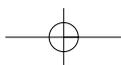
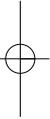
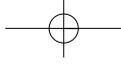


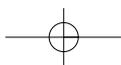
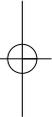
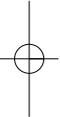
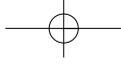


FIFTH ISLAMIC CONFERENCE OF ENVIRONMENT MINISTERS

**Progress report on implementation of the project of
"Islamic Academy for the Environment and Sustainable Development**

ICEM-5/2012/4.2





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Preamble: Mission, Vision and Concept

The first part of this mission, entrusted to the care of ABWAB Consultants, consists in defining the concept of the Islamic Academy for The Environment and Sustainable Development (IAESD), subject of His Majesty the King Mohammed the Sixth proposal in 2009 in his address to the Council of the Islamic Minister of Environment, and that will be based in Morocco. The purpose of the present document is to summarize the recommendations related to the following components of the study:

1. Mission and Vision of IAESD which outline the concept of this academy;
2. The fields and format of the recommended training programs
3. The Appropriate research themes
4. The approach of the transfer of know-how and consolidation of skills

I. / Mission and Vision of IAESD

Before any reflection or decision as to the setting up of the Academy, it is important to define the essential components of the concept of this future institution, namely its mission, its vision which will direct and guide its action during the first years, and its status which will suit and benefit its vision and ambition.

1. IAESD Mission Statement

The idea of the Islamic Academy for Environment and Sustainable Development emanates from the Royal Speech of November 29th, 2008, addressed to the Ministers for the environment of the Islamic countries, members of the Organization of Islamic Co-operation, and in which his Majesty The King Mohammed The Sixth recommended "setting up of an Islamic Academy for the Environment and Sustainable Development, in order to encourage research and the exchange of expertise among Islamic states and to enhance capacity-building and skills through training programs".

On the basis of this detailed Royal letter, such an institution shall have:

- Seek a broad vocation, which is not limited to the traditional vocation of publishing and reflection governed by scientists of the field
- Serve the member countries of the OIC,
- Place its strategy and its actions in support of the Environment and sustainable development policies adopted by these countries.
- Observe the Islamic spirit pervading the activities of the other OIC bodies.

Recommendations

Thus, we now have the primary ingredients for defining the mission of the institution subject of this study. The detailed reports describe the mission statement, the Vision, and even the status of IAESD, through analyzing the universally accepted definitions with respect to these nine components:

1. Academy
2. Research
3. Training
4. Transfer of know-how
5. Capacity-building
6. Environment
7. Sustainable Development
8. Islamic Community
9. Islamic Frame of reference

PROPOSED MISSION FOR IAESD

The IAESD seeks to serve governmental and parliamentary institutions, economic actors, civil society associations in the OIC member countries as well as international NGOs and partners.

It develops the awareness as to the environmental stakes in local and intercommunity governance, trains actors and leaders on the environment and sustainable development scene and helps them improve their skills. It also helps enhance general skills and capacity building through the development of a network of expertise, scientific research groups, information platform, graduate education and training systems, both in-house and outsourced.

The Academy operates in the fields of environment and sustainable development as they are universally recognized, while taking account of the constant innovations and enriching of approaches by the incorporation of the values of Islamic culture and heritage.

2. Consistency and interdependence of missions

It clearly appears that the main missions that should be ensured by the future Islamic Academy for Environment and Sustainable Development fall within the framework of Consistency and complementarity. The figure below illustrates this vision of interdependence

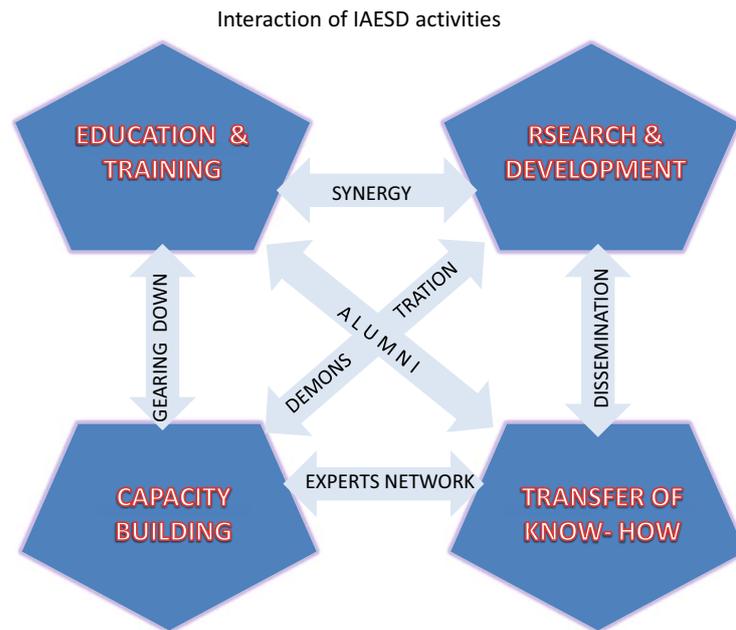


Figure 1.1. Interdependence of Activities

3. Status of IAESD

Given that the idea of the IAESD has emanated from the Islamic Conference of Environment Ministers, the status which could be granted to the IAESD is closely related to that of the other bodies that are part of the Organization of Islamic Cooperation. The organizational chart of the OIC distinguishes between:

- **the subsidiary bodies**, such as the Islamic Centre for the Development of Trade (ICDT) in Casablanca or the Islamic Academy of Fiqh,
- **the specialized institutions**, such as the Islamic Bank for development (IDB) in Jeddah, or the Islamic Educational, Scientific and Cultural Organization (ISESCO) in Rabat,
- **the independent institutions** related to OIC, such as the world Islamic Academy of Sciences, in Amman (IAS), or the General Council for Islamic Banks and Financial Institutions (GCIBFI).

Our recommendation is to call for the setting up of the IAESD as a body that could be in full possession of the autonomy of budget and status. This position would enable it, not only to be independent but also to enhance the force of representation of the community of Islamic countries vis-à-vis the world. In this perspective, it has to be considered also, that ISESCO is fully committed in the preparation and the further steering of the academy. Such a status to give to the academy would be well-deserved by an institution intended to be the counterpart of the United Nations Environment Program (UNEP), just as the OIC is the counterpart of UNO in the Islamic world.

2. Vision of IAESD

Although the vision of any institution is the combination and conjunction of the future board members personalities and the context in which it is required to operate, we deem it possible to provide a rough outline of such a vision:

VISION OF IAESD

- Set environment and the approach to sustainable development up in the OIC member countries, as being the fundamentals of national as well as intercommunity policies by the year 2020.
- Adopt an innovating approach in scientific research through adapting the social, cultural, political and economic contexts.
- Avail itself of international standing means for pilot research and training structures in the Islamic world.
- Adopt a global approach with regard to all forms of action combined with a niche progressive strategy, giving priority to the themes that most create value in the Muslim world.
- Eventually become a reference training and research in the field of environment and sustainable development, compared with the countries and institutions other than those of the OIC.
- Make sure that the services be provided in the three languages used in the Islamic countries, namely, Arabic, English and French.

II. / IAESD education and training fields

Defining the training programs of an institution is not an easy task and should take into account the needs of the job market in these countries, their policies with regard to this and the existing training programs already provided by their universities and institutes.

Offering academic programs is, therefore, determined by several variables, particularly the socio-economic stakes of each country, its educational systems and industrial fabric, among other things. The purpose, in our case, is to draw a map of the training programs likely to enable the Academy to meet the stakes of the OIC member countries in terms of Environment and Sustainable Development (ESD).

Recommendations

For this purpose, we have adopted a process inspired by the skill-based approach. In other words, we have thought out training programs to be provided by the Academy depending on the professions and skills related to them. At first, we have analyzed the professions related to these stakes to bring out the various training needs in the area of environment and sustainable development. As a second step, we have examined the training programs that are already being provided in the OIC member countries in order to identify their specific needs. This step enabled us to identify five training areas that could be of specific interest for the Islamic countries, namely:

1. Prevention and reduction of pollution;
2. Management and development of water resources;
3. Energy efficiency and renewable energies;
4. Sustainable Agriculture;
5. Governance of Sustainable Development.

In the light of this, we recommend that the Islamic Academy for Environment and Sustainable Development (IAESD) adopt the ten principles below on which the structuring of the training areas and academic formats will be based. These principles are:

1. Diversity of programs and specialization of areas;
2. Training-research synergy
3. Internationalization of partnerships;
4. Variety of the target audiences;
5. Involving local universities in full-time education, specifically DUT-BTS (two-year degree in Technology or Techniques'), or any other vocational training diploma , Bachelor's degree;
6. Launching of in-house graduate studies;
7. Contribution to the development of learning and knowledge (doctorate and Master research);
8. Having recourse to ongoing training
9. Development of e-learning and distance learning;
10. Progressivity of the training programs provided.

We thus, recommend that the Academy should:

- Guarantee the local full- time ESD education programs provided by universities of the Member countries, by incorporating programs which will complement the launching of specialized courses in the Academy, for time-limited cohorts. This will be carried out according to the table hereafter.
- Launch in-house Master's and doctoral programs in the following areas: Management and treatment of wastes, Air and Adaptation to Climatic changes, Management and development of water resources, Energy efficiency and renewable energies, Sustainable agriculture, Management of natural and

Recommendations

technological risks, Economics and Environment Law and Sustainable development, and this according the table hereafter.

- Implement an ongoing training center in order to meet practicing professionals’ need to improve their skills and knowledge and an e-learning department to encourage the distance teaching of certain modules and seminars and also in order to provide students’ with pedagogical support.
- Call on international partners who will accompany the IAESD in the deployment of all these programs.
- Create synergy with the ‘watchdog’ for professions & training programs to ensure compliance with the needs of the employment market of the OIC member countries and the ESD training programs.
- The training programs offered by the IAESD can be summarized in the as follows:

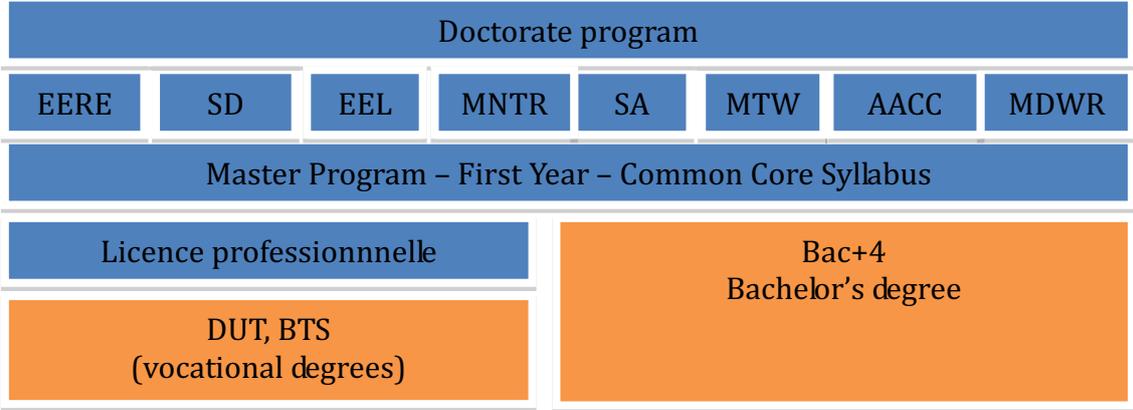


Figure 1Caption: Energy efficiency and renewable energies (EERE), Sustainable development (SD), Economics and Environment Law (EEL), Management of natural and technological risks (MNTR), Sustainable Agriculture (SA), Management and Treatment of Wastes, Air and Adaptation to Climatic changes (AACC), Management and Development of water resources (MDWR)

Figure 1.2. Scale model of Training programs

Notes : 1. The training programs in orange are provided by the local partner whereas those in blue are provided by the IAESD.
 2. The second year of the Master program is provided as research curricula and professional curricula

III. / IAESD Research Areas

The scientific research areas have been accepted on the basis of an analysis of the needs of the islamic community member countries as well as an examination of the training areas already existing in these countries. The choice of these research areas has also used as a benchmark, what several institutions and centres working in the same fields and areas are doing. The selected themes shall be tackled in accordance with 20/80 rule, viz 20% of the themes operationally dealt in the laboratories of the Academy and 80%

Recommendations

dealt with via research laboratories in the Islamic world, by enhancing skills and organized exchange of expertise and know-how.

The themes accepted are as follows :

First: in the technological field

1. Technology of Renewable Energy.
2. Cleantech
3. Impact of Climate change (Desertification, floods).
4. Desalination.
5. Soil Conservation(ecology), Biogeography
6. Biodiversity.
7. Hydrology, meteorology.
8. Industrial and household waste
9. Architecture and urban planning «Green»

Second: in the institutional, societal and corporate fields

10. Governance of sustainable development.
11. Green economy
12. Management of the treatment and transport of polluting agents.
13. Environmental and energy policies
14. Industrial ecology
15. Relationship between Education, health care and Sustainable development.

Third: Scientific research on site and the means to be mobilized

We recommend that the following means be implemented to promote scientific research within the IAESD:

1. **Laboratory research:** Five research themes (of which three are in the technological fields) should be selected for the setting up of perfectly equipped demonstrative laboratories which will serve specialized firms and organizations. The themes to be accepted shall priority themes with regard to the needs of the member countries and the availability of funding.

The priority themes that we recommend are taken from the list of priority themes retained and defined in the report of research areas:

- a. Clean technology
- b. Agrobiology
- c. Green Architecture and urban planning
- d. Governance and sustainable development
- e. Green economy
- f. Relationship between Education, health care and sustainable development

Recommendations

- 2. Research groups:** Through the network of expert that it will establish, the IAESD will coordinate the activities with the research centers in the member countries for all the accepted themes.
- 3. Scientific conference and symposia:** These conferences will be an opportunity for the network of experts to build links and put their knowledge to the test during debates. They will give birth to publications.
- 4. The Environment Watchdog of the Islamic world.** This body will be responsible for the collection and dissemination of environment and sustainable indicators in the member countries.
- 5. A THINK TANK in Environment.** This may constitute a force of proposition and influence with the international bodies.

The following synoptic diagram illustrates the structuring of the themes that are of special interest in terms of research and training.

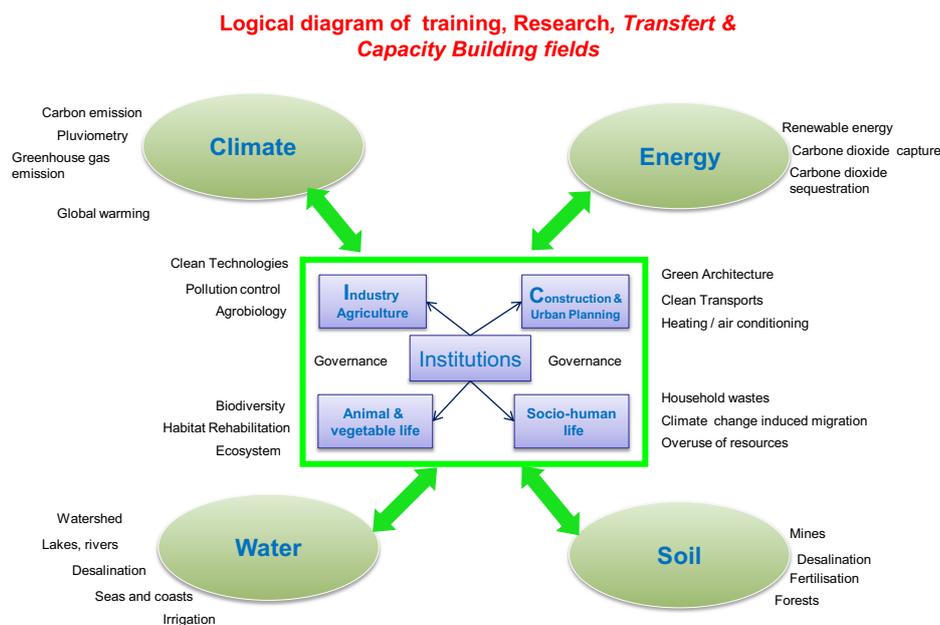


Figure 1.3. Interaction of environmental components A.LAHLLOU

IV. / Approach of Transfer of Know-how and Capacity building

The researchers and experts in the issues related to the concerned area of specialization represent the main vectors in the transfer of know-how.

The transfer of know-how, mainly through networks of experts is one of the pillars of the Capacity Building or enhancing of skills function alongside with training and scientific research.

Recommendations

Indeed, the future academy has a great role to play in the network of experts_ the main vector in the transfer of know-how and which, it appears to us, falls within the very thrust of the future Islamic academy.

The networks of experts of the Academy, who will constitute the core of Islamic environment and sustainable development network, will, therefore, be able to tackle the important issues below:

1. Gather relevant knowledge in the field of environment and sustainable development specific to the Islamic world and put them at the disposal of governments, multilateral NGO and institutions.
2. Back the work of the environment and sustainable development watchdog steered by the academy.
3. Hold debates on the issues and questions of special interest and exchange expertise with the other developing countries on issues of common interest.
4. Make propositions and launch ideas and initiatives with the international bodies in charge of environment and sustainable development. One of the high value proposals for member countries would be to establish an intercommunity environment standard, which will take into consideration the geo-climatic, economic and cultural characteristics of the member countries.
5. Serve the Academy with respect to the programs of building and reinforcing capacities by addressing parliament, governmental and associative bodies in the member countries.
6. Ensure the transfer of know-how among the OIC member countries in order to guarantee complementarity in the region. Such initiative will help reduce the gaps between the Islamic countries.
7. Build links between the Academy and the various international networks of transfer of expertise.

Moreover, the contribution of the future academy will be especially relevant because there is currently no network of experts within the bodies of OIC, which is in the mean time:

- involved in issues related to environment and sustainable development in the Islamic countries, be it at the level of each country or at the community level likely to supplement the efforts of regional or sub-regional economic development within the large community of Islamic countries.
- composed of citizens of the Islamic countries. One of the great assets that should be taken advantage of here, it should be noted, is the Diaspora of experts based in developed countries. These people will be more involved in this issue and will ensure the necessary transfer of skills north-south and, ultimately, support and encourage the emergence of a paradigm ensuring the interdependence of these countries with respect to international policies and choice of development modes.

V./ Estimation of the Number of Students and Researchers

1. Total Number of Students

The numbers of students, researchers and administrative staff are estimated depending on the training fields presented in the report on training fields which points out five areas and nine programs.

We have taken into consideration the needs of Graduate education programs (Masters and Doctorates) as well as those of the third year of Bachelor degree, so called *Licence professionnelle* in the French system.

As for the other education programs where there is a need that the IAESD won't be able to meet, we have recommended that they be implemented and reinforced in the local universities of the OIC member countries. The skill enhancing and capacity building departments are supposed to, in collaboration with the directorate of pedagogical affairs, take care of this function. In this connection, suffice it to evaluate the human and financial resources that are necessary for the implementation of the areas of intervention of the environment watchdog, mentioned in the deliverable N° 4. One of the roles of the watchdog is to examine the training programs/jobs adequacy in the OIC member countries in order to promote this type of training programs at the level of the local universities.

The planning of the number of students likely to be the target of the programs of the IAESD rests on:

- 1) The principle that the Academy will not be a full title university nor will it be a school, and that the IAESD education programs will target rather a demonstrative and pilot program for the rest of skill enhancing actions. Also, the number of students shall be reduced accordingly and shall not exceed 230, once up and running.
- 2) The degree of importance of needs in terms of Environment and sustainable development -related professions and the relative intensity of these needs.
 - 1) The mission and orientations of the IAESD.
 - 2) The gradual approach in the deployment and implementation of the education system.

In this connection, we have at first noticed that the needs in terms of ESD education programs are important, particularly with regard to the areas of *Management and Treatment of Wastes, Management and Development of Water Resources and Energy Efficiency and Renewable Energies*.

Second, taking into account the mission of the IAESD, we have recommended that the Academy be a pole of expertise demonstration. It can be taken as a site for the introduction of training programs related to significant environmental questions and as a tool for their diffusion and dissemination depending on the specific

needs of the OCI countries. In other words, the IAESD should, on a small scale, implement the most relevant programs. Although such programs will be provided to a limited number of students, they will be provided within a framework that meets the international standards so much on the pedagogical as on the structural levels.

Finally, being aware of the importance of the gradual implementation of such programs, we recommend that classes of twenty students per program be run following three steps:

- The first step lies in launching the five more important programs, namely the doctorate program in ESD, the third year of Bachelor degree called Licence professionnelle and the Master programs in *Management and Treatment of Wastes*, *Management and Development of Water resources* and finally the Master program in *Energy Efficiency and Renewable Energy*.
- The second step consists in opening programs of second level importance within the IAESD. The concern here is the master programs in *Sustainable Agriculture* and *Air and Adaptation to Climate Changes*. Besides, during this phase, we recommend that the first year of the Master program be opened as a common core syllabus in preparation for the different specialized Masters.
- The third phase is that in which all programs will be provided and in which all the areas will be operating in their full capacity and with the maximum number of students and researchers.

2. Total Number of Researchers

In order to estimate the number of researchers, we have to take into consideration parameters, such as:

- *Annual number of hours taught by teachers*: This variable is determined depending on the pedagogical standards governing teachers' intervention within the framework of second and third cycle programs.
- *Number of hours of programs*: the teaching hours adopted in the different training programs will determine needs in terms of teachers. In order to estimate the number of hours of the planned programs, we have relied on a benchmark of similar training programs used worldwide.
- *Needs in terms of research activities*: based on the research vocation of the Academy, recruiting researchers will take into consideration the priority research themes and the planned projects within the IAESD.

Table 1.1 shows the different scenarii of the planning of the expected number of students and researchers of the IAESD.

Recommendations

Start of academic of year/year	Licence	Master M1	MTW	MDWR	EERE	APA	SA	GSD	EDE	GRTN	Doctorate	Number
Number of Students												Student Total
Start of year 1	20	0	20	20	20	0	0	0	0	0	20	100
Start of year 2	20	20	20	20	20	20	20	0	0	0	20	160
Start of year 3	20	30	20	20	20	20	20	20	20	20	20	230
Number of Teachers												Teacher total
Start of year 1	2	0	2	2	2	0	0	0	0	0	1	9
Start of year 2	2	1	2	2	2	2	2	0	0	0	1	14
Start of year 3	2	1	2	2	2	2	2	2	2	2	1	20
Number of Researchers												Researcher totals
				CleanTech	GreenArchit	Health & Edu	Agrobiology	Gov of SD				
Start of year 1				2	1	2	2	3				10
Start of year 2				3	2	2	3*	3				11
Start of year 3				3	2	2	3*	3*				9

Table 1.1 expected number of students and researchers of the IAESD

- The number of researchers will be reduced in total by the number of teachers in order to take account of redundancies in the total number of researchers.

VI. / Estimation of the Surface Area of the Academy

1. Buildings

The estimation of the surface areas of the Academy has been carried out on the basis of:

1. **The area of interest of the Academy**, namely teaching, research, transfer of know-how, capacity building and enhancing of skills besides its function of scientific and cultural influence and reputation with regard to its domain of specialization.
2. **The number of students**, on the basis of which the dimensions of classrooms, auditoriums and laboratories as well as residential buildings have been calculated.
3. **The number of teachers**, on the basis of which the dimensions of pedagogical offices have been calculated.
4. **The organizational chart** of the Academy, on the basis of which the dimensions of administrative facilities and common space have been calculated.
5. **National and international benchmarks**, on the basis of which the areas unit measurement has been determined.

The total net surface area of the Academy is therefore estimated at 10.443 m². If we add the traffic tracks and lanes, which amount to 35%, the net surface area to be built is 14.043 m².

All these architectural facilities can be built on a piece of land amounting to a maximum of 10.000 m².

The global surface area of the piece of land on which the program may be executed is estimated at 20% of the total acquired land of 35 ha, i.e. 7 ha.

Out of 7 ha, the remaining 6ha of the surface area that are not built shall be used as landscapes and mineral spaces.

Buildings	Surface area used	Surface areas SHON
Academy total (estimation.)		6 734 M²
Student Center total (estimation)		4 710 M²
Learning Center Total (estimation.)		2 687 M²
Buildings (total)		14 130 M²
Surface area used (20%)	70 000 M²	
Built land (increased)	10 000 M²	
Roadways and various networks		70 000 M²
Enclosure (integral)		2 700 LM
Landscaping	60 000 M²	60 000 M²
Parking		3 000 M²

Table 2.1. Estimation of the surface area of the Academy

2. Facilities

In addition to buildings, the estimation of the facilities of the Academy has been carried out essentially on the basis of a benchmark of first rank national and international institutions.

Taking into account the nature of the framework study and the deadlines allowed, a kind of value benchmarking has been carried out. The estimation of facilities is therefore directly integrated in the part devoted to budgeting. We consider that the estimations obtained in this way are appropriate and correct for approaching the total amount of capital expenditure in terms of facilities.

VII./ Estimation of the Budget of the Academy

The estimation of the budget of the Academy is based on the calculation of the surface area, the estimation of facilities for capital expenses, and the number of students and employees for operating expenses:

1. Capital budget, including buildings and equipments
2. Operating budget, including salaries and fees, other operating expenses and potential receipts.

1. Capital Budget

In the report on budgeting, two headings are incorporated, namely building budget and equipment budget. These two headings have been defined by a team including consultants appointed by ABWAB consulting firm within the framework of this Frame Study, and others from CID engineering firm. All this was done on the basis of the figures comprised not only in the benchmark report, that was delivered separately, but also on the basis of other local benchmark sources pertaining to first rank universities.

Table 3.1. below summarizes the construction costs.

Buildings	Surface area (SHON)	Price/m² (MAD) (Exclusive of Tax)	Base Price (in MAD)	Extra cost for GREEN hyp. 15%
Academy Total (Approx)	6 734	8 790	59 190 750	68 069 363
Student Center Total (Approx)	4 710	6 000	28 257 863	32 496 542
Learning Center Total (Approx)	2 687	7 000	18 805 500	21 626 325
Roadways and various networks	70 000	500	35 000 000	40 250 000
Enclosures (integral)	2 700	1 200	3 240 000	3 726 000
Landscaping	60 000	120	7 200 000	8 280 000
Parking	3 000	120	360 000	414 000
Architecture, Design, permits	-	-	12 565 929	14 450 818
Waste Water treatment Plant			1 500 000	1 500 000
Sundries & contingent account(10%)			3 520 000	4 048 000
Miscellaneous			16 964 004	19 508 605
General Total	14 043	13 206	186 604 046	214 594 652
General Total in Million USD			21 953 417	25 246 430
Average Cost per m² in MAD			13 206	15 187
In Million USD			1 554	1 787

Table 3.1. Construction Costs.

Table 3.2. below summarizes the costs of equipments.

Buildings to be equipped	Ratios of Cost of facilities	Cost of facilities (Dhs)
Academy Total (Labs and library not included)	1 100	3 288 633
Student residence	900	680 400
Agrobiolgy research labs.	USA Benchmark	5 737 500
Cleantech labs	USA Benchmark	5 737 500
Green Agriculture Labs	Architects Estimation	2 000 000
Lab work rooms	8 572	2 285 867
Library	5 000	2 220 000
Server rooms	12 000	720 000
Student Center Total , restaurant not included	900	2 554 763
Restaurant	5 500	3 575 000
Learning Center Total, Auditorium not included	900	1 341 000
Auditorium	5 500	2 750 000
Transport vehicles		1 210 000
Miscellaneous		3 410 066
Estimated general total	2 655	37 510 729
In Million USD	312	4 413 027

Table 3.2. : Costs of Equipment

2. Operating Budget

The budgeting report provides an estimation of the annual operating budget on the basis of the same national benchmarks as those previously cited. The operating budget is composed of:

- 1) Teachers' salaries and fees
- 2) Academic expenses
- 3) Operating expenses

Table 3.3. below summarizes the different items related to the Academy.

Items (Million MAD)	Financial year 1	Financial year 2	Financial year 3
Salaries	29 131 370	30 844 980	34 272 200
Fees	958 230	1 095 120	1 368 900
Academic expenses	4 469 931	5 108 492	6 385 615
Operating	7 307 405	7 713 372	8 119 339
Total	41 866 936	44 761 964	50 146 054
Total in Million USD	4 925 522	5 266 113	5 899 536

Table 3.3. Operating Budget

These expenses are all supposed to be met by the Academy. However, the potential contribution of income from school fees based on the direct cost of training programs may amount up to 30% of the budget once up and running, as is indicated by the detailed study in the dimensioning and budgeting report, if decision makers choose to make participants pay for their training programs. The participants' contribution should not exceed DH 58.000 per year.

Apart from the payment of school fees, the Academy can also have another three sources of income:

1. **Ongoing training.** As has already been said, the present study assumes that the ongoing training programs are provided at cost price. In case the IAESD wishes to make all or part of the participants pay higher contributions, a profit margin may then be made. The master plan study and the feasibility study expected to be subsequently conducted, shall outline (1) the training themes and modes and (2) the list prices, based on the real market prices, respectively.
2. **Scientific research.** The Academy is able to obtain its research budget from contracts with firms, a fact which will considerably relieve its research budget, also calculated here as being entirely payable by the Academy.
3. **Income from investments.** In case this is allowed by its status, the Academy may have some real estate investments from its endowment, which yield regular income which, in turn, will be used to cover part of its operating budget. The feasibility study is able to ultimately determine such a financial set up or arrangement and also estimate the amount of its income.

3. Modularization of the Budget of the Academy

In order to facilitate the decision making with regard to the activities of the Academy, consultants were required to present the different scenarios of the modularization of the Academy, bringing the following activities into play:

- 1) The activity of transfer of know-how and enhancing of skills
- 2) The activity of graduate education for students
- 3) The activity of executive training for working people

4) The activity of research in laboratories

In the light of this, we have estimated that the basic activity, and also the least costly, is that related to the transfer of know-how and enhancing of skills, given that these activities are performed by executives and their assistants indoors and do not require excessive budgets. We have added to them the activity of ongoing training, as the performance of such an activity requires zero budget, i.e., participants here pay the direct cost price of the training course. This formula represents a scenario which is considered as the basic one.

The two other scenarii are the complete scenario of graduate education in addition to research, and the scenario of graduate education without scientific research. Each one of these suggested scenarii is thus, composed of coherent modules as follows:

Scenario 1 : The academy provides services pertaining to capacity building and enhancing, animation of expert networks, full time graduate education, ongoing training and scientific research.

Scenario 2 : The Academy provides services pertaining to capacity building, animation of expert networks, ongoing training and scientific research, without full time education, for it is considered to be relatively costly , especially when it comes to capital expenditures.

Scenario 3 : The Academy provides services pertaining to capacity building, animation of expert networks, ongoing training, but without any scientific research activity , for it is considered to be relatively costly , especially when it comes to operating expenses,(i.e. Researchers' salaries.)

An analytical breakdown of capital expenditure and operating expenses has resulted in the figures and conclusions presented in table 4.1. below:

	Complete Scenario of activities Million MAD	Scenario without GE graduate education Million MAD	Scenario without GE & scientific research Million MAD
ITEMS of basic expenditure Year 3	Certificate course. +ongoing training +Research + Capacity Build. +Transfer of Know- how	Ongoing training +Research + Capacity Build. +Transfer of know- how	Ongoing training + Capacity Build. +Transfer of know- how
Construction Budget	214 594 652	145 671 286	128 898 076
Facilities Budget	37 510 729	29 042 740	13 992 740
INVESTMENT	252 105 381	174 714 025	142 890 815
<i>In Million USD</i>	<i>29 659 457</i>	<i>20 554 591</i>	<i>16 810 684</i>
Remaining part	100%	69%	57%
Surface area in M²	14 043	6 845	5 236
Operating	50 146 054	37 860 110	17 161 370
<i>In Million USD</i>	<i>5 899 536</i>	<i>4 454 131</i>	<i>2 018 985</i>
Remaining part	100%	73%	33%
Remaining staff	88	61	60
Including senior executives	50	23	19

Table 4.1. Presentation of the Costs of the three scenarios

Recommendations

Upon comparative analysis of the three scenarios, it appears that the second one, that in which the certificate training course is abandoned, makes it possible to save 32% of the capital expenditure, but only 27% of the operating budget. The third Scenario, that in which both the certificate training course and scientific research are abandoned, makes it possible to save not only another 12% in capital expenditure, i.e., 42%, but also an additional 40% in operating budget, i.e., 67% in total.

4. Our recommendations

It is clear that the most budget-eating activity in terms of capital expenditure is the certificate training course due to the premises destined for students. Scientific research, however, has proved to be the most costly in terms of operating budget owing to researchers' salaries.

In spite of all this, only when the synergy of the four components of the proposed activity is set up, can the mission of the IAESD, as stated, and the role it plans to play in terms of ESD in the Islamic world, be effectively implemented. Put in different terms, graduate education programs in ESD should be initiated and encouraged at the level of universities and training centers in the member countries. This, however, cannot be perfectly done without a reduced-scale rear or support incubation base on the site of the Academy.

Similarly, if at all scientific research in the member countries hopes to be coordinated, encouraged and guided by the Academy through capacity building and enhancing, this very fact can only be achieved via a due form pilot or test research center on the site of the academy. Also, taking into account the reasonable cost of an integral academy, we recommend the following to be done:

- 1) Implementation of all the proposed activities within a coherent and interdependent context. Only through this can the four missions of the future Academy be fulfilled, as is shown by figure 1.1. (cf. page 5 of this report):
- 2)
 - a. Training through diversified and flexible devices, combining graduate programs and ongoing training, of which a part is carried out in-house while the other is done, at the largest scale through distance learning or outsourced in the member countries. This scenario allows for a subsequent extensibility of the project, depending on the needs and available means.
 - b. Research and Development through the production of selective in situ research, on one hand, and the intra-community incentive actions on the other hand.
 - c. Capacity building and enhancing through targeted programs, relying on networks of expertise that the Academy plans to create.
 - d. Transfer of know-how north south and south-south, relying on tools and instruments, such as the ESD watchdog and the network of experts, composed mainly of member countries citizens based abroad.

Recommendations

- 3) Choice of special body status which will make it possible to:
 - a. Insure the necessary compliance with the status and activities of ISESCO
 - b. Give credibility to the Academy and enhance its autonomy,
 - c. Implement further fund raising and investment mechanisms for the benefit of the academy, in order to ensure its own sustainability.

- 4) Exploring the possibility of undertaking expenditures emanating from :
 - a. Beneficiaries of education programs and ongoing training courses,
 - b. Corporate applied research contracts.

