
e.g. through:
- a separate course aiming at food security aspects within the own professional field
- a ditto graduation speciality
- a ditto post-academic continuation course
- the opportunity to design an individual study course with a lot of food security aspects.

Resources:
IFPRI. Knowledge Product Tools. http://www.ifpri.org/knowledge-products
Mukerjee, A. Food Security: Concept, Framework and interdependencies. Senior Economic Affairs Officer and Head, UN- Asian and Pacific Centre for Agricultural Engineering and Machinery, Beijing
http://www.un.org/esa/dsd/dsd_aofw_wat/wat_pdfs/meetings/ws0109/1_1_Mukherjee.pdf
http://www.globaleducation.edu.au/global-issues/gi-education.html

United Nations Millennium Development Goals Report 2011
www.un.org/millenniumgoals/pdf/(2011_E)%20MDG%20Report%202011_Book%20LR.pdf
Food security has long been regarded as a matter of balancing supply with demand. In the past, policies were limited to increasing agricultural production and/or slowing population growth. This perspective has fundamentally changed, as the definition above indicates.

== *Check* == *NOT TO BE USED YET*

Field of attention 5: Result assessment

Criterion 5.1: Staff				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- Data are available about the level of appreciation of the staff about sustainability in the organisation.	- Trend data* about this appreciation are available. - These data are analysed and documented.	- These trend data have been compared with the policy targets. - The conclusions of this comparison are used for the policy determination.	- These trend data have been compared with those from colleague-organisations. - The conclusions of this comparison are used for the policy determination.	- These trend data have been compared with those from excellent organisations in within and outside of the country. - The conclusions of this comparison are used for the policy determination.
Selected stage:				
Comments:				

Description:
The organisation investigates the level of appreciation about the policy on sustainability among the staff.
Such an investigation can be done in a number of ways:

- Of course, an AIFSHE assessment contributes to the acquisition of such information. But AIFSHE produces primarily process data rather than result data.
- On the next page a quickscan is shown, developed to investigate the level of appreciation of the staff members. (With the next 3 criteria, treating the appreciation of the students, the professional field and societal organisations, comparable quickscans are available.)
- A more extensive questionnaire is developed by the American networkorganisation ULSF (University Leaders for a Sustainable Future). This questionnaire is available in appendix 5.1-1.

* **Stage 2:** "trend data": i.e. the information about the appreciation has been assessed several times, after which changes in them have been investigated.

Quickscan*staff*: Results of sustainability	
Name (event. anonymous):	Function:
University:	Department:
Location:	Date:

Instruction: decide (as an individual staff member) how correct the theses below are. In the box of your choice, write down the corresponding number (0, 1, 2 or 3 points).
Finally, add the scores. The total score is at least 0, and maximally 30 points.

Thesis	*See criterion*	Not true at all: **0** points	A little bit true: **1** point	Mostly true: **2** points	Absolutely true: **3** points
1. The management takes food security with respect to the organisation, research and education seriously: with them, it is not only words but also actions.	1.1, 1.2				
2. In our organisation magazine, criteria on food security are to be found on a regular basis.	1.3				
3. The regulations for internal environmental management are well observed by the staff and the students.	1.4				
4. Some members of our staff are real experts on food security.	2.2, 2.3				
5. I am well-informed about aspects of sustainability within my own fields of expertise.	2.3				
6. Our research and/or external services contribute well to the knowledge and experience of the teaching staff with respect to sustainability.	2.4				
7. The curriculum of my study programme contains enough aspects of food security.	3.1, 4.1				
8. Sustainability with us is more than a specialism: we take it as a broad, interdisciplinary thing.	3.2, 4.2				
9. I contribute to the education of my students towards responsible citizens and professionals.	3.3				
10. When evaluating student projects / internships / graduation assignments, I always take sustainability aspects into consideration.	4.3				
Total per column					
Total score (maximum: 30)					

This and the other 3 quickscans have been designed according to the model of the "Concise Organisation Climate Index" (Verkorte Organisatieklimaat Index, Vokipo). See: de Cock (1986) en Swanink (1988).

Criterion 5.2: Students				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- Data are available about the level of appreciation of the students about sustainability in the organisation.	- Trend data about this appreciation are available. - These data are analysed and documented.	- These trend data have been compared with the policy targets. - The conclusions of this comparison are used for the policy determination.	- These trend data have been compared with those from colleague-organisations. - The conclusions of this comparison are used for the policy determination.	- These trend data have been compared with those from excellent organisations in within and outside of the country. - The conclusions of this comparison are used for the policy determination.
Selected stage:				
Comments:				

Description:
The organisation investigates the level of appreciation about the policy on sustainability among the students.
Such an investigation can be done in a number of ways:

- Using AIFSHE, see criterion 5.1
- The next page shows the quickscan for the students
- A third way to assess the level of appreciation of the students is, to invite them to make a statement at the moment of graduation, about sustainability or about their professional ethics. This may be compared with the "Oath of Hippocrates", which is promised by medical students. The percentage of students that are willing to do so forms an indication for the support among the students for sustainability.

A short text which is suitable for this is the "Pugwash Declaration":

> I promise to work for a better world, where science and technology are used in socially responsible ways.
> I will not use my education for any purpose intended to harm human beings or the environment.
> Throughout my career, I will consider the ethical implications of my work before I take action.
> While the demands placed upon me may be great, I sign this declaration because I recognise that individual responsibility is the first step on the path to peace.

A more extensive text is the "INES Appeal", reprinted in appendix 5.2-1.

The call for the making of such a statement is supported by UNESCO, which writes:

> *All scientists should commit themselves to high ethical standards, and a code of ethics based on relevant norms enshrined in international human rights instruments should be established for scientific professions.*

Quickscan *students*: Results of sustainability	
Name (event. anonymous):	Year of study:
University:	Department:
Location:	Date:

Instruction: decide (as an individual staff member) how correct the theses below are. In the box of your choice, write down the corresponding number (0, 1, 2 or 3 points).
Finally, add the scores. The total score is at least 0, and maximally 30 points.

Thesis	*See criterion*	Not true at all: **0** points	A little bit true: **1** point	Mostly true: **2** points	Absolutely true: **3** points
1. In our organisation magazine, criteria on food security are to be found on a regular basis.	1.3				
2. The regulations for internal environmental management are well observed by the staff and the students.	1.4				
3. Some of my teachers are real experts on food security.	2.2, 2.3				
4. Thanks to my study, I am well-informed about aspects of sustainability within my own fields of interest.	3.1				
5. The curriculum of my study programme contains enough aspects of food security.	4.1				
6. Sustainability with us is more than a specialism: we take it as a broad, interdisciplinary thing.	3.2, 4.2				
7. The teachers take food security with respect to the organisation, research and education seriously: with them, it is not only words but also actions.	3.3				
8. It is right that ethical aspects are expressed in a serious way in my study programme.	3.3				
9. When evaluating our projects, internships and graduation assignments, the teachers always take sustainability aspects into consideration.	4.3				
10. When I graduate, I am prepared to make a statement about sustainability in relation to my behaviour as a professional.	5.2				
Total per column					
Total score (maximum: 30)					

Criterion 5.3: Professional field				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- Data are available about the level of appreciation of the companies in the professional field* about sustainability in the organisation.	- Trend data about this appreciation are available. - These data are analysed and documented.	- These trend data have been compared with the policy targets. - The conclusions of this comparison are used for the policy determination.	- These trend data have been compared with those from colleague-organisations. - The conclusions of this comparison are used for the policy determination.	- These trend data have been compared with those from excellent organisations in within and outside of the country. - The conclusions of this comparison are used for the policy determination.
Selected stage:				
Comments:				

Description:
On the next page you will find the quickscan for the professional field.

* **Stage 1:** "companies in the professional field": this can be all the companies with which the organisation has or should want a relation. For example: companies where
- interns and/or graduating students work
- graduates have their job
- teachers have a parttime job or a secondment
- practical projects with groups of students are done
- guest teachers and associate professors come from
- services are delevered by the unversity

Quickscan *Professional field*: Results of sustainability	
Name (event. anonymous):	Function:
Company:	Department:
Location:	Date:

Instruction: decide how correct the theses below are. In the box of your choice, write down the corresponding number (0, 1, 2 or 3 points).
Finally, add the scores. The total score is at least 0, and maximally 30 points.

Thesis	*See criterion*	Not that I know: **0** points	A little bit true: **1** point	Mostly true: **2** points	Absolutely true: **3** points
1. In the communication with our company the university underlines regularly the importance of food security.	1.3				
2. Transfer of knowledge about sustainability is more than one way directed from our company to the university: we profit from their expertise.	2.1				
3. The university disposes of teachers who are real experts with respect to food security.	2.2, 2.3				
4. If our company would need (paid) research or services by a university, related to food security, this university will certainly be in the picture.	2.4				
5. The interns / graduates of this university show by their *thinking* and *professional behaviour*, to dispose of a sufficiently sustainable attitude.	3.3				
6. The interns / graduates of this university dispose of enough *knowledge* and *insight* about food security.	4.1				
7. The interns / graduates of this university dispose of enough *skills and methods & techniques* about food security.	4.1				
8. For the interns / graduates of this university sustainability is more than a specialism: they consider it in a broad, interdisciplinary way.	4.2				
9. The interns / graduates of this university have or get, thanks to the university education, a wide experience in working in an interdisciplinary team.	4.3				
10. In the evaluation of our interns from this university we always involve sustainability aspects, in accordance with the wishes of the university.	4.3				
Total per column					
Total score (maximum: 30)					

Criterion 5.4: Society				
Stage 1: **Activity** oriented	*Stage* 2: **Process** oriented	*Stage* 3: **System** oriented	*Stage* 4: **Chain** oriented	*Stage* 5: **Society** oriented
- Data are available about the level of appreciation of relevant societal organisations* about sustainability in the organisation.	- Trend data* about this appreciation are available. - These data are analysed and documented.	- These trend data have been compared with the policy targets. - The conclusions of this comparison are used for the policy determination.	- These trend data have been compared with those from colleague-organisations. - The conclusions of this comparison are used for the policy determination.	- These trend data have been compared with those from excellent organisations in within and outside of the country. - The conclusions of this comparison are used for the policy determination.
Selected stage:				
Comments:				

Description:
On the next page you will find the quickscan for societal organisations.
Another way of investigating the level of appreciation for the university concerning sustainability by society is, is to look at which "official" societal recognitions are received by the organisation in recent years. You can think of awards, certificates, etc. A list of this kind of recognitions can be found in appendix 5.4-1.

The societal significance of universities with respect to food security is stressed by many declarations on sustainability. Some examples:

- Agenda 21, chapter 36 art. 8:
  There is still a considerable lack of awareness of the interrelated nature of all human activities and the environment, due to inaccurate or insufficient information. Developing countries in particular lack relevant technologies and expertise. There is a need to increase public sensitivity to environment and development problems and involvement in their solutions and foster a sense of personal environmental responsibility and greater motivation and commitment towards food security.
- Talloires Declaration, art. 1:
  Use every opportunity to raise public, government, industry, foundation, and university awareness by openly addressing the urgent need to move toward an environmentally sustainable future.
- Copernicus Charter, art. 6 and 9:
  Universities shall support efforts to fill in the gaps in the present literature available for students, professionals, decision-makers and the general public by preparing informative didactic material, organising public lectures, and establishing training programmes. They should also be prepared to participate in environmental audit.
  Universities shall devise environmental educational programmes on these issues for different target groups: e.g. business, governmental agencies, non-governmental organisations, the media.

The supportive role towards primary and secondary education is expressed in the Talloires Declaration (art. 8):
Establish partnerships with primary and secondary schools to help develop the capacity for interdisciplinary teaching about population, environment, and food security.

* **Stage 1:** "relevant societal organisations": see the list in the description of stage 5 of criterion 1.1.

Quickscan *Societal institutions*: Results of sustainability	
Name (event. anonymous):	Function:
Organisation:	Department:
Location:	Date:

Instruction: decide how correct the theses below are. In the box of your choice, write down the corresponding number (0, 1, 2 or 3 points).
Finally, add the scores. The total score is at least 0, and maximally 30 points.

Thesis	*See criterion*	Not that I know: **0** points	A little bit true: **1** point	Mostly true: **2** points	Absolutely true: **3** points
1. The university has a policy which demonstrate a truely societal responsibility.	1.1, 1.2				
2. In the communication with our organisation the university underlines regularly the importance of food security.	1.3				
3. If we would seek cooperation related to food security with a university, this university will certainly be in the picture.	1.3				
4. The expertise of this university is of importance for our organisation.	2.1				
5. The university disposes of teachers who are real experts with respect to food security.	2.2, 2.3				
6. We cooperate with teachers of this university who are capable of working with us on food security in the broadest sense: *people*, *planet* and *profit*.	3.3				
7. The students of this university dispose of enough *knowledge* and *insight* about food security.	4.1				
8. The students of this university dispose of enough *skills and methods & techniques* about food security.	4.1				
9. We cooperate with students of this university who are capable of working with us on food security in the broadest sense: *people*, *planet* and *profit*.	4.2				
10. The interns / graduates of this university have or get, thanks to the university education, a wide experience in working in an transdisciplinary team.	4.3				
Total per column					
Total score (maximum: 30)					