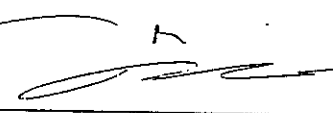


**RECORD OF DISCUSSIONS BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY AND
AUTHORITIES CONCERNED OF
THE GOVERNMENT OF THE FEDERAL REPUBLIC OF NIGERIA ON
JAPANESE TECHNICAL COOPERATION FOR
THE STRENGTHENING OF MATHEMATICS AND SCIENCE EDUCATION
PROJECT
(SMASE NIGERIA)**

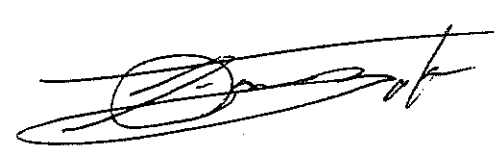
With regard to the Japanese technical cooperation for the Secondary Science and Mathematics Teachers' Project (hereinafter referred to as "the Project") in the Federal Republic of Nigeria, the Japanese Implementation Study Team organized by Japan International Cooperation Agency (hereinafter referred to as "JICA") had a series of discussions with the authorities concerned of the Government of the Federal Republic of Nigeria (hereinafter referred to as "the Nigerian authorities") with respect to desirable measures to be taken by JICA and Nigerian authorities for the successful implementation of the above-mentioned Project.

As a result of the discussions, JICA and the Nigerian authorities agreed upon the matters referred to in the document attached hereto.

Abuja, 23rd August, 2006



Abba Sayyadi Ruma Ph.D
Minister of States for Education
Federal Ministry of Education
Nigeria



Mr. Shigeo Yamagata
Resident Representative
JICA Nigeria Office
Japan International Cooperation Agency

THE ATTACHED DOCUMENT

I. COOPERATION BETWEEN JICA AND THE GOVERNMENT OF THE FEDERAL REPUBLIC OF NIGERIA

1. The Government of the Federal Republic of Nigeria will implement the Strengthening of Mathematics and Science Education Project (hereinafter referred to as "the Project") in cooperation with JICA.
2. The Project will be implemented in accordance with the Master Plan, which is given in Annex I.

II. MEASURES TO BE TAKEN BY JICA

In accordance with the laws and regulations in force in Japan, JICA will take, at its own expense, the following measures according to the normal procedures under the Technical Cooperation Scheme of Japan.

1. DISPATCH OF EXPERTS

JICA will provide the services of experts (from Japan and third country) as listed in Annex II.

2. PROVISION OF MACHINERY AND EQUIPMENT

JICA will provide such machinery, equipment and other materials (hereinafter referred to as "Equipment") necessary for the implementation of the Project as listed in Annex III. The equipment will become the property of the Government of Nigeria upon being delivered C.I.F (cost, insurance and freight) to the Nigerian authorities concerned at the ports and/or airport of disembarkation.

3. TRAINING OF NIGERIAN PERSONNEL IN JAPAN OR THIRD COUNTRIES

JICA will train the Nigerian personnel connected with the Project for capacity building in Japan or third countries.

III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF THE FEDERAL REPUBLIC OF NIGERIA

1. The Government of the Federal Republic of Nigeria will take necessary measures to ensure that the self-reliant operation of the Project will be sustained during and after the period of Japanese technical cooperation, through full and active involvement in

the Project by all related authorities, beneficiary groups, and institutions.

2. The Government of the Federal Republic of Nigeria will ensure that the technologies and knowledge acquired by the Nigerian nationals as a result of Japanese technical cooperation will contribute to the economic and social development of the Federal Republic of Nigeria.
3. The Government of the Federal Republic of Nigeria will grant, in the Federal Republic of Nigeria, privileges, exemptions, and benefits as listed in Annex IV and will grant privileges, exemptions, and benefits no less favourable than those granted to experts of third countries or international organisations performing similar missions to the Japanese experts referred to in II-1 above and their families.
4. The Government of the Federal Republic of Nigeria will ensure that the Equipment referred to in II-2 above will be utilised effectively for the implementation of the Project in consultation with the Japanese experts referred to in Annex II.
5. The Government of the Federal Republic of Nigeria will take necessary measures to ensure that the knowledge and experience acquired by the Nigerian personnel through the technical training in Japan or third countries will be utilised effectively in the implementation of the Project.
6. In accordance with the laws and regulations in force in the Federal Republic of Nigeria, the Government of the Federal Republic of Nigeria will take necessary measures to provide at its own expense:
 - (a) Services of the Nigerian counterpart personnel and administrative personnel as listed in Annex V;
 - (b) Land, building, and facilities as listed in Annex VI;
 - (c) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts, and any other materials necessary for the implementation of the Project other than the Equipment provided by JICA under II-2 above.
7. In accordance with the laws and regulations in force in the Federal Republic of Nigeria, the Government of the Federal Republic of Nigeria will take necessary measures to meet:
 - (a) Expenses necessary for the transportation within the Federal Republic of Nigeria of the Equipment referred to in II-2 above as well as for the installation, operation, and maintenance thereof;

(b) Customs, duties, internal taxes, and any other charges imposed in the Federal Republic of Nigeria on the Equipment referred to in III above; and

(c) Running expenses necessary for the implementation of the Project.

IV. ADMINISTRATION OF THE PROJECT

1. The Minister of Education, the Federal Ministry of Education (hereinafter referred to as "FME"), as the Project Director, will bear overall responsibility for the administration and implementation of the Project.
2. The National Coordinator, appointed from the Department of Technology and Science Education, FME, will be responsible for the overall coordination for all project activities.
3. The Assistant National Coordinators, appointed from the Department of Technology and Science Education, FME, will assist the National Coordinator in implementation for all project activities.
4. The Head of the National Commission for Colleges of Education as the In-service Training Centre will be responsible for technical matters of the Project in collaboration with National Coordinating Unit.
5. The Japanese technical advisor will provide necessary recommendations and advice to the Project Director, the National Coordinators, and other Nigerian counterpart personnel on any matters pertaining to the implementation of the Project.
6. The Japanese or third country experts will give necessary technical guidance and advice to the Nigerian counterpart personnel on technical matters pertaining to the implementation of the Project.
7. For the effective and successful implementation of the Project, the National Steering Committee and other implementation bodies will be established whose functions and compositions are described in Annex VII.

V. JOINT EVALUATION

Evaluation of the Project will be conducted jointly by JICA and the Nigerian authorities concerned, at the middle and during the last six months of the cooperation

term in order to examine the level of achievement.

VI. CLAIMS AGAINST JAPANESE EXPERTS

The Government of the Federal Republic of Nigeria undertakes to bear claims, if any arises, against the Japanese experts engaged in technical cooperation for the Project resulting from, occurring in the course of, or otherwise connected with the discharge of their official functions in the Federal Republic of Nigeria except for those arising from the wilful misconduct or gross negligence of the Japanese experts.

VII. MUTUAL CONSULTATION

There will be mutual consultation between JICA and the Government of the Federal Republic of Nigeria on any major issues arising from, or in connection, with this Attached Document.

VIII. MEASURES TO PROMOTE UNDERSTANDING OF AND SUPPORT FOR THE PROJECT

For the purpose of promoting support for the Project among the people of Nigeria, the Government of the Federal Republic of Nigeria will take appropriate measures to make the Project widely known to the people of the Federal Republic of Nigeria.

IX. TERM OF COOPERATION

The duration of the technical cooperation for the Project under this Attached Document will be three (3) years from August 2006.

ANNEX I	MASTER PLAN
ANNEX II	LIST OF JAPANESE EXPERTS
ANNEX III	LIST OF MACHINERY AND EQUIPMENT
ANNEX IV	PRIVILEGES, EXEMPTIONS, AND BENEFITS FOR JAPANESE EXPERTS
ANNEXV	LIST OF THE NIGERIAN COUNTERPARTS AND ADMINISTRATIVE PERSONNEL
ANNEX VI	LIST OF LAND, BUILDINGS AND FACILITIES
ANNEX VII	ROLE OF VARIOUS BODIES FOR THE PROJECT

ANNEX I MASTER PLAN

1. Objectives of the Project

- (1) Super goal: The capability of primary school pupils in mathematics and science education is upgraded.
- (2) Overall goal: Teaching skills of primary teachers in mathematics and science are upgraded.
- (3) Project Purpose: Ability of Core Teachers to provide In-Service Education Training (INSET) for teachers in primary mathematics and science is enhanced.

2. Outputs of the Project

- (1) The bodies / units to implement the INSET at National and State levels are established.
- (2) The INSET for State Trainers and Core Teachers is conducted and assessed.
- (3) Supporting system for INSET is strengthened.

3. Activities of the Project

- (1-1) To equip the National / State Coordinating Units.
 - (1-2) To set TOR and recruitment criteria for National Trainers.
 - (1-3) To recruit National Trainers.
 - (1-4) To conduct training for National Trainers.
 - (1-5) To provide the equipment and materials for National INSET.
 - (1-6) To set TOR for State Trainers.
 - (1-7) To recruit State Trainers.
 - (1-8) To provide the equipment and materials for State INSET.
 - (1-9) To set criteria for selecting trainees for State INSET.
-
- (2-1) To develop training manuals, materials, monitoring & evaluation tools.
 - (2-2) To print and circulate INSET Training materials to the State INSET centres.
 - (2-3) To conduct training for State Trainers (12-24 participants).
 - (2-4) To conduct monitoring & evaluation of National INSET.
 - (2-5) To conduct training at the State INSET Centre (200 participants per state / 600 participants in the three states).
 - (2-6) To conduct monitoring and evaluation of State INSET.
-
- (3-1) To conduct training on National INSET management facilitation workshop.
 - (3-2) To conduct INSET management workshop for local officials.
 - (3-3) To conduct sensitization / advocacy workshop for relevant State officials from the States.
 - (3-4) To publish Newsletter on activities of the project.
 - (3-5) To promote and popularize the activities of the project through the media as the need arises.

ANNEX II LIST OF EXPERTS (from Japanese and third country)

1. Long-term Expert

One (1) Technical Advisor

2. Short-term Experts

The field, number, and contract periods of the short-term experts will be determined if necessity arises.

ANNEX III LIST OF MACHINERY AND EQUIPMENT

JICA will provide the following equipment necessary for the implementation of the Project:

1. Equipment for the field of Mathematics
2. Equipment for the field of Science
3. Equipment for the In-Service Training

Note: The contents, specifications, and quantity of the equipment above to be provided are to be determined between the Japanese experts and the Nigerian counterpart personnel based on the Annual work plan of the Project, within the allocated budget of the Japanese fiscal year.



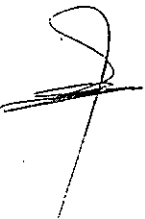
ANNEX IV PRIVILEGES, EXEMPTIONS, AND BENEFITS FOR JAPANESE EXPERTS

In accordance with the laws and regulations in force in the Federal Republic of Nigeria, the Government of the Federal Republic of Nigeria will grant the following:

1. To exempt from income tax and other charges of any kind imposed on or in connection with the living allowances remitted from abroad for the Japanese experts.
2. To exempt from income tax, import duties, and any other charges imposed on personal household effects of the Japanese experts and their families, including one motor vehicle per expert.
3. To use all its available means to provide medical and other necessary assistance to the Japanese experts and their families
4. To issue, upon application, entry visas for the Japanese experts and their families free of charge
5. To issue identification cards to the Japanese experts and their families to secure the cooperation of all governmental organisation necessary for the performance of the duties of the experts
6. To exempt from customs duties for import and export for machinery and equipment by the Japanese experts in connection with the Project activities.

**ANNEX V LIST OF THE NIGERIAN COUNTERPART AND
ADMINISTRATIVE PERSONNEL**

1. Counterpart personnel
 - (a) One National Coordinator
 - (b) Five Assistant National Coordinator
 - (c) Four National Trainers (Two for Mathematics, two for Science)
 - (d) 12-24 State Trainers
 - (e) Three State Coordinators
 - (f) Three Assistant State Coordinators



ANNEX VI LIST OF LAND, BUILDINGS, AND FACILITIES

1. Land, buildings, and facilities necessary for the Project (National INSET Centre and State INSET Centres.)
2. Rooms and facilities necessary for installation and storage of the equipment in selected schools/venues in the pilot states
3. Offices and facilities necessary for the Project within the Headquarters of Federal Ministry of Education
4. Other facilities mutually agreed upon as necessary for the implementation of the Project

ANNEX VII ROLES OF VARIOUS BODIES FOR THE PROJECT

I. National Steering Committee (NSC)

1. Functions

- (1) To be responsible for overall policy decisions with reference to the Project.
- (2) To consider the bi-annual progress report on the implementation submitted by the National Coordinator and the State implementation Committee.
- (3) To exchange views on any major issues arising from or in connection with the implementation of the Project.
- (4) To carry out monitoring and evaluation of the Project.
- (5) To work towards the implementation and institutionalization of regular INSET as stipulated in the NPE.

2. Compositions

- (1) The Honourable Minister of Education as Chairman
- (2) The Permanent Secretary of FME
- (3) Director, Technology and Science Education of FME
- (4) Director, Education Support Services of FME
- (5) Director, Primary and Secondary of FME
- (6) Chairman, Niger SUBEB
- (7) Chairman, Plateau SUBEB
- (8) Chairman, Kaduna SUBEB
- (9) Executive Secretary, NCCE
- (10) Executive Secretary, UBEC
- (11) Executive Secretary, NERDC
- (12) Director/CEO NMC
- (13) Registrar, TRCN
- (14) Deputy Director (Technology Education) of FME
- (15) Legal Adviser of FME
- (16) Deputy Director (Science Education) of FME as the Secretary
- (17) JICA Nigeria Office (Resident Representative)
- (18) JICA Technical Advisor

II. National Coordinating Unit (NCU)

1. Functions

- (1) To coordinate the Project.
- (2) To prepare and develop Annual work plans.

- (3) To initiate the requisition for funds for the implementation of Project activities.
- (4) To develop and defend Budget Statement proposal.
- (5) To support and supervise the activities at the State INSET Centres in collaboration with the National Trainers.
- (6) To submit bi-annual progress report of project activities to the National Steering Committee.
- (7) To conduct internal monitoring and evaluation of the National INSET.
- (8) To prepare the framework for implementing and institutionalizing regular INSET as stipulated in the National policy on education.

2. Compositions

- (1) One National Coordinator from DTSE
- (2) Five Assistant National Coordinators from DTSE of FME and from UBEC
- (3) One JICA Technical Advisor

III. State Implementation Committee (SIC)

1. Function

- (1) To be responsible for implementation of project activities in the State;
- (2) To ensure that the trainings are organized effectively and on schedule as specified in the Project Document.
- (3) To approve the disbursement of funds based on the recommendation of the State Coordinating Unit.
- (4) To ensure that bi-annual progress reports are submitted to the National Project Steering Committee.
- (5) To Monitor and evaluate the progress of the INSET.
- (6) To prepare the framework for implementing and institutionalizing regular INSET as stipulated in the National policy on education.

2. Compositions

- (1) The Chairman SUBEB as chairman
- (2) Director, School Services of SUBEB
- (3) Director, Inspectorate Services of SUBEB
- (4) Director, Planning, Research and Statistics of SUBEB
- (5) Provosts of the Federal and State Colleges of Education
- (6) Representative of State trainers
- (7) Director, Education Resource Centre (ERC) of State Ministry of Education
- (8) Representative of Education Secretaries of LGEAs
- (9) Science coordinator as Secretary

- (10) National Union of Teachers
- (11) Teachers Registration Council of Nigeria
- (12) JICA Nigeria Office
- (13) JICA Technical Advisor

IV. State Coordinating Unit (SCU)

1. Functions

- (1) To coordinate the INSET activities at the State INSET Centre.
- (2) To prepare the work plan for the INSET Centre, and any other duties for the effective implementation of INSET in the State.
- (3) To prepare and submit bi-annual progress report of INSET activities to the State Implementation Committee.
- (4) To conduct internal monitoring and evaluation of the Project.
- (5) To prepare the framework for implementing and institutionalizing regular INSET as stipulated in the National policy on education.

2. Compositions

- (1) One State INSET Coordinator from SUBEB
- (2) One Assistant State INSET Coordinator from SUBEB
- (3) One JICA Technical Advisor
- (4) Representative of state trainers

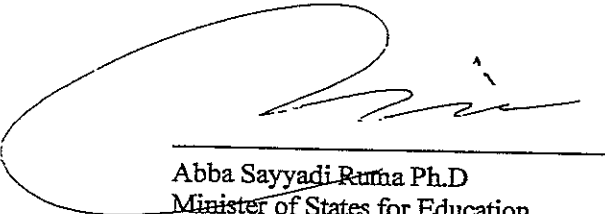


MINUTES OF MEETING
BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND
THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF
THE FEDERAL REPUBLIC OF NIGERIA
ON
JAPANESE TECHNICAL COOPERATION
FOR
THE STRENGTHENING OF MATHEMATICS AND SCIENCE
EDUCATION PROJECT
(SMASSE NIGERIA)

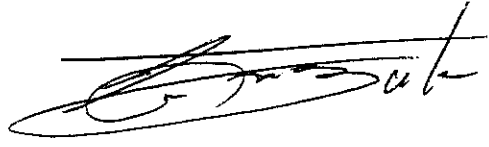
With regard to the Japanese technical cooperation for the Strengthening of Mathematics and Science Education Project (hereinafter referred to as "the Project"), the Resident Representative of the Japan International Cooperation Agency (hereinafter referred to as "JICA") held a series of discussions with the Nigerian authorities concerned with respect to desirable measures to be taken by JICA and the Government of Nigeria for the successful implementation of the above-mentioned Project.

As a result of the discussions, both sides agreed to summarize the matters referred to in the document attached hereto as a supplement to the Record of Discussions.

Abuja, 23rd August, 2006



Abba Sayyadi Ramna Ph.D
Minister of States for Education
Federal Ministry of Education
Nigeria



Mr. Shigeo Yamagata
Resident Representative
JICA Nigeria Office
Japan International Cooperation Agency

THE ATTACHED DOCUMENT

The discussions between the Nigerian authorities concerned such as the Federal Ministry of Education (hereinafter referred to as "FME") and JICA were held in Abuja with the participants listed below:

Nigerian Side

Mr. Engr. Peter E. Igoh	Director, Department of Technology and Science Education (DTSE), FME
Mrs. Chinyere Uzoka	Deputy Director, TSE, FME
Otunba (Mrs.) O. Adebajo	Legal Adviser, FME
Mr. Joseph Chimezie Aguiyi	Asst. Chief Educ Officer, TSE, FME
Mrs. Grace Kyetti Jakko	Asst. Chief Educ Officer, TSE
Mr. Anthony Odo	Chief Education Officer, TSE, FME
Mr. Salisu Muhammad Amin	Education Officer I, TSE, FME
Mr. Hikaru Kusakabe	JICA Programme Advisor, Department of Education Support Service, FME

Japanese Side

Mr. Shigeo Yamagata	Resident Representative, JICA Nigeria Office
Mr. Kuniaki Amatsu	Assistant Resident Representative, JICA Nigeria Office
Mr. Ayandele, M. Kola	Programme Officer (Education sector)

I. PROJECT TITLE

The Project for Strengthening of Mathematics and Science Education Project (SMASSE NIGERIA)

II. SCOPE OF TECHNICAL COOPERATION

1. Background of the project

(1) **Nigeria's perspective:** Basic education is one of the critical issues in Nigeria for its economic growth and poverty reduction. To assist its efforts, JICA has been putting higher priority on basic education, especially, primary education, and engaging in (i) the formulation and implementation process of the Japanese government-funded Project of Construction of Additional Class Rooms for Primary Education, which has being implemented in the three states (Niger, Plateau, and Kaduna) from 2004 to 2007, and (ii) policy/program advises to FME through a Japanese expert in line with the National Economic Empowerment and Development Strategy (NEEDS) and its education sector policy. To scale up those outputs, FME and JICA have formulated a technical cooperation project jointly for improving quality of teaching/learning method on mathematics and science in primary education. The Project starts in August 2006.

(2) SMASSE-WESCA perspective

- Regarding JICA's supports to mathematics and science education in Africa, it started in 1970 through JICA volunteer activities. In 1990s these technical cooperation was implemented in Kenya, Ghana, and South Africa in partnership with the recipient governments. In 2002, this experience was brought forth by the Government of Japan with the strong initiative to support capacity development in mathematics and science Education in Africa at the World Summit for Sustainable Development (WSSD).
- Since WSSD conference, Kenya's JICA-assisted project, called "SMASSE" (Strengthening Mathematics and Science in Secondary Education) has been playing pivotal role in establishing network with other African countries. This network is called "SMASSE-WECSA" (WESTERN, EASTERN, CENTRAL AND SOUTHERN AFRICA). At present, many Sub-Saharan African countries have joined this network. In Nigeria, FME, in which Department of Technology and Science Education (DTSE) is primarily engaged, joined it in April 2004.
- Technical assistance from this network is implemented through "South-South cooperation", which is one of JICA's major agenda. In particular, SMASSE-WECSA supports other African countries to formulate and implement new projects through introducing their method of approach for improvement of teacher's pedagogy in area of mathematics and science education to those countries. This method of approach is called ASEI/PDSI (Activity, Student, Experiment, Improvisation and Plan, Do, See, Improve). ASEI/PDSI approach has been introduced through INSET (In-service Teacher's Training) in Kenya and

has greatly enhanced the performance of teachers and students.

- In Nigeria, FME/DTSE has already started the cooperation with Kenya's project through SMASSE-WECSA network. More than thirty Nigerian resource persons have participated in training programmes in Kenya. FME/DTSE has invited some Kenya's officials as facilitators, and organized some workshops to share Kenyan successful experience. Through this cooperation, FME/DTSE has formulated the project for assistance in primary mathematics and science education and submitted its proposal in 2004.
- Through the formulation process, FME/DTSE and JICA reached an agreement that the Project should focus on the schools in the states where the Government of Japan constructed additional classrooms in Niger, Kaduna and Plateau states. In 2005, following the approval of the Government of Japan, the FME and JICA agreed to commence the "SMASE Nigeria" (Strengthening Mathematics and Science Education, here-in-after referred to as the "Project") with the pilot focus at the primary schools level in the three states in Nigeria.

2. The Project will cover the following three states:

- (1) Niger
- (2) Kaduna
- (3) Plateau

3. Contents of Technical Cooperation

The Project will address the following areas mainly through conducting in-service training programs (hereinafter referred to as "INSET") on mathematics and sciences education to the counterpart personnel of FME/DTSE, the National Commission for Colleges of Education (NCCE), the Universal Basic Education Commission (UBEC) and the State Universal Education Boards of above-mentioned three states, and their classroom teachers.

- (1) Development of curriculum for INSET
- (2) Subject competency
- (3) Techniques of operation and maintenance of experimental equipment and apparatus
- (4) Development and production of teaching and learning materials
- (5) Teaching methods
- (6) Course management
- (7) Monitoring and evaluation of INSET activities



III. INPUTS TO THE PROJECT BY THE JAPANESE SIDE

1. Dispatch of Experts

The relevant request forms, namely the A1 form, to assign Japanese experts for the term of the technical cooperation will be submitted by the Nigerian side without delay. With regard to assigning SMASSE-WECSA experts, the relevant request forms, namely the A1-T form, will also be submitted by the Nigerian side without delay.

2. Provision of Equipment

The relevant request form, namely the A4 form, for the provision of equipment for the first year of the technical cooperation will be submitted by the Nigerian side after consultation between the Nigerian authorities concerned and JICA.

3. Technical Training of Counterpart Personnel in Japan and third countries

The relevant request form, namely the A2A3 form, for technical training in third countries will be submitted by the Nigerian side after consultation between the Nigerian authorities concerned and JICA.

There may be also opportunities for some counterpart personnel to get long-term training in Japan, in order to acquire advanced knowledge and skills required for sustaining the Project activities. Necessary procedures for this training scheme will be followed by the Nigerian side without delay.

IV. INPUTS TO THE PROJECT BY THE NIGERIAN SIDE

1. Assignment of Personnel

With reference to the Record of Discussions, the Nigerian side will assign an appropriate number of counterpart personnel as well as administrative personnel. The appointment of counterpart personnel will be done as soon as possible. The administrative personnel will be posted before the commencement of the Project.

The Nigerian side will pay adequate attention to secure the commitment of the personnel responsible for the INSET implementation.

2. Taking the necessary budget measures

(1) With reference to the Record of Discussions, the Nigerian side will take the necessary budget measures for the implementation of the Project:

- (a) Salaries and other allowances for the Nigerian staff
- (b) Expenses for electricity, water, gas, fuel and other contingencies
- (c) Operational expenses for customs clearance, storage, domestic transportation and installation of the Project equipment provided by the Japanese side
- (d) Expenses for maintenance of the Project facilities and equipment
- (e) Other necessary local expenses of the Project
- (f) Expenses for organizing INSET (such as food, transport and accommodation)

- (2) The Nigerian side will take necessary measures in coordination with the relevant authorities, for the customs entry of the equipment provided by the Government of Japan without delay. FME will be responsible for the proper documentation and clearance of the delivered equipment at the ports/airports of entry, as well as being responsible for the proper administration of the equipment provided for use and for ensuring appropriate utilisation and maintenance for the implementation of the Project.
- (3) Both Japanese and Nigerian sides will further elaborate the details on cost sharing between Japanese and Nigerian sides for the implementation of the INSET, according to the Record of Discussions, bearing in mind the Detailed Budget Analysis (2006-09) attached with the Minutes of the Meeting signed in the Second Preparatory Study Mission in June 2006 as soon as possible after the Project starts. Based on the agreed details of cost sharing, the necessary budget will be borne by both sides for the implementation of the Project.

V. PROJECT DESIGN MATRIX

The Project will be implemented within the framework of the Project Design Matrix (PDM) shown in ANNEX I. PDM is an effective tool for managing and implementing projects/programmes. PDM is characterized by the following:

1. PDM is a logically designed matrix which defines the initial understanding of the framework for the Project and indicates the logical steps towards the achievement of the Project Purpose.
2. PDM is to be flexibly developed according to the progress and achievement of the Project, upon agreement between the Nigerian and Japanese sides.
3. It is also used as a reference for monitoring and evaluating the projects.

VI. PLAN OF OPERATION

The Plan of Operation is shown in ANNEX II. It is to be drafted by the Nigerian counterparts and the Japanese side jointly and is to be submitted to the National Steering Committee. The activities are subject to change within the scope of the Record of Discussions, if necessity arises in the course of the Project implementation.

VII. ADMINISTRATION OF THE PROJECT

The organization chart of the Project is shown in ANNEX III.

ANNEX I	PROJECT DESIGN MATRIX
ANNEX II	PLAN OF OPERATION
ANNEX III	ORGANIZATION CHART OF THE PROJECT

ANNEX I :**Project Title:****Executing Bodies:****Target Area****Duration:****PROJECT DESIGN MATRIX**

Strengthening of mathematics and science education (SMASE) in Nigeria
 Federal Ministry of Education, National Commission for Colleges of Education (NCCE), Universal Basic Education Commission (UBEC), State Universal Education Boards (SUBEBs) of Kaduna / Niger / Plateau and Japan International Cooperation Agency (JICA)

Kaduna State, Niger State, and Plateau State

3 years (2006 - 2009)

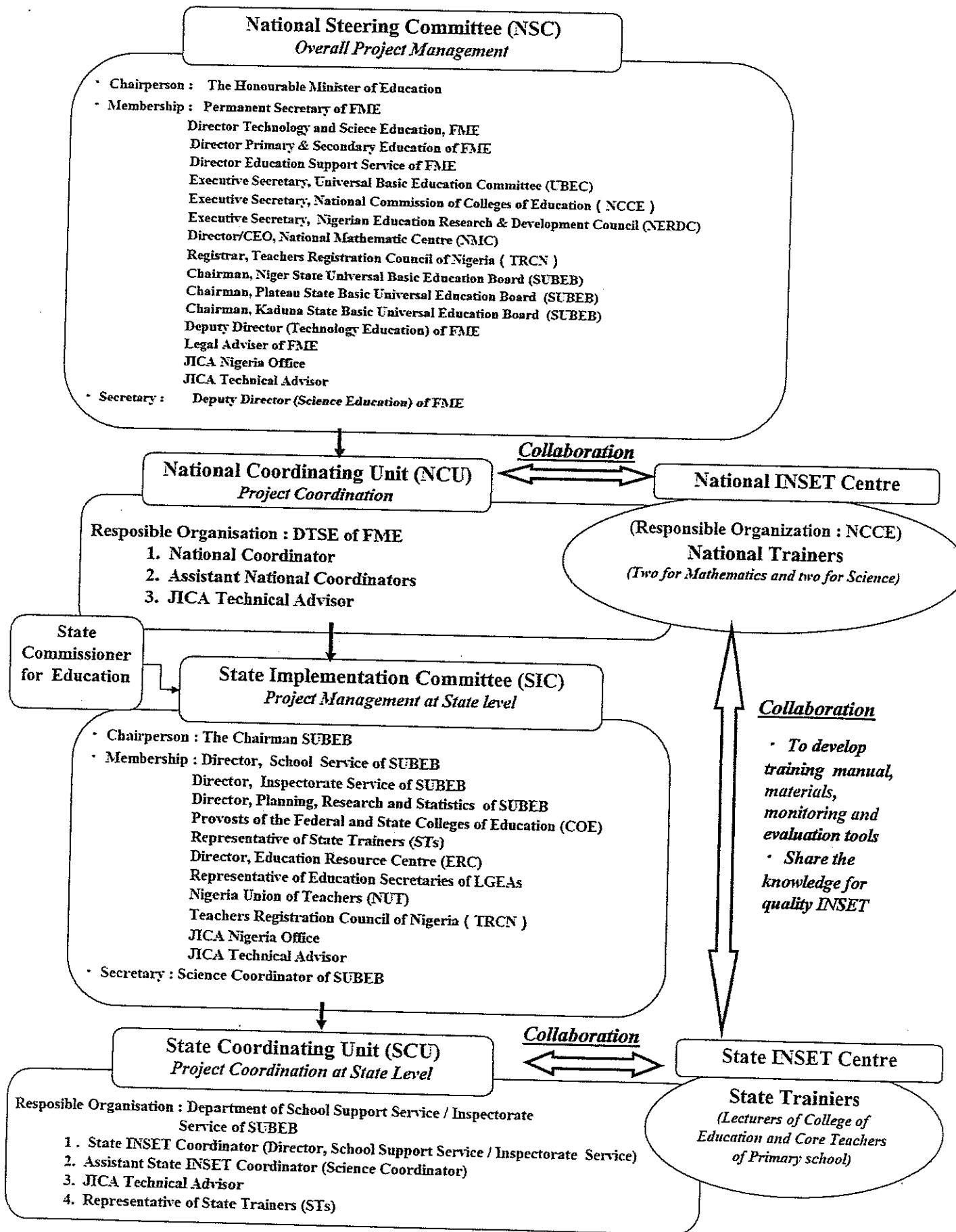
Version No.4.0 (August 11, 2006)

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
Super goal The capability of primary school pupils in mathematics and science education is upgraded.	Improved pupils' performance in mathematics and science.	1. Performance record of pupils in school examinations 2. National Assessment of UBE program. 3. Impact Survey	
Overall goal Teaching skills of primary teachers in mathematics and science are upgraded.	Positive change of teachers' attitude and improved performance in subject mastery, pedagogical skills and resource utilization as well as pupils' participation in classroom activities.	Quality Assurance Reports Monitoring of Learning Achievement Reports	
Project Purpose Ability of Core Teachers to provide INSET for teachers in primary mathematics and science is enhanced.	By the end of the project, ability of Core Teachers will improve in : 1. Lesson observation index obtained more than x on 1-5 scale of $x \geq 3$. 2. Teachers' participation index obtained more than y on 1-5 scale of $y \geq 3$. 3. Attitude of teachers to the teaching of mathematics and science index obtained more than z on 1-5 scale of $z \geq 3$. 4. Mastery ICT mode of instruction	Project monitoring and evaluation reports.	Core teachers will not leave the teaching field for another profession after training. The socio-political situation in the Pilot states will not affect the INSET framework.
Output(s): 1. The bodies / units to implement the INSET at National and State level are established.	By the end of the project, 1(a) National Coordinating Unit is established. 1(b) Four National Trainers are trained. 1(c) Four National Trainers	Project Monitoring and evaluation reports	National and State trainers will not leave teaching field for another profession.

<p>2. The INSET for State Trainers and Core Teachers is conducted and assessed.</p> <p>3. Supporting system for INSET is strengthened.</p>	<p>fully work for the Project. 1(d) A National INSET centre is established using existing facilities. 1(e) State Coordinating Unit is established. 1(f) 24 State Trainers work for the Project. 1(g) State INSET Centres are established using existing facilities.</p> <p>By the end of the project, 2(a) 24 State Trainers are trained. 2(b) 600 Core Teachers are trained. 2(c) 6 training manuals and materials are developed. 2(d) 3 monitoring and evaluation tools are developed.</p> <p>By the end of the project, 3(a) Over three news letters are published. 3(b) Sensitization workshops for stakeholders are conducted.</p>		<p>Other training will not interfere with the training and other activities of the Project.</p> <p>There will be prompt release of funds for the project by the Federal and the State governments.</p>
<p>Activities</p> <p>1-1 To equip the National / State Coordinating Units. 1-2 To set TOR and recruitment criteria for National Trainers. 1-3 To recruit National Trainers. 1-4 To conduct training for National Trainers. 1-5 To provide the equipment and materials for National INSET. 1-6 To set TOR for State Trainers. 1-7 To recruit State Trainers. 1-8 To provide the equipment and materials for State INSET. 1-9 To set criteria for selecting trainees for State INSET.</p> <p>2-1 To develop training manuals, materials, monitoring</p>	<p>Inputs:</p> <p>1. <u>Federal Government of Nigeria:</u></p> <p>a. Office space and facilities necessary for the project at the National level b. Expenses for monitoring and evaluation at the federal level c. Assignment of National Trainers to the project d. Assignment of Administrative Personnel to the project e. Expenses necessary for the implementation of the project at the National level (Running cost for training)</p> <p>2. <u>State Government:</u></p> <p>a. Office space and facilities necessary for the project at the State level</p>		<p>Federal, state and local governments will continue to support the project.</p> <p>INSET activities will be priority assignment for officers involved.</p> <p>SMASSE – WECSA will continue to support SMASE Nigeria.</p> <p>Teachers trained will not leave the</p>

<p>& evaluation tools.</p> <p>2-2 To print and circulate INSET Training materials to the State INSET centres.</p> <p>2-3 To conduct training for State Trainers (12-24 participants).</p> <p>2-4 To conduct monitoring & evaluation of National INSET.</p> <p>2-5 To conduct training at the State INSET Centre (200 participants per state / 600 participants in the three states).</p> <p>2-6 To conduct monitoring and evaluation of State INSET.</p> <p>3-1 To conduct training on National INSET management facilitation workshop.</p> <p>3-2 To conduct INSET management workshop for local officials.</p> <p>3-3 To conduct sensitization / advocacy workshop for relevant State officials from the States.</p> <p>3-4 To publish Newsletter on activities of the project.</p> <p>3-5 To promote and popularize the activities of the project through the media as the need arises.</p>	<p>b. Expenses for monitoring and evaluation at the state level</p> <p>c. Assignment of State Trainers to the project</p> <p>d. Assignment of Administrative Personnel to the project</p> <p>e. Expenses necessary for the implementation of the project at the State level (Running cost for training).</p> <p>3. <u>Japanese Side:</u></p> <p>a. Training of counterparts in Kenya, Japan or any other country</p> <p>b. Dispatch of short / long term expert if necessary</p> <p>c. Provision of equipment, materials and machinery</p> <p>d. Expenses necessary for the implementation of the Project.</p>		<p>teaching profession.</p>
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ANNEX III ORGANISATION CHART OF THE PROJECT





Federal Republic of Nigeria

SMASE
(Strengthening Mathematic And Science Education)
Nigeria

Project Document

**FEDERAL MINISTRY OF EDUCATION / JAPAN
INTERNATIONAL COOPERATION AGENCY
(FME / JICA)**

August 2006



Japan International Cooperation Agency

SMASE NIGERIA©2006

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List of Acronyms

ADB:	African Development Bank
ASEI/PDSI:	Activity, Student, Experiment, Improvisation and Plan, Do, See, Improve
CEMASTEA:	Centre for Mathematics Science and Technology Education in Africa
COE:	College of Education
DESS:	Department of Educational Support Services
DFID:	Department for International Development (UK)
DLS :	Distance Learning System
DPSE:	Department of Primary and Secondary Education
DPRS:	Department of Planning Research and Statistics
DTSE:	Department of Technology and Science Education
EFA:	Education For All
ERC:	Education Resource Centre
ESA:	Education Sector Analysis
ETF:	Education Tax Fund
FGN:	Federal Government of Nigeria
FME:	Federal Ministry of Education
GON:	Government of Nigeria
GOJ:	Government of Japan
INSET:	In Service Education Training
JICA:	Japan International Cooperation Agency
LEAP:	Literacy Enhancement Assistance Programme
LGEA:	Local Government Education Authority
NCE:	Nigeria Certificate in Education
NCCE:	National Commission for Colleges of Education
NCU:	National Coordinating Unit
NEEDS:	National Economic Empowerment Development Strategy
NERDC:	Nigeria Educational Research and Development Council
NMC:	National Mathematical Centre
NPE:	National Policy on Education
NSC:	National Steering Committee
NT:	National Trainer
NTI:	National Teachers Institute
PDM:	Project Design Matrix
PRS:	Planning Research and Statistics
POTP:	Pivotal Teacher Training Programme
SCU:	State Coordination Unit
SIC:	State Implementation Committee
SMASE Nigeria:	Strengthening Mathematics and Science Education in Nigeria
SMASSE-WECSA:	Strengthening Mathematics and Science in Secondary Education- Western Eastern Central and Southern Africa
SOC:	Science Orientation Course
ST:	State Trainer
SUBEB:	State Universal Basic Education Board
TOR:	Terms of Reference
TRCN:	Teachers Registration Council of Nigeria

TSE:	Technology and Science Education
UBEC:	Universal Basic Education Commission
UNESCO:	United Nations Education Scientific and Cultural Organisation
UNICEF:	United Nations Children's Fund
UPE:	Universal Primary Education
USAID:	United States Agency for International Development
WSSD:	World Summit for Sustainable Development

1.0 Executive Summary

- Project Title:** SMASE Nigeria (Strengthening Mathematics and Science Education)
- Country:** Federal Republic of Nigeria
- Super Goal:** The capability of primary school pupils in Mathematics and Science education is upgraded.
- Overall Goal:** Teaching skills of primary teachers in mathematics and science are upgraded.
- Project Purpose:** Ability of Core Teachers to provide INSET for teachers in primary mathematics and science is enhanced.
- Coverage:** Niger, Kaduna and Plateau States
- Executing Bodies:** Federal Ministry of Education, National Commission for Colleges of Education (NCCE), Universal Basic Education Commission (UBEC), State Universal Education Boards (SUBEBs) of Kaduna / Niger / Plateau and Japan International Cooperation Agency (JICA)
- Duration:** 3 years (2006 – 2009)

Target Groups:

1. Core Primary School teachers of Mathematics and Science
2. State Trainers (STs).
3. National Trainers (NTs)
4. SUBEB officials and Local Education Secretaries

Outputs:

1. The bodies / units to implement the INSET at National and State levels are established.
2. The INSET for State Trainers and Core Teachers is conducted and assessed.
3. Supporting system for INSET is strengthened.

Activities:

- 1-1 To equip the National / State Coordinating Units.
- 1-2 To set TOR and recruitment criteria for National Trainers.
- 1-3 To recruit National Trainers.
- 1-4 To conduct training for National Trainers.
- 1-5 To provide the equipment and materials for National INSET.
- 1-6 To set TOR for State Trainers.
- 1-7 To recruit State Trainers.
- 1-8 To provide the equipment and materials for State INSET.
- 1-9 To set criteria for selecting trainees for State INSET.

- 2-1 To develop training manuals, materials, monitoring & evaluation tools.
 - 2-2 To print and circulate INSET Training materials to the State INSET centres.
 - 2-3 To conduct training for State Trainers (12-24 participants).
 - 2-4 To conduct monitoring & evaluation of National INSET.
 - 2-5 To conduct training at the State INSET Centre (200 participants per state / 600 participants in the three states).
 - 2-6 To conduct monitoring and evaluation of State INSET.
-
- 3-1 To conduct training on National INSET management facilitation workshop.
 - 3-2 To conduct INSET management workshop for local officials.
 - 3-3 To conduct sensitization / advocacy workshop for relevant State officials from the States.
 - 3-4 To publish Newsletter on activities of the project.
 - 3-5 To promote and popularize the activities of the project through the media as the need arises.

Structure:

The project is to be coordinated by Technology and Science Education (TSE) Department, Federal Ministry of Education (FME).

1. National Steering Committee (NSC)
The National Steering Committee shall be chaired by the Honourable Minister of Education, FME, who shall take responsibilities for the project overall management and implementation. It will consist of Permanent Secretary FME and other officials of (DTSE, DESS, and DPSE, DD Science Education, DD Technology Education, Legal Adviser), Chairmen of Kaduna, Niger, and Plateau SUBEBs, Chief Executives of UBEC, NMC, NCCE, NERDC, TRCN, and JICA Nigeria Office, JICA Technical Advisor.
2. National Coordination Unit (NCU) / National Coordinator
Department of Technology and Science Education shall be in charge of Coordination of the project. It shall produce the National Coordinator and five Assistant National Coordinators from Department of Technology and Science Education, of FME; Universal Basic Education Commission (UBEC) and one JICA technical Advisor to manage the unit.
3. State Implementation Committee (SIC)
The State Implementation Committee, chaired by the SUBEB Chairman, consists of Director of Inspectorate Service, Director of School Services, Director of PRS, Provosts of State and Federal Colleges of Education, Representative of State Trainers, Director of Education Resource Centre, Representative of Local Education Secretaries, Science Coordinator as the Secretary, Representative of National Union of Teachers, Teachers Registration Council of Nigeria and JICA Nigeria Office and JICA Technical Advisor

4. State Coordination Unit (SCU) / State Coordinator
Department of School Services of each SUBEB will be in charge of the coordination of the State INSET Centres in Niger and Plateau States while the Department of Inspectorate Service will be in charge in Kaduna State. The Head of the Department shall be the State INSET Coordinator while the Science Coordinator at the SUBEB shall be the Assistant State INSET Coordinator. Other members are JICA Technical Advisor and the State Trainers.
5. JICA Technical Advisors
JICA shall dispatch Project Technical Advisors to play advisory role towards the implementation of the project.
6. National Trainers (NTs)
National Trainers will be assigned to the project by NCCE on part-time basis and shall have SMASE project as one of their schedule of duties. The NTs will implement training at National level and will support and supervise the State Trainers.
7. State Trainers (STs)
The State Trainers are full-time lecturers at the State and Federal Colleges of Education and core teachers at primary schools but are recruited on part-time basis to implement training and related activities.
8. National INSET Centre
National INSET Centres is to be located at the NCCE where training will be conducted.
9. State INSET Centre
State Training Centres have been tentatively identified where training will be taking place during school holidays.

Inputs:

1. Federal Government of Nigeria:
 - a) Office space and facilities necessary for the project at the National level
 - b) Expenses for monitoring and evaluation at the federal level
 - c) Assignment of National Trainers to the project
 - d) Assignment of Administrative Personnel to the project
 - e) Expenses necessary for the implementation of the project at the National level (Running cost for training)
2. State Government:
 - a) Office space and facilities necessary for the project at the State level
 - b) Expenses for monitoring and evaluation at the state level
 - c) Assignment of State Trainers to the project
 - d) Assignment of Administrative Personnel to the project
 - e) Expenses necessary for the implementation of the project at the State level (Running cost for training).

3. Japanese Side:
- a) Training of counterparts in Kenya, Japan or any other country
 - b) Dispatch of short / long term expert if necessary
 - c) Provision of equipment, materials and machinery
 - d) Expenses necessary for the implementation of the Project.

Feasibility of the Project

Relevance

It is widely recognized in Nigeria that improvement in teaching and learning of Mathematics and Science is essential for national development. The current 1999 Constitution, NPE and the Government effort through NEEDS lent credence to this. Teacher factor was also identified as one of the key obstacles militating against the quality of STM education in Nigerian Primary and Secondary schools. Therefore an in-service training that aims at enhancing the quality of teachers in terms of attitude, pedagogy, mastery of content, resource mobilization and utilization of locally available teaching materials will be very relevant.

Effectiveness

The project aims to enhance the ability of Core Teachers to provide INSET for teachers in primary mathematics and science in the pilot states. This project purpose will be effectively achieved through the following outputs:

- The bodies / units to implement the INSET at National and State level are established.
- The INSET for State Trainers and core teachers is conducted and assessed.
- Supporting system for INSET is strengthened.

Efficiency

Existing facilities and local resources will be utilized with the National INSET Centre located at NCCE, while the State INSET programmes will be organized at an identified Centre/Secondary School during holidays. This approach is more cost-effective than using commercial facilities.

National Trainers and Coordinators will be trained in Third country and the State Trainers trained by the National Trainers at the National INSET centre. Experts will be dispatched to the project from SMASSE-WECSA network for cost effectiveness and timeliness.

Impact

The project aims to enhance the ability of Core Teachers to provide INSET for teachers in primary mathematics and science in the pilot states. However, the project prepares some training/workshop for local education officers in the pilot States and for State Education Officers in the non-pilot States to enlighten the policy makers on the relevance and importance of institutionalization of INSET program. It means that the project shall act as a springboard for institutionalization of INSET program for entire Nigerian teachers and will give added impact on the regularization of in-service training programs that the NPE stipulated.

Moreover, the project will enhance and change the teachers' attitude, pedagogy and level of subject mastery. This will demystify the teaching and learning of not only Mathematics and Science but also other subjects; though, it can not cover all primary school teachers in other subject areas in the pilot states.

Sustainability

The sustainability of the project will be hinged on policy, activities, finance, academic and administration. The Federal Ministry of Education, along with other Stakeholders, will initiate proposal to establish the policy for the institutionalization and regularization of INSET for basic education teachers as soon as the project commences.

Collaboration between the national and state INSET systems will support the provision of quality INSET. In addition, the running cost of the INSET provided by the Nigerian government will make the project financially sustainable.

Effective collaboration between the academic and administrative personnel (FME and SUBEB) and accumulation of knowledge of National and State INSET construction by them will enhance the project sustainability.

2.0 Background Information of Nigerian Education Sector

2.1 Overview of Education Sector

Since independence, Nigerian Governments have always put education on their priority agenda. The introduction of the Universal Primary Education (UPE) in September 1976 was the first major National initiative that was aimed at universalizing access to education. The publication of a National Policy on Education in 1977 (4th Edition 2004) also provided a greater sense of direction and purpose to educational activities at all levels of the education system. This policy established a 6-3-3-4 education structure (six years for primary, three years for junior secondary, three years for senior secondary and four years for university education) and outlined a philosophy for Nigerian Education and a National curriculum for schools. The UPE scheme was marred by inadequate planning, but nevertheless resulted in a doubling of primary enrolment.

To date, Nigeria has participated in all deliberations concerning Education for All (EFA) since the Jomtien Conference of 1990. In order to achieve the goals of EFA, the Nigerian Government made a renewed commitment to adult literacy and introduced the concept of a nine-year basic education program covering the primary and junior secondary level. In 1999, the civilian administration launched the current Universal Basic Education (UBE) Programme, ahead of Dakar 2000 framework on EFA. The six goals were later integrated into the UBE blueprint. In pursuance of the EFA goals, the Nigerian government made the formal level of primary and junior secondary education universal, free and compulsory. It further embraces skill acquisition programmes for out-of-school youth, adult literacy and education for disadvantaged groups such as nomads.

Since the launch of UBE in 1999, more students have been enrolled. About 17.9 million children were enrolled in primary schools in 1999. This increased to 19.2 million in 2000 and 19.4 million in 2001.

2.2 Scope and Objectives of Primary Education.

Primary education is the education given in institutions for children aged six (6) to eleven (11) years and has duration of six years (NPE 2004). In Nigeria, primary education forms the base of the nine-year Basic Education Programme. It is tuition free, universal and compulsory. The objectives of primary education are derived from the National Policy on Education, one of which is to equip the individual with a solid base for scientific and reflective thinking through the inculcation of permanent literacy and numeracy. The individual who has passed through primary education must have imbibed a sound attitude and character training to enable the recipient to adapt to the changing environment. Indeed, at the end of primary education programme, the recipient must have acquired manipulative skills necessary to function effectively in the society within the limits of his capability.

2.3 Situational Analysis on Primary Education including Mathematics and Science Education.

Recent researches revealed that students' performance is poor in literacy and numeric skills at primary level of education. There is strong association between inadequate teachers' capacity and poor students' performance. Although the Nigeria Certificate in Education

(NCE) is the basic minimum qualification for teaching in the Nation's primary schools, the 'Education Sector Status Report' 2003 stated that 46% of all primary school teachers in Nigeria do not have the NCE. In addition, it is reported that there are some cases of NCE holders not performing well in the classroom.

The pupil-teacher ratio is a very important factor in classroom management. As at 2004, the National teacher- pupil ratio had reached 1:39, the maximum specified by the NPE (FME 2004). There are disparities in the ratio among the States. The 2001 data show 111 pupils per teacher in Yobe, 44 in Borno, 41 in Jigawa, 52 in Sokoto, 22 in Lagos, 38 in Ondo, 59 in Abia and 68 in Edo. However, according to the Nigeria EFA report card 2005, in 2004 the pupils-teacher ratio among the States ranges from 21 in Lagos to 84 in Bauchi, Niger State has 28, Plateau State was 39 and Kaduna State 34. These ratios would have been the ideal for quality instruction in the classroom but the rural/urban disparity is also at play here whereas the ratio is as low as 20:1 in some rural areas, it is as high as 90:1 in some urban centres.

In Nigerian Primary schools, a normal lesson period lasts 35 minutes during which the teacher is expected to employ practical demonstration, experimental and explanatory / interactive methods of teaching. Instructional materials such as textbooks, science equipment, chalk and chalkboard and charts are generally inadequate in most rural schools thus making effective delivery of curriculum difficult to achieve. The school environment in most public schools lacks adequate facilities like gender sensitive toilets; a recreation ground and a source of potable water. Indeed classrooms facilities are inadequate.

There are also proofs from some studies on poor students' academic performance as follows:

- The result of the National Assessment of Learning Achievement of primary 5 pupils in English and Mathematics in 2001 conducted by UBEC, which showed low level of achievement in English (40%) and Mathematics (34%) respectively.
- National Assessment of Universal Basic Education Board (NAUBEB) in 2003 reported very low levels of achievement of primary 4, 5 and 6 pupils in four core subjects; English, Mathematics, Primary Science and Social Studies.

In view of the above, the FME through the TSE Department introduced Science Orientation Course (SOC) which is an INSET programme aimed at improving the pedagogical skills and subject mastery of the Primary school teachers in Mathematics and Science. Few years after, these objectives seemed not to have been achieved. The FME therefore decided to revitalize the SOC with establishment of an institutionalized INSET system.

2.4 Education Sector Development Initiatives Undertaken by the FGN and Development Partners

The Federal Government of Nigeria (FGN) took a number of steps, involving a wide range of consultation with the aim of attaining her educational goals. Some of these steps include:

- Mini-summit on Universal Basic Education (November – December, 1999) to canvass support of all stakeholders and international communities in the review of UBE blue print and facilitate smooth implementation of the programme.

- FME - Donor Agency Coordination Meeting (April, 2000) to acquaint the international community, especially the donor agencies, with the policy thrust and priority programmes of the government in the education sector.
- National forum on Education for All (EFA, July – August, 2001), aimed at developing a comprehensive National Action Plan and ensuring success of EFA goals.
- NTI Distance education programmes: National Teachers Institute (NTI), Kaduna executed a number of programmes to fill the existing gap in the supply of teachers both in quality and quantity through a network that covers the whole country. These are: Teachers Grade II certificate by Distance Learning System (DLS) (1984), Nigeria Certificate of Education by DLS (1990), Pivotal Teacher Training Programme (PTTP) (2000)
- National Stakeholders' Workshop on Education Sector Analysis (February 2002) to draw wider participation and foster clearer understanding of ESA process.

A number of donor agencies and international development partners have contributed significantly to the efforts of the FGN in the education sector. They include UNESCO, UNICEF, the World Bank, DFID, ADB, USAID and JICA. Some of the donor-funded projects include;

- World Bank Primary Education Project II (PEP II CR3346–UNI) to strengthen human resources, curriculum improvement, database, teaching/learning environment and HIV/AIDS awareness.
- World Bank/DFID UBE Project to provide support for FME, UBEC and 16 State governments.
- Literacy Enhancement Assistance Programme (LEAP) – USAID: for the improvement of literacy and numeracy skills in primary and Islamiyyah schools. This involves teacher training too in three States of Kano, Nassarawa and Lagos.
- Japan International Cooperation Agency (JICA) Assistance in Primary Education, to improve access through additional classroom construction at primary schools level in three pilot States of Niger, Plateau and Kaduna.
- Nigeria – UNESCO special project in revitalizing teaching learning of Science, Mathematics and Technology Education in Primary / Secondary Schools and Colleges of Education.
- UNESCO, TRCN and other stakeholders such as ETF, NCCE etc “Train the Teacher” Project. This is a kind of mentoring and capacity development for classroom teachers in primary and secondary schools on geo-political basis. It started in July 2005 in the south east zone.

3.0 Background of the Project

The 1999 Constitution of the Federal Republic of Nigeria and the National Policy on Education (NPE) require governments in the Federation to promote Technology and Science education. The cultivation of a scientific culture through education is necessarily a national objective of Nigeria. Currently, this cultivation of scientific culture is in harmony with the goals of National Economic Empowerment and Development Strategy (NEEDS), which seek to transform the society for self-reliance and economic empowerment.

The Federal Government of Nigeria (FGN) launched the Universal Basic Education (UBE) scheme in 1999 and drastic basic education reforms were carried out under this scheme. The reforms involve the review of Primary school curricula including Mathematics and Science subjects. However, the last research conducted by Universal Basic Education (UBE) on the National Assessment of Learning Achievement of primary 4, 5 and 6 pupils in English, Mathematics, Primary Science and Social Studies in June 2003 revealed that students' performance is poor especially in primary mathematics and science. There is therefore need to put in place mechanisms to improve the performance.

The Federal Ministry of Education (FME) observed the following problems from past workshops:

- That teaching is more of teacher - centred rather than student – centred. It is based on lecture method, which does not usually give room for the use of local materials to make teaching / learning effective and activity oriented.
- There is also strong association between inadequate teachers' capacity and poor students' performance.
- A large number of teachers in primary schools are not professionally qualified and show apathy and phobia for mathematics and science, in addition to inadequate pedagogical skills.

In order to improve the situation, the Technology and Science Education (TSE) Department of FME has been organizing and executing in – service training programme titled 'Science Orientation Course' (SOC) for primary school teachers. The programme needs revitalisation through establishment of an INSET system.

In June 2003, FME was invited to the SMASSE-WECSA conference held in Accra, Ghana. SMASSE-WECSA stands for *Strengthening Mathematics and Science in Secondary Education in Western Eastern, Central and Southern Africa*. It is a network association for Strengthening Mathematics and Science Education in Sub-Saharan Africa. It was established on the basis of experiences of Kenya's Japan International Cooperation Agency (JICA) assisted project for Strengthening Mathematics and Science in Secondary Education (SMASSE), through In-Service Education and Training (INSET) for teachers. The experiences of the Kenyan project include a repackaging of pedagogical approach into ASEI/PDSI (Activity, Student, Experiment, Improvisation and Plan, Do, See, Improve). This pedagogical approach has greatly enhanced the performance of teachers and students and in line with JICA's policy for 'south-south cooperation', the association aims to spread the good experiences and transferable practices for strengthening mathematics and science education. This means the network support formulation and implementation process of new projects for other African countries. Nigeria looks forward to collaborating with this network in

formulating and implementing system of strengthening mathematics and science education at primary level through ASEI/PDSI approach.

Since joining the SMASSE-WECSA conference in 2003, Nigeria's FME through TSE Department has started the cooperation with SMASSE-WECSA secretariat at the Centre for Mathematics Science and Technology Education in Africa (CEMASTEIA) in Kenya. More than thirty Nigerian resource persons have been trained at the Centre and TSE Department has organized some workshops and invited CEMASTEIA officials as facilitators to share the Kenyan successful experiences. Therefore, a pool of officers, trained and sensitised, exists for the purposes of putting in place suitable programme for strengthening mathematics and science in Nigeria.

In realisation of the need to put in place mechanisms for strengthening mathematics and science education in Nigeria, the DTSE of FME approached JICA for support. The focus of JICA Nigeria is on basic education (Primary and Junior Secondary) and currently it is providing technical support in Grant Aid assistance of the government of Japan in additional classroom construction at primary schools level in Niger, Plateau and Kaduna states respectively. FME through DTSE submitted project proposal for technical assistance in capacity building for primary mathematics and science teachers in Kaduna, Niger, and Plateau States as pilot states to the Government of Japan. This proposal was subsequently approved by JICA in 2005.

As a follow up, series of stakeholders' workshops have been organised with a baseline study of the status of Mathematics and Science Education in the three pilot states conducted in 2005. The experience and information gathered from the survey will form the foundation for the training manual for the SMASE Nigeria project INSET.

4.0 Strategy of the Project

The project basic component is effective provision of In-Service Education and Training (INSET) to Mathematics and science teachers in Nigerian primary schools in the 3 – pilot states. From this point of view, this project has adopted various approaches. Most importantly, Quality Control and Institutionalization of INSET system which are quite unique and they are as follows;

4.1 Quality Control

Quality Control of the INSET system can be achieved through Training of Trainers and Training of Administrators.

4.1.1 Training of Trainers (See Appendix 5)

In order to provide quality In-Service Education and Training (INSET) for Mathematics and Science teachers in Nigerian primary schools in the 3 – pilot, States, the cascade-approach will be utilized. There will be 2 levels in the cascade-approach (see Appendix 5 - Training Structure of SMASE Nigeria):

- 1st level training for the State Trainers (STs) at the National INSET centre;
- 2nd level training for the classroom teachers at the state INSET centres in the 3 – pilot states.

The 1st level training will be organised by the National Trainers (NTs) in collaboration with the National Coordinating Unit (NCU) and JICA. NTs will be assigned by the National Commission for Colleges of Education (NCCE) and be trained first in *third country* utilizing SMASSE-WECSA Network. *Third country* means a developing country which has already developed an INSET system for mathematics and science like Kenya and in addition which share similar socio-cultural background with Nigeria from the perspective of effective technical exchange. After that, NTs will train State Trainers (STs) at the National INSET centre.

The 2nd level training will be organised by the STs and the State Implementation Committee (SIC) / SUBEBs in collaboration with the NTs, the NCU and JICA. STs will be selected from lecturers at State and Federal Colleges of Education and from core primary mathematics and science teachers with the most active and greatest performance at primary schools, based on set criteria and terms of reference. Lecturers from colleges of education are superior in academic perspective while the core teachers from primary school have wealth of classroom experience. It is therefore expected that there will be effective collaboration between the lecturers and the core teachers.

The State Trainees at 2nd level training are teachers at Primary School level. Teachers with high performance will be selected from local governments using the criteria put in place by the SIC. Each state will be able to select up to 200 teachers. Those teachers will be expected to be state local trainers and will encourage INSET activities at cluster schools level.

This 2nd – level training will continue for three years from cycle 1 to cycle 3. Each year has different themes and participants gradually learn ASEI/PDSI approach which improves their

teaching pedagogy. Therefore, participants are expected to build up their own capacity year by year through feedback from the classroom experience acquired after training.

4.1.2 Training of Administrators

In order to facilitate and sensitize the project among all stakeholders, relevant officials from the Federal and State level will be trained in INSET system management, utilizing SMASSE-WECSA Network. Core officials will have short-training (one-week) to become facilitators and learn management skills at the *third country*. Then, these core officials will organize INSET management, advocacy and sensitization workshop in Nigeria. Management workshops are organised for other relevant officials from Local levels in the pilot states to manage the quality of the local INSET i.e. cluster system. Advocacy and sensitization workshop is for other relevant officials from Federal and non-pilot States to expand the understanding of ASEI/PDSI approach's effectiveness in teaching and learning.

4.2 Institutionalization

In order to sustain the project without any assistance from JICA after the pilot phase, various approaches are adopted. Firstly, Nigerian government provides the running cost while JICA is requested to provide the initial cost of the project. The running cost includes feeding, accommodation and transport refunds while the initial cost involves provision of necessary equipment and training opportunities for core-staff and trainers to maintain the quality of the project. Secondly, in order to adopt cost-effective approach, Nigerian government renovates some secondary school classrooms and dormitories to be used as training facility. This will be much more cost effective than the use of hotels. In addition, provision of daily allowance is disregarded although three meals per day and accommodation (where the secondary school dormitories are used) will be provided during the training. This approach makes organizing training financially feasible with low cost for Nigerian government which is in charge of running cost. Thirdly, as the National INSET centre provides the training for State Trainers (STs) and accumulates the know-how of INSET training, it becomes possible to replicate this project in other non-pilot states. Fourthly, as the States have their own INSET centers and STs, it becomes possible to scale up this project to reach all the teachers and maintain the training quality in cooperation with the National Trainers (NTs) and NCU.

5.0 Design of the Project (See Appendix 1)

5.1 Super Goal

The capability of primary school pupils in Mathematics and Science education is upgraded.

5.2 Overall Goal

Teaching skills of primary teachers in mathematics and science are upgraded.

5.3 Project Purpose

Ability of Core Teachers to provide INSET for teachers in primary mathematics and science is enhanced.

5.4 Coverage and Duration

The project will start with pilot States of Niger, Plateau and Kaduna. (The selection of the pilot states was based on the fact that JICA already had Additional Classroom construction Project in the states.)

The project will be implemented on 3-year pilot phase starting 2006 to 2009. (See Appendix 2 and 3)

5.5 Executing Bodies

Federal Ministry of Education, National Commission for Colleges of Education (NCCE), Universal Basic Education Commission (UBEC), State Universal Education Boards (SUBEBs) of Kaduna / Niger / Plateau and Japan International Cooperation Agency (JICA)

5.6 Beneficiaries.

The Project is targeting the following categories of Beneficiaries:

1. Core Primary School teachers of mathematics and science
2. State Trainers (STs).
3. National Trainers (NTs)
4. SUBEB officials and Local Education Secretaries

5.7 Outputs

1. The bodies / units to implement the INSET at National and State level are established.
2. The INSET for State Trainers and core teachers is conducted and assessed.
3. Supporting system for INSET is strengthened.

5.8 Activities

- 1-1 To equip the National / State Coordinating Units.
- 1-2 To set TOR and recruitment criteria for National Trainers.
- 1-3 To recruit National Trainers.
- 1-4 To conduct training for National Trainers.

- 1-5 To provide the equipment and materials for National INSET.
- 1-6 To set TOR for State Trainers.
- 1-7 To recruit State Trainers.
- 1-8 To provide the equipment and materials for State INSET.
- 1-9 To set criteria for selecting trainees for State INSET.

- 2-1 To develop training manuals, materials, monitoring & evaluation tools.
- 2-2 To print and circulate INSET Training materials to the State INSET centres.
- 2-3 To conduct training for State Trainers (12-24 participants).
- 2-4 To conduct monitoring & evaluation of National INSET.
- 2-5 To conduct training at the State INSET Centre (200 participants per state / 600 participants in the three states).
- 2-6 To conduct monitoring and evaluation of State INSET.

- 3-1 To conduct training on National INSET management facilitation workshop.
- 3-2 To conduct INSET management workshop for local officials.
- 3-3 To conduct sensitization / advocacy workshop for relevant State officials from the States.
- 3-4 To publish Newsletter on activities of the project.
- 3-5 To promote and popularize the activities of the project through the media as the need arises.

5.9 Inputs

To implement the planned activities, the Government of Japan, Federal Government of Nigeria and the State Governments will provide the following inputs.

1. Federal Government of Nigeria:
 - a. Office space and facilities necessary for the project at the National level
 - b. Expenses for monitoring and evaluation at the federal level
 - c. Assignment of National Trainers to the project
 - d. Assignment of Administrative Personnel to the project
 - e. Expenses necessary for the implementation of the project at the National level (Running cost for training)

2. State Government:
 - a. Office space and facilities necessary for the project at the State level
 - b. Expenses for monitoring and evaluation at the state level
 - c. Assignment of State Trainers to the project
 - d. Assignment of Administrative Personnel to the project
 - e. Expenses necessary for the implementation of the project at the State level (Running cost for training)

3. Japanese Side:
- a. Counterparts training in Kenya, Japan or any other country
 - b. Dispatch of short / long term expert if necessary
 - c. Provision of equipment, materials and machinery
 - d. Expenses necessary for the implementation of the project

5.10 Important Assumptions

- Core teachers will not leave the teaching field for another profession after training.
- The socio - political situation in the Pilot states will not affect the INSET framework
- National and State trainers will not leave teaching field for another profession
- Other training will not interfere with the training and other activities of the Project
- There will be prompt release of funds for the project by the Federal and the State governments.
- Federal, state and Local governments will continue to support the project
- INSET activities will be priority assignment for officers involved
- SMASSE – WECSA will continue to support SMASE Nigeria
- Teachers trained will not leave the teaching profession.

5.11 Administration

The Federal Ministry of Education shall implement the project with the Permanent Secretary as Project Director, and Coordinated by the Department of Technology and science Education (DTSE) in collaboration with Universal Basic Education Commission (UBEC) with technical assistance from JICA. (The organizational chart is shown in Appendix 3).

5.11.1 National Steering Committee (NSC)

The National Steering Committee (NSC) chaired by the Honorable Minister of Education shall take the highest authorities and responsibilities for the Project management and implementation.

The roles and functions of the National Steering Committee shall be:

- (1) To be responsible for overall policy decisions with reference to the project.
- (2) To consider the bi-annual progress report on the implementation submitted by the National Coordinator and the State implementation Committee.
- (3) To exchange views on any major issues arising from or in connection with the implementation of the project.
- (4) To carry out monitoring and evaluation of the project.
- (5) To work towards the implementation and institutionalization of regular INSET as stipulated in the NPE.

Membership of the Committee includes:

- The Honourable Minister of Education as Chairman
- The Permanent Secretary of FME
- Director, Technology and Science Education
- Director, Education Support Services of FME
- Director, Primary and Secondary of FME
- Chairman, Niger SUBEB
- Chairman, Plateau SUBEB
- Chairman, Kaduna SUBEB
- Executive Secretary, NCCE
- Executive Secretary, UBEC
- Executive Secretary, NERDC
- Director/CEO NMC
- Registrar, TRCN
- Legal Adviser of FME
- Deputy Director (Technology Education)
- JICA Nigeria Office (Resident Representative)
- JICA Technical Advisor
- Deputy Director (Science Education) as Secretary

5.11.2 National Coordinating Unit (NCU) / National Coordinator

Department of Technology and Science Education will be in charge of coordination of the project. A National Coordinator and Assistant Coordinators shall be appointed by the Director Technology and Science Education of FME to manage the unit. They shall collaboratively develop the Annual work plans. The Annual work plans shall be used to access funds. The desk officer from UBEC is also selected as one of members of the National Coordinating Unit.

The National Coordinator and the Assistants shall have the following roles and responsibilities:

- (1) To coordinate the project.
- (2) To prepare and develop Annual work plans.
- (3) To initiate the requisition for funds for the implementation of Project activities.
- (4) To develop and defend Budget Statement proposal.
- (5) To support and supervise the activities at the State INSET Centres in collaboration with the National Trainers.
- (6) To submit bi-annual progress report of project activities to the National Steering Committee.
- (7) To conduct internal monitoring and evaluation of the National INSET.
- (8) To prepare the framework for implementing and institutionalizing regular INSET as stipulated in the National Policy on Education.

Membership of the Unit includes:

- One National Coordinator from DTSE
- Five Assistant National Coordinators from DTES of FME and from UBEC
- One JICA Technical Advisor

5.11.3 State Implementation Committee (SIC)

The State Implementation Committee (SIC) chaired by the Chairman of the SUBEB shall be responsible for the management and implementation of the Project activities in the State.

The functions of the Committee include:

- (1) To be responsible for implementation of project activities in the State;
- (2) To ensure that the trainings are organized effectively and on schedule as specified in Project Document.
- (3) To approve the disbursement of funds based on the recommendation of the State Coordinating Unit.
- (4) To ensure that bi-annual progress reports are submitted to the National Steering Committee.
- (5) To Monitor and Evaluate the progress of the INSET.
- (6) To prepare the framework for implementing and institutionalizing regular INSET as stipulated in the National Policy on Education.

Membership of the Committee includes the following:

- The Chairman SUBEB as Chairman
- Director, School Services of SUBEB
- Director, Inspectorate Services of SUBEB
- Director, Planning, Research and Statistics of SUBEB
- Provosts of the Federal and State Colleges of Education
- Representative of State trainers
- Director, Education Resource Centre (ERC) of State Ministry of Education
- Representative of Education Secretaries of LEAs
- Science Coordinator as Secretary
- Representative of National Union of Teachers
- JICA Nigeria Office
- JICA Technical Advisor

5.11.4 State Coordinating Unit (SCU) /State Coordinator

Department of School Services will be in charge of the coordination of the State INSET Centres in Niger and Plateau States while the Department of Inspectorate Service will be in charge in Kaduna State. The Head of the department shall be the State INSET Coordinator while the Science Coordinator at the SUBEB shall be the Assistant State INSET Coordinator.

The functions of State Coordinating Unit include:

- (1) To coordinate the INSET activities at the State INSET Centre.
- (2) To prepare the work plan for the INSET Centre, and any other duties for the effective implementation of INSET in the State.
- (3) To prepare and submit bi-annual progress report of INSET activities to the State Implementation Committee.
- (4) To conduct internal monitoring and evaluation of the project.
- (5) To prepare the framework for implementing and institutionalizing regular INSET as stipulated in the National Policy on Education.

Membership of the Unit includes:

- One State INSET Coordinator from SUBEB
- One Assistant State INSET Coordinator from SUBEB
- One JICA Technical Advisor
- A Representative of State Trainers

5.11.5 JICA Technical Advisors

JICA shall dispatch a Project Technical Advisor and the functions of the Advisor include:

- (1) To advise the Project Director, National Coordinator, State Coordinators and National and State Trainers on the implementation and management of the project.
- (2) To assist the National Coordinator in developing Annual work plans.
- (3) To advise the Nigerian counterpart personnel on technical aspects of monitoring and evaluation.

5.11.6 National Trainers (NTs)

National Trainers are NCCE staff who will be assigned to the Project and shall have SMASE project as one of their schedule of duties. The NTs will implement training at National level, the functions of the National Trainers shall be:

- (1) To develop and produce training manuals and materials for the National and State INSET.
- (2) To organize and conduct the training sessions at the National level for the State Trainers.
- (3) To collaboratively develop the Annual work plan.
- (4) To collaboratively develop monitoring and evaluation tools.
- (5) To work in collaboration with the National Coordinating Unit in making the bi-annual progress report of the project.
- (6) To support and supervise State Trainers.
- (7) To adhere strictly to work ethics as stipulated in the Project Document (Appendix 13)

***Criteria for Selecting National Trainers:**

- Minimum qualification of a masters degree
- Must be a professional in mathematics and science education
- Must have minimum of 5 years of teaching experience
- Must show high level of dedication and commitment to duty
- Must be less than 50 years old
- Must be computer Literate

5.11.7 State Trainers (STs)

The State Trainers are College of Education lecturers and core mathematics and science teachers from primary schools.

The lecturers are full-time staff of the State and Federal Colleges of Education while the core primary school teachers are classroom teachers. Both are assigned on part-time basis to the

Project to implement training and related activities. The roles and responsibilities of the State Trainers shall be:

- (1) To adapt the training manuals developed by the National Trainers to the state situation and to carry out any other research.
- (2) To organize and conduct the training sessions at the State INSET centre.
- (3) To collaboratively develop the Annual work plan.
- (4) To collaboratively monitor and evaluate the project.
- (5) To support and supervise classroom teachers.
- (6) To work in collaboration with the State Coordinating Unit in making the bi-annual progress report of the project.
- (7) To adhere strictly to work ethics as stipulated in the Project Document (Appendix 13)

***Criteria for selecting State Trainers:**

- Qualification: B.Sc. / B. Ed. / NCE
- Performance at the 1st INSET in term of observable changes in attitude to the teaching and learning of mathematics and science
- Must be an experienced teacher currently teaching
- Must show high level of dedication and commitment to duty.
- Computer Literacy is an added advantage.
- Must be less than 50 years old

5.11.8 National INSET Centre

National INSET Centre is to be located at the NCCE where training will be coordinated

5.11.9 State INSET Centre

State INSET Centres will be located tentatively at an identified Centre/School where training will take place during holidays. They are as follows;

Niger state: Community Resource Centre / Government Secondary School, Minna
Plateau state: ST. Louis College, Jos
Kaduna state: Queen Amina College, Kaduna

5.12 Monitoring and Evaluation Committee.

There will be both external and internal monitoring and evaluation of the project activities at the National and State levels.

National Level:

- External Monitoring and Evaluation Committee shall consist of members of the National Steering Committee or their representative.
- Internal Monitoring and Evaluation Committee shall consist of National Trainers and National Coordinating Unit.

State Level:

- External Monitoring and Evaluation Committee shall consist of members of the State Implementation Committee.
- Internal Monitoring and Evaluation Committee shall consist of State Trainers and State Coordinating Unit.

The result of the monitoring and evaluation is reflected in the bi-annual progress report of the project. Tools and methods to be employed in the exercise shall always be developed by the NTs in collaboration with the State Trainers and other stakeholders.

5.13 Budget

The Government of Nigeria (GON), through FME, SUBEBs in Niger, Plateau and Kaduna and other stakeholders will make the identified contributions over the period of three years. JICA will supplement the Government inputs in the form of project-type support. The contributions by FME, SUBEBs, other stakeholders and JICA are shown below:

Estimate in Naira

	YEAR 1	YEAR 2	YEAR 3	TOTAL
JICA	29,586,500	13,520,000	12,570,000	55,676,500
FME (DTSE, NCCE, UBE & NSC)	2,100,800	4,672,800	6,789,200	12,206,800
3 SUBEBs	22,250,400	18,767,400	18,942,00	59,959,800
Others (COEs, LGEAs & States)	489,600	2,620,000	3120,00	7,860,000
Total	54,427,300	39,580,200	41,421,200	135,428,700
JICA %	54.4%	34.2%	30.3%	41.1%
FME (DTSE, NCCE, UBE & NSC)%	3.9%	11.8%	16.4%	10.0%
3 SUBEBs%	40.9%	47.4%	45.7%	44.3%
Others (COEs, LGEAs & States)%	0.9%	6.6%	7.5%	4.6%

(Note: The Salary of JICA Technical Advisor is excluded from the figures shown above)

The funds from the Government of Nigeria will be released from the FME, SUBEBs and other stakeholders on the basis of the agreed Annual work plan. The funds from the Government of Japan, through JICA, will be disbursed according to the Annual work plan and transferred to JICA Project account in a commercial bank in Nigeria.

5.14 Accountability

The FME, SUBEBs and JICA Technical Advisor are to ensure that funds are adequate, released on time for the implementation of the project and well accounted for in terms of output and expenditure

The FME shall be accountable for funds released by the FGN for the project while the SUBEBs will be accountable for the funds released by the State governments in accordance with the financial regulation in Nigeria.

JICA Technical Advisor is responsible for the accountability of the JICA project account and shall report to JICA Headquarters in accordance with the laws and regulations in force in Japan.

Monthly progress reports shall be considered by the National Steering Committee to prepare and submit bi-annual narrative progress and financial reports to FME, SUBEBs and JICA before release for the next year is made.

5.15 Procurement

All procurement of the goods and services financed by the GON and JICA shall be in accordance with the Government of Nigeria 'Due Process' and the laws and regulations in force in Japan respectively.

6.0 Feasibility of the Project

6.1 Relevance

It is widely recognized in Nigeria that improvement in teaching and learning of Mathematics and Science is essential for national development. The current 1999 Constitution requires government in the federation to promote science education and the National Policy on Education (NPE) points out the importance to equip the individual with solid base for scientific and reflective thinking through the inculcation of permanent numeracy at primary level.

The National Policy on Education (NPE) also stipulates that “In-Service training shall be developed as an integral part of continuing teacher education and effort towards the improvement of quality education at the primary and secondary levels shall include regulation of in-service training programs for teachers and head teachers. In addition, the project is in consonance with the Government efforts through the National Economic Empowerment and Development Strategy (NEEDS) which focus on capacity building requirements of the citizens.

Teacher factor has since been identified as one of the key obstacles militating against the quality of Mathematics and Science education in Nigerian Primary and Secondary schools. Therefore an in-service training that aims at enhancing the quality of teachers in terms of attitude, teaching methodology, mastery of content, assessment, resource mobilization and utilization of locally available teaching materials will be very relevant.

The choice of the Primary education level for the implementation of the project is based on the fact that the Primary education is the bedrock of the education system and from where the young Nigerians are expected to upgrade their capability in Mathematics and Science education. In addition the project aims at creating an interactive environment where Mathematics and Science teachers shall corroborate ideas, share positive and laudable experiences that can easily support one another in teaching and learning activities.

The Government of Japan presented an initiative on the support of Mathematics and Science Education capacity development of African countries in World Summit for Sustainable Development (WSSD) in 2002. As output of this initiative, an African regional networking, through SMASSE-WECSA association was formulated. The SMASSE Nigeria project is collaborating with the SMASSE-WECSA Association which is in line with the Japanese ODA strategy in Africa

6.2 Effectiveness

The project aims to enhance the ability of Core Teachers to provide INSET for teachers in primary mathematics and science in the pilot states. Clear indicators of the achievement of this goal will be based on attitude, participation and lesson observation indices of the participating teachers. It has been proved that these indicators work effectively through the SMASSE project in Kenya.

The project will be achieved through the following outputs:

- The bodies / units to implement the INSET at National and State level are established.

- The INSET for State Trainers and core teachers is conducted and assessed.
- Supporting system for INSET is strengthened.

The collective achievement of these outputs will be the key to actualize the project purpose. From this point of view, the project purpose can be effectively achieved through these outputs by the end of the project.

6.3 Efficiency

In order to achieve the outputs of the project, existing facilities and local resources will be utilized. The National INSET centre will be located at NCCE where the National Trainers work, while the State INSET will be organised at an identified Centre/Secondary School during holidays. In addition, State INSET participants will be accommodated at the secondary school dormitory during training. This approach is more cost-effective than using commercial facilities.

Furthermore to minimize training cost while ensuring quality, National Trainers and Coordinators will be trained in Third country that has similar training environment and socio-cultural background with Nigeria. The State Trainers will be trained by the National Trainers at the National INSET centre. A long term expert will be dispatched for the Project but for cost effectiveness and timeliness SMASSE-WECSA short term experts will be engaged as the need arises.

6.4 Impact

The project aims to enhance the ability of Core Teachers to provide INSET for teachers in primary mathematics and science in the pilot states. However, the project prepares some training/workshop for Local Education Secretaries in the pilot states and in the non-pilot states to enlighten the Policy makers on the relevance and importance of institutionalization of INSET program. In the case of Local Education officers in the pilot states, it is expected that they integrate the approach and concept of this project into their local programs like the planned cluster teacher training programs. These programs will be able to utilize core teachers who join the State INSET as the Trainer of other teachers. In non-pilot states education officers, it is expected that they can select their own State Trainers (STs) and these STs can join the National INSET. Then, they can start their own State INSET. It means that the project shall act as a springboard for institutionalization of INSET program for entire Nigerian teachers and will give added impact on the regularization of in-service training programs that the NPE stipulated.

Moreover, the project will enhance and change the teachers' attitude, pedagogy and level of subject mastery. This will demystify the teaching and learning of not only Mathematics and Science but also other subjects; though it can not cover all primary school teachers in other subject areas in the pilot states. Therefore, it is not easy to give quick impact and benefit to all teachers and all students at classroom level through this project activities.

It is also assumed that no negative ripple effect by implementing the project can be expected.

6.5 Sustainability

The sustainability of the project will be hinged on policy, activities, finance, academic and administration.

At policy level, the Federal Ministry of Education along with other Stakeholders will initiate proposal at the Joint Consultative Committee on Education (JCCE) and the National Council on Education (NCE) for the institutionalization and regularization of INSET for basic education teachers as soon as the project commences.

There will be collaboration between the national and state INSET system in the execution of project activities. This collaboration will enhance project sustainability in terms of demarcation of responsibilities of different tiers of government.

The Nigerian Government will provide the running cost while JICA funds the initial cost including cost of equipment, materials and oversea training for core-stakeholders including National Trainers, National and State Coordinators to enhance the quality of projects. It means that the INSET training at National and State levels can be financially sustained without JICA's input after the project implementation period.

The National Trainers (NTs) are full-time staff of NCCE but will be engaged in this project on part – time basis. However, they are supposed to be fully engaged in the project gradually. At the state level, the State Trainers are full – time lecturers at the colleges of education, and core classroom teachers who will be engaged on part-time basis. SUBEB plans to engage some of the STs on full – time basis. It is more sustainable because the NTs are in the employment of the FME while STs are in the employment of the state. Engaging these trainers in the project is better than hiring training consultants from outside the system at Federal and State levels. Therefore the knowledge of INSET construction accumulated by these trainers will enhance the project sustainability.

The sustainability of the project will also be aided by effective administration of the project. The administration of the project at the national level will be coordinated by FME through TSE Department while at the state level, SUBEBs through the department of School Services in Niger, Plateau and the department of Inspectorate Services in Kaduna will coordinate the project in the pilot states. These departments will produce the administrative personnel.

6.6. Conclusions

The Project is relevant in the Nigerian context and is feasible to attain the Project purpose during the period of the pilot phase in terms of the five perspectives evaluated above.

7.0 APPENDIX

- Appendix 1. Project Design Matrix (PDM)
- Appendix 2. Plan of Operations
- Appendix 3. Organizational Chart
- Appendix 4. Training Structure
- Appendix 5. TOR of National Steering Committee (NSC)
- Appendix 6. TOR of National Coordination Unit (NCU)
- Appendix 7. TOR State Implementation Committee (SIC)
- Appendix 8. TOR of State Coordination Unit (SCU)
- Appendix 9. TOR of JICA Technical Advisors
- Appendix 10. TOR of National Trainers (NTs)
- Appendix 11. TOR of State Trainers (STs)
- Appendix 12. Criteria for selecting of State Trainees
- Appendix 13. Work Ethics
- Appendix 14. Detail Budget Analysis.
 - 14-a First Year (2006) Detail Budget Analysis
 - 14-b Second Year (2007) Detail Budget Analysis
 - 14-c Third Year (2008-9) Detail Budget Analysis
 - 14-d Cost estimate and demarcation for stakeholders
 - 14-e Equipments provided for the Government of Nigeria
 - 14-f State Cost Estimate for State INSET

Appendix 1:

PROJECT DESIGN MATRIX

Project Title:

Strengthening of mathematics and science education (SMASE) in Nigeria

Executing Bodies:

Federal Ministry of Education, National Commission for Colleges of Education (NCCE), Universal Basic Education Commission (UBEC), State Universal Education Boards (SUBEBs) of Kaduna / Niger / Plateau and Japan International Cooperation Agency (JICA)

Target Area

Kaduna State, Niger State, and Plateau State

Duration:

3 years (2006 - 2009)

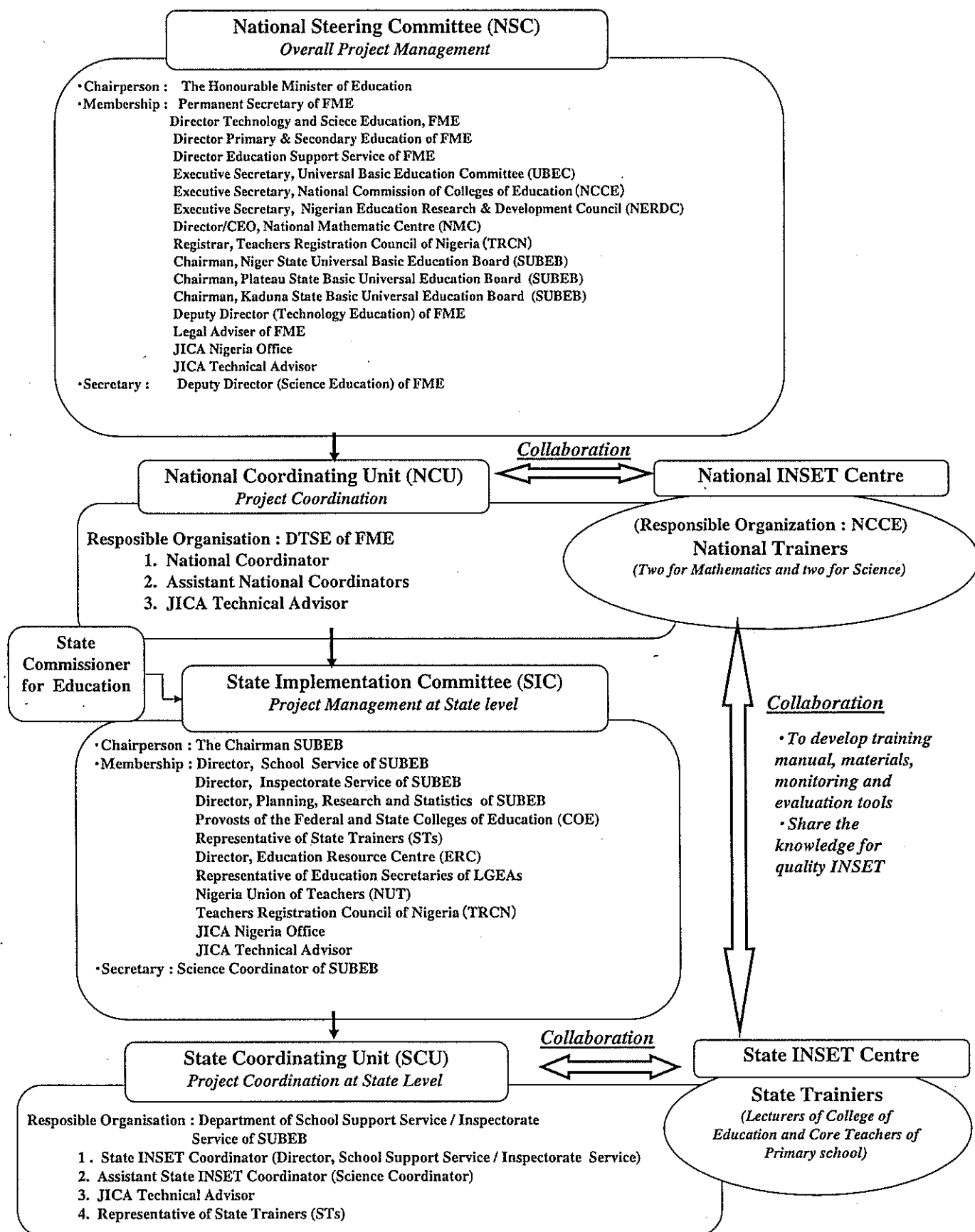
Version No.4.0 (August 11, 2006)

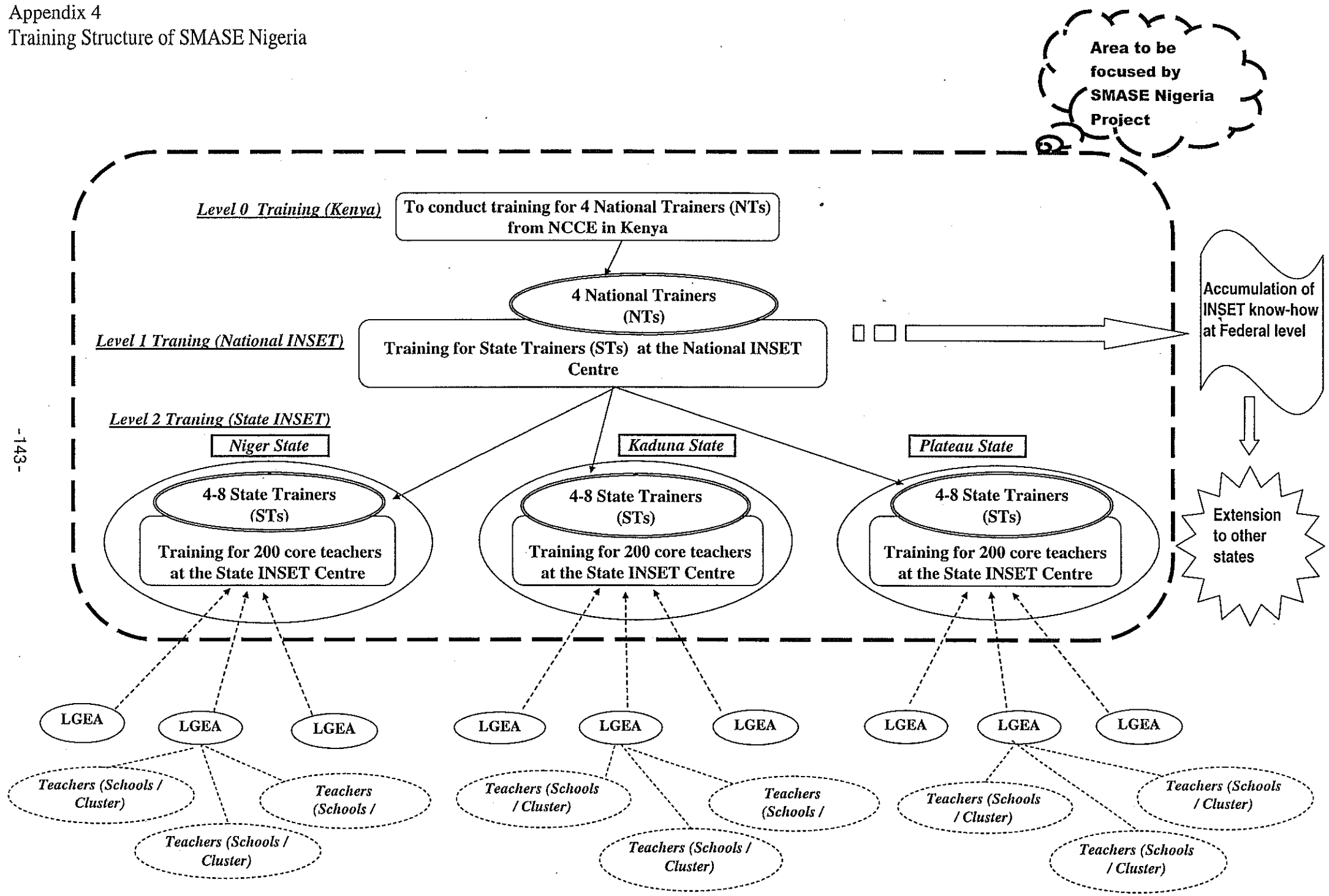
Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
<p>Super goal The capability of primary school pupils in mathematics and science education is upgraded.</p>	<p>Improved pupils' performance in mathematics and science.</p>	<p>1. Performance record of pupils in school examinations 2. National Assessment of UBE program. 3. Impact Survey</p>	
<p>Overall goal Teaching skills of primary teachers in mathematics and science are upgraded.</p>	<p>Positive change of teachers' attitude and improved performance in subject mastery, pedagogical skills and resource utilization as well as pupils' participation in classroom activities.</p>	<p>Quality Assurance Reports Monitoring of Learning Achievement Reports</p>	
<p>Project Purpose Ability of Core Teachers to provide INSET for teachers in primary mathematics and science is enhanced.</p>	<p>By the end of the project, ability of Core Teachers will improve in :</p> <ol style="list-style-type: none"> 1. Lesson observation index obtained more than x on 1-5 scale of $x \geq 3$. 2. Teachers' participation index obtained more than y on 1-5 scale of $y \geq 3$. 3. Attitude of teachers to the teaching of mathematics and science index obtained more than z on 1-5 scale of $z \geq 3$. 4. Mastery ICT mode of instruction 	<p>Project monitoring and evaluation reports.</p>	<p>Core teachers will not leave the teaching field for another profession after training. The socio-political situation in the Pilot states will not affect the INSET framework.</p>
<p>Output(s): 1. The bodies / units to implement the INSET at National and State level are established.</p>	<p>By the end of the project, 1(a) National Coordinating Unit is established. 1(b) Four National Trainers are trained. 1(c) Four National Trainers</p>	<p>Project Monitoring and evaluation reports</p>	<p>National and State trainers will not leave teaching field for another profession.</p>

<p>2. The INSET for State Trainers and Core Teachers is conducted and assessed.</p> <p>3. Supporting system for INSET is strengthened.</p>	<p>fully work for the Project. 1(d) A National INSET centre is established using existing facilities. 1(e) State Coordinating Unit is established. 1(f) 24 State Trainers work for the Project. 1(g) State INSET Centres are established using existing facilities.</p> <p>By the end of the project, 2(a) 24 State Trainers are trained. 2(b) 600 Core Teachers are trained. 2(c) 6 training manuals and materials are developed. 2(d) 3 monitoring and evaluation tools are developed.</p> <p>By the end of the project, 3(a) Over three news letters are published. 3(b) Sensitization workshops for stakeholders are conducted.</p>		<p>Other training will not interfere with the training and other activities of the Project.</p> <p>There will be prompt release of funds for the project by the Federal and the State governments.</p>
<p>Activities 1-1 To equip the National / State Coordinating Units. 1-2 To set TOR and recruitment criteria for National Trainers. 1-3 To recruit National Trainers. 1-4 To conduct training for National Trainers. 1-5 To provide the equipment and materials for National INSET. 1-6 To set TOR for State Trainers. 1-7 To recruit State Trainers. 1-8 To provide the equipment and materials for State INSET. 1-9 To set criteria for selecting trainees for State INSET.</p> <p>2-1 To develop training manuals, materials, monitoring</p>	<p>Inputs: 1. <u>Federal Government of Nigeria:</u> a. Office space and facilities necessary for the project at the National level b. Expenses for monitoring and evaluation at the federal level c. Assignment of National Trainers to the project d. Assignment of Administrative Personnel to the project e. Expenses necessary for the implementation of the project at the National level (Running cost for training)</p> <p>2. <u>State Government:</u> a. Office space and facilities necessary for the project at the State level</p>		<p>Federal, state and local governments will continue to support the project.</p> <p>INSET activities will be priority assignment for officers involved.</p> <p>SMASSE – WECSA will continue to support SMASE Nigeria.</p> <p>Teachers trained will not leave the</p>

<p>& evaluation tools.</p> <p>2-2 To print and circulate INSET Training materials to the State INSET centres.</p> <p>2-3 To conduct training for State Trainers (12-24 participants).</p> <p>2-4 To conduct monitoring & evaluation of National INSET.</p> <p>2-5 To conduct training at the State INSET Centre (200 participants per state / 600 participants in the three states).</p> <p>2-6 To conduct monitoring and evaluation of State INSET.</p> <p>3-1 To conduct training on National INSET management facilitation workshop.</p> <p>3-2 To conduct INSET management workshop for local officials.</p> <p>3-3 To conduct sensitization / advocacy workshop for relevant State officials from the States.</p> <p>3-4 To publish Newsletter on activities of the project.</p> <p>3-5 To promote and popularize the activities of the project through the media as the need arises.</p>	<p>b. Expenses for monitoring and evaluation at the state level</p> <p>c. Assignment of State Trainers to the project</p> <p>d. Assignment of Administrative Personnel to the project</p> <p>e. Expenses necessary for the implementation of the project at the State level (Running cost for training).</p> <p>3. <u>Japanese Side:</u></p> <p>a. Training of counterparts in Kenya, Japan or any other country</p> <p>b. Dispatch of short / long term expert if necessary</p> <p>c. Provision of equipment, materials and machinery</p> <p>d. Expenses necessary for the implementation of the Project.</p>		<p>teaching profession.</p>
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Appendix 3 Organisational Chart of SMASE Nigeria





Appendix 5

Terms of Reference of National Steering Committee (NSC)

The National Steering Committee (NSC) chaired by the Honourable Minister of Education shall take the highest authorities and responsibilities for the Project management and implementation.

The roles and functions of the National Steering Committee shall be:

- (1) To be responsible for overall policy decisions with reference to the Project.
- (2) To consider the bi-annual progress report on the implementation submitted by the National Coordinator and the State implementation Committee.
- (3) To exchange views on any major issues arising from or in connection with the implementation of the Project.
- (4) To carry out monitoring and evaluation of the Project.
- (5) To work towards the implementation and institutionalization of regular INSET as stipulated in the NPE.

Membership of the Committee includes:

- The Honourable Minister of Education as Chairman
- The Permanent Secretary of FME
- Director, Technology and Science Education of FME
- Director, Education Support Services of FME
- Director, Primary and Secondary of FME
- Chairman, Niger SUBEB
- Chairman, Plateau SUBEB
- Chairman, Kaduna SUBEB
- Executive Secretary, NCCE
- Executive Secretary, UBEC
- Executive Secretary, NERDC
- Director/CEO NMC
- Registrar, TRCN
- Deputy Director (Technology Education) of FME
- Legal Adviser of FME
- Deputy Director (Science Education) of FME as the Secretary
- JICA Nigeria Office (Resident Representative)
- JICA Technical Advisor

Appendix 6

Terms of Reference of National Coordinating Unit (NCU)

Department of Technology and Science Education will be in charge of coordination of the Project. A National Coordinator and Assistant Coordinators shall be appointed by the Director Technology and Science Education of FME to manage the unit. They shall collaboratively develop the Annual Activity work plans. The Annual Activity work plans shall be used to access funds. The desk officer from UBEC is also selected as one of the members of the National Coordinating Unit.

The National Coordinator and the Assistant shall have the following roles and responsibilities:

- (1) To coordinate the Project.
- (2) To prepare and develop Annual work plans.
- (3) To initiate the requisition for funds for the implementation of Project activities.
- (4) To develop and defend Budget Statement proposal.
- (5) To support and supervise the activities at the State INSET Centres in collaboration with the National Trainers.
- (6) To submit bi-annual progress report of project activities to the National Steering Committee.
- (7) To conduct internal monitoring and evaluation of the National INSET.
- (8) To prepare the framework for implementing and institutionalizing regular INSET as stipulated in the National policy on education.

Membership of the Unit includes:

- One National Coordinator from DTSE
- Five Assistant National Coordinators from DTES of FME and from UBEC
- One JICA Technical Advisor

Appendix 7

Terms of Reference of State Implementation Committee (SIC)

The State Implementation Committee (SIC) chaired by the chairman of the SUBEB shall be responsible for the management and implementation of the Project activities in the State.

The functions of the Committee include:

- (1) To be responsible for implementation of project activities in the State;
- (2) To ensure that the trainings are organized effectively and on schedule as specified in the Project Document.
- (3) To approve the disbursement of funds based on the recommendation of the State Coordinating Unit.
- (4) To ensure that bi-annual progress reports are submitted to the National Project Steering Committee.
- (5) To Monitor and evaluate the progress of the INSET.
- (6) To prepare the framework for implementing and institutionalizing regular INSET as stipulated in the National policy on education.

The membership of the Committee includes the following:

- The Chairman SUBEB as chairman
- Director, School Services of SUBEB
- Director, Inspectorate Services of SUBEB
- Director, Planning, Research and Statistics of SUBEB
- Provosts of the Federal and State Colleges of Education
- Representative of State trainers
- Director, Education Resource Centre (ERC) of State Ministry of Education
- Representative of Education Secretaries of LGEAs
- Science coordinator as Secretary
- National Union of Teachers
- JICA Nigeria Office
- JICA Technical Advisor

Appendix 8

Terms of Reference of State Coordinating Unit (SCU)

Department of School Services will be in charge of the coordination of the State INSET Centres in Niger and Plateau States while the Department of Inspectorate Service will be in charge in Kaduna State. The Head of the department shall be the State INSET Coordinator while the Science Coordinator at the SUBEB shall be the Assistant State IMSET Coordinator.

The functions of State Coordinating Unit include:

- (1) To coordinate the INSET activities at the State INSET Centre.
- (2) To prepare the work plan for the INSET Centre, and any other duties for the effective implementation of INSET in the State.
- (3) To prepare and submit bi-annual progress report of INSET activities to the State Implementation Committee.
- (4) To conduct internal monitoring and evaluation of the Project.
- (5) To prepare the framework for implementing and institutionalizing regular INSET as stipulated in the National policy on education.

Membership of the Unit includes:

- One State INSET Coordinator from SUBEB
- One Assistant State INSET Coordinator from SUBEB
- One JICA Technical Advisor
- Representative of State trainers

Appendix 9

Terms of Reference of JICA Technical Advisor

JICA shall dispatch a Project Technical Advisor and the functions of the Advisor include:

- (1) To advise the Project Director, National Coordinator, State Coordinators and National and State Trainers on the implementation and management of the Project.
- (2) To assist the National Coordinator in developing Annual work plans.
- (3) To advise the Nigerian counterpart personnel on technical aspects of monitoring and evaluation.

Appendix 10

Terms of Reference of National Trainers (NTs)

National Trainers are NCCE staff who will be assigned to the Project. The NTs will implement training at National level. The functions of the National trainers shall be:

- (1) To develop and produce training manuals and materials for the National and State INSET.
- (2) To organize and conduct the training sessions at the National level for the State Trainers.
- (3) To collaboratively develop the annual work plan.
- (4) To collaboratively develop monitoring and evaluation tools.
- (5) To work in collaboration with the National Coordinating Unit in making the bi-annual progress report of the Project
- (6) To support and supervise state trainers.
- (7) To adhere strictly to work ethics as stipulated in the Project Document.

***Criteria for Selecting National Trainers**

1. Minimum qualification of a masters degree
2. Must be a professional in mathematics and science education
3. Must have minimum of 5 years of teaching experience
4. Must show high level of dedication and commitment to duty
5. Must be less than 50 years old
6. Must be computer Literate

Appendix 11

Terms of Reference of State Trainers (STs)

The State Trainers are College of Education lecturers and core mathematics and science teachers from primary schools.

The lecturers are full-time staff of the State and Federal Colleges of Education while the core primary school teachers are classroom teachers. Both are assigned on part-time basis to the Project to implement training and related activities. The roles and responsibilities of the State Trainers shall be:

- (1) To adapt the training manuals developed by the National Trainers to the state situation and to carry out any other research.
- (2) To organize and conduct the training sessions at the State INSET centre.
- (3) To collaboratively develop the annual work plan.
- (4) To collaboratively monitor and evaluate the Project.
- (5) To support and supervise classroom teachers.
- (6) To work in collaboration with the State Coordinating Unit in making the bi-annual progress report of the project.
- (7) To adhere strictly to work ethics as stipulated in the Project Document.

***Criteria for selecting State Trainers:**

- Qualification: B.Sc. / B. Ed. / NCE
- Performance at the 1st INSET in term of observable changes in attitude to the teaching and learning of mathematics and science
- Must be an experienced teacher currently teaching
- Must show high level of dedication and commitment to duty.
- Computer Literacy is an added advantage.
- Must be less than 50 years old

Appendix 12

Criteria For Selecting Trainees For State INSET

1. Qualification:
 - (a) B.Ed / NCE with bias in mathematics and science
 - (b) B.Ed / NCE in other subjects excluding IRK / CRK
2. Number of Teachers in LGEA: Selection should be in percentage based on the number of teachers per LGEA
3. Years of Service: Teachers that have served for at least 5 years and not more than 25 years.
4. Gender Equity: Selection of participants should be gender sensitive.
5. Selected teachers should not be participating in other projects / programs taking place at the same time e.g. UNESCO Science Program
6. Selection of participants should take cognizance of urban – rural spread of schools.

Note:

- Teachers from Nomadic / Special Schools should be included in the training
- Selection from cluster of schools should be encouraged.

Appendix 13

WORK ETHICS

1. Punctuality to all NSET activities is mandatory.
2. No closing before the official time.
3. No loitering during official business hours.
4. Always appear neat and be polite.
5. Deal with your colleagues, trainees and the public with respect.
6. Be guided by the concept of prompt and quality delivery.
7. No officer will leave assignment unattended to for more than thirty six (36) hours.
8. Ensure adequate security and maintenance of office equipment.

First Year (2006) Detail Budget Analysis

		Items	Unit Cost in N	Quantity		Total Estimate	Responsible Organizations	Sub Total Chargeable to (N)											
				Package	Persons			Federal				SUBEBs	JICA	COEs	Others (LGEMs, Centres, States)				
								DTSE	NCCE	UBEC	Others (Stakeholders)								
National INSET	Running Cost for National INSET (November)	Meals	1,200	6	12	86,400	NCCE												
		Venue	0			0	NCCE												
		Accommodation	5,000	6	12	360,000	NCCE												
		Transport	10,000	1	12	120,000	COEs												
		Medical/Miscellaneous	10,000			10,000	NCCE												
		Monitoring & Evaluation	30,000			30,000	Stakeholders												
		Monitoring & Evaluation by JICA Expert / contingency	300,000			300,000	JICA												
	Initial Cost	Teaching Materials	10,000		12	120,000	JICA												
		Project Office Equipment (NCU & NTs)	3,196,000			3,196,000	JICA												
	NT's Training in Kenya for NTs (September)	International Air Ticket	200,000	1	4	800,000	JICA												
		Visa	7,000	1	4	28,000	NCCE												
		Insurance	10,000	1	4	40,000	JICA												
		Training Cost (Meals & Accommodation)	70,000	4	4	1,120,000	JICA												
		Daily Allowance	1,400	28	4	156,800	NCCE												
Domestic Air Ticket		30,000	1	4	120,000	JICA													
								0	641,200	0	30,000	0	5,696,000	120,000	0				
State INSET	Running Cost for State INSET (December)	Transport for participants	2,000	2	600	2,400,000	SUBEBs												
		Transport for TOT	2,500	2	12	60,000	SUBEBs												
		Accommodation for TOT	2,500	13	12	390,000	SUBEBs												
		Renovation cost for Accommodation	2,000,000	3	1	6,000,000	SUBEBs												
		Meals	1,200	13	600	9,360,000	SUBEBs												
		Honorarium for TOT	2,500	13	12	390,000	SUBEBs												
		Stationery	150,000	3	1	450,000	SUBEBs												
		Admin support	150,000	3	1	450,000	SUBEBs												
		Opening & Closing ceremony	200,000	3	1	600,000	SUBEBs												
		Utility	200,000	3	1	600,000	SUBEBs												
		Contingency	200,000	3	1	600,000	SUBEBs												
		Monitoring & Evaluation from States	300,000	3	1	900,000	SUBEBs												
		Monitoring & Evaluation from NCU	10,000	14	3	420,000	DTSE												
			10,000	14	1	140,000	UBEC												
	Monitoring & Evaluation by JICA & WECSA Experts	600,000			600,000	JICA													
	Monitoring & Evaluation from NTs	7,000	12	4	336,000	NCCE													
	Initial Cost	Teaching Materials	8,000	1	600	4,800,000	JICA												
		Project Office Equipment (SCUs/SUBEBs & STs)	1,883,500	3	1	5,650,500	JICA												
		Mattress & Mosquito Net	7,000	1	600	4,200,000	JICA												
	Training in Kenya for STs (September)	International Air Ticket	200,000	1	12	2,400,000	JICA												
		Visa	7,000	1	12	84,000	COEs												
		Insurance	10,000	1	12	120,000	JICA												
		Training Cost (Meals & Accommodation)	70,000	2	12	1,680,000	JICA												
		Daily Allowance	1,400	14	12	235,200	COEs												
		Domestic Air Ticket	30,000	1	12	360,000	JICA												
									420,000	336,000	140,000	0	22,200,000	19,810,500	319,200	0			
	INSET Management	Center management Training in Kenya (September)	Visa	7,000	1	3	21,000	Centres											
International Air Ticket			200,000	1	3	600,000	JICA												
Insurance			10,000	1	3	30,000	JICA												
Training Cost (Meals & Accommodation)			70,000	1	3	210,000	JICA												
Daily Allowance			1,400	7	3	29,400	Centres												
Domestic Air Ticket			30,000	1	3	90,000	JICA												
INSET Management Training in Kenya (November)		Visa	7,000	1	1	7,000	DTSE												
			7,000	1	1	7,000	UBEC												
			7,000	1	3	21,000	SUBEBs												
		International Air Ticket	200,000	1	5	1,000,000	JICA												
			Insurance	10,000	1	5	50,000	JICA											
		Training Cost (Meals & Accommodation)	70,000	1	5	350,000	JICA												
			1,400	7	1	9,800	DTSE												
			1,400	7	1	9,800	UBEC												
		Daily Allowance	1,400	7	3	29,400	SUBEBs												
			30,000	1	5	150,000	JICA												
		Domestic Air Ticket	30,000	1	5	150,000	JICA												
							16,800	0	16,800	0	50,400	2,480,000	0	50,400					
Advocacy & Sensitization	Promotion	Publish Newsletter	100,000	1	1	100,000	JICA												
		Promote the Project activities	500,000	1	1	500,000	DTSE	500,000	0	0	0	0	100,000	0	0				
Expert		Education Evaluation	500,000		1	500,000	JICA												
		Mathematics	500,000		1	500,000	JICA												
		Science	500,000		1	500,000	JICA												
Cost demarcation of each organization								936,800	977,200	156,800	30,000	22,250,400	29,586,500	439,200	50,400				
Total Cost of the Project								54,427,300											
% of Cost demarcation from total cost								1.7%	1.8%	0.3%	0.1%	40.9%	54.4%	0.8%	0.1%				
Cost of Each State								7,416,800											
% of Cost of Each State from total cost								13.6%											

Second Year (2007) Detail Budget Analysis

	Items	Unit Cost in N	Quantity		Total Estimate	Responsible Organizations	Sub Total Chargeable to (N)											
			Package	Persons			Federal				SUBEBs	JICA	COEs	Others (LGEAs, Centres, States)				
							DTSE	NCCE	UBEC	Others (Stakeholders)								
National INSET	Running Cost for National INSET (April)	Meals	1,200	13	12	187,200	NCCE											
			1,200	13	12	187,200	SUBEBs											
		Venue	0			0	NCCE											
		Accommodation	5,800	13	12	780,000	NCCE											
			5,800	13	12	780,000	SUBEBs											
		Transport	10,000	1	12	120,000	COEs											
			10,000	1	12	120,000	SUBEBs											
		Medical / Miscellaneous	10,000			10,000	NCCE											
		Monitoring & Evaluation by JICA Expert / contingency	300,000			300,000	JICA											
	Monitoring & Evaluation	30,000			30,000	Stakeholders												
Initial Cost	Teaching Materials	15,000		24	360,000	JICA												
	Project Office Equipment (NCU & NTs)	250,000			250,000	JICA	0	977,200	0	30,000	1,087,200	910,000	120,000	0				
State INSET	Running Cost for State INSET (August)	Transport for participants	2,000	2	588	2,352,000	SUBEBs											
		Transport for TOT	2,500	2	24	120,000	SUBEBs											
		Accommodation for TOT	2,500	13	24	780,000	SUBEBs											
		Renovation cost for Accommodation	200,000	3	1	600,000	SUBEBs											
		Meals	1,200	13	588	9,172,800	SUBEBs											
		Honorarium for TOT	2,500	13	24	780,000	SUBEBs											
		Stationery	150,000	3	1	450,000	SUBEBs											
		Admin support	150,000	3	1	450,000	SUBEBs											
		Opening & Closing ceremony	280,000	3	1	600,000	SUBEBs											
		Utility	280,000	3	1	600,000	SUBEBs											
		Contingency	280,000	3	1	600,000	SUBEBs											
		Monitoring & Evaluation from States	300,000	3	1	900,000	SUBEBs											
		Monitoring & Evaluation from NCU	10,000	14	3	420,000	DTSE											
			10,000	14	1	140,000	UBEC											
		Monitoring & Evaluation by JICA & WECSA Experts	600,000			600,000	JICA											
	Monitoring & Evaluation from NTs	7,800	14	4	392,000	NCCE												
	Initial Cost	Teaching Materials	8,000	1	600	4,800,000	JICA											
Project Office Equipment (SCUs/SUBEBs & STs)		250,000	3	1	750,000	JICA	420,000	392,000	140,000	0	17,404,800	6,150,000	0	0				
INSET Management	INSET Management Training in Kenya (April)	Visa	7,000	1	2	14,000	DTSE											
			7,000	1	3	21,000	SUBEBs											
		International Air Ticket	280,000	1	5	1,000,000	JICA											
		Insurance	10,000	1	5	50,000	JICA											
		Training Cost (Meals & Accommodation)	70,000	1	5	350,000	JICA											
		Daily Allowance	1,400	7	2	19,600	DTSE											
			1,400	7	3	29,400	SUBEBs											
		Domestic Air Ticket	30,000	1	5	150,000	JICA											
		Workshop in Nigeria (February)	Meals	1,200	3	100	360,000	DTSE										
	Venue		25,000	3	3	225,000	SUBEBs											
	Accommodation		5,000	3	100	1,500,000	UBEC											
	Transport		2,500	2	100	500,000	LGEAs											
	Medical / Miscellaneous		50,000			50,000	DTSE											
	Teaching Materials		8,000	1	100	800,000	JICA											
	Monitoring & Evaluation from NCU		10,000	4	3	120,000	DTSE											
			10,000	4	3	120,000	UBEC											
	Monitoring & Evaluation by JICA Expert		300,000			300,000	JICA	563,600	0	1,620,000	0	275,400	2,650,000	0	500,000			
	Advocacy & Sensitization	Workshop (September)	Meals	1,200	3	100	360,000	DTSE										
Venue			40,000	3	100	120,000	DTSE											
Accommodation			5,000	4	100	2,000,000	States											
Transport							States											
Medical / Miscellaneous			50,000			50,000	DTSE											
Teaching Materials			8,000	1	100	800,000	JICA											
Monitoring & Evaluation by JICA Expert		10,000			10,000	JICA												
Promotion	Publish Newsletter	500,000	1	1	500,000	JICA												
	Promote the Project activities of by the media	500,000	1	1	500,000	JICA	530,000	0	0	0	0	Transport from States to Abuja	1,810,000	0	2,000,000			
Expert	Education Evaluation	500,000		2	1,000,000	JICA												
	Mathematics	500,000		1	500,000	JICA												
	Science	500,000		1	500,000	JICA												
Cost demarcation of each organisation							1,513,600	1,369,200	1,760,000	30,000	18,767,400	13,520,000	120,000	2,500,000				
Total Cost of the Project							39,580,200											
% of Cost demarcation from total cost							3.8%	3.5%	4.4%	0.1%	47.4%	34.2%	0.3%	6.3%				
Cost of Each State							6,255,800											
% of Cost of Each State from total cost							15.8%											

Third & Fourth Year (2008-9 September) Detail Budget Analysis

	Items	Unit Cost in N	Quantity			Total Estimate	Responsible Organizations	Sub Total Chargeable to (N)											
			Package	Persons				Federal				SUBEBs	JICA	COEs	Others (LGEAs, Centres, States)				
								DTSE	NCCE	UBEC	Others (Stakeholders)								
National INSET	Running Cost for National INSET (April)	Meals	1,200	13	12	187,200	NCCE												
		Venue	1,200	13	12	187,200	SUBEBs												
		Accommodation	5,000	13	12	780,000	NCCE												
		Transport	5,000	13	12	780,000	SUBEBs												
		Medical/Miscellaneous	10,000	1	12	120,000	COEs												
		Monitoring & Evaluation by JICA Expert	10,000	1	12	120,000	SUBEBs												
		Monitoring & Evaluation	30,000			30,000	JICA												
		Teaching Materials	30,000			30,000	Stakeholders												
	Initial Cost	Teaching Materials	15,000		24	360,000	JICA												
		Project Office Equipment (NCU & NTs)	250,000			250,000	JICA	0	977,200		30,000	1,087,200	910,000	128,000	0				
State INSET	Running Cost for State INSET (August)	Transport for participants	2,000	2	588	2,352,000	SUBEBs												
		Transport for TOT	2,500	2	24	120,000	SUBEBs												
		Accommodation for TOT	2,500	13	24	780,000	SUBEBs												
		Renovation cost for Accommodation	200,000	3	1	600,000	SUBEBs												
		Meals	1,200	13	588	9,172,800	SUBEBs												
		Honorarium for TOT	2,500	13	24	780,000	SUBEBs												
		Stationery	150,000	3	1	450,000	SUBEBs												
		Admin support	150,000	3	1	450,000	SUBEBs												
		Opening & Closing ceremony	200,000	3	1	600,000	SUBEBs												
		Utility	200,000	3	1	600,000	SUBEBs												
		Contingency	200,000	3	1	600,000	SUBEBs												
		Monitoring & Evaluation from States	300,000	3	1	900,000	SUBEBs												
		Monitoring & Evaluation from NCU	10,000	14	3	420,000	DTSE												
		Monitoring & Evaluation by JICA & WECSA Experts	10,000	14	1	140,000	UBEC												
	Monitoring & Evaluation from NTs	600,000			600,000	JICA													
	Initial Cost	Teaching Materials	7,000	14	4	392,000	NCCE												
		Project Office Equipment (SCUs/SUBEBs & STs)	8,000	1	600	4,800,000	JICA	420,000	392,000	140,000	0	17,404,800	6,150,000	0	0				
		Meals	250,000	3	1	750,000	JICA												
Transport		250,000	3	1	750,000	JICA													
INSET Management	Workshop in Nigeria (February, 2008)	Meals	1,200	3	100	360,000	DTSE												
		Venue	25,000	3	3	225,000	SUBEBs												
		Accommodation	5,000	3	100	1,500,000	UBEC												
		Transport	2,500	2	100	500,000	LGEAs												
		Medical/Miscellaneous	50,000			50,000	DTSE												
		Teaching Materials	8,000		100	800,000	JICA												
		Monitoring & Evaluation from NCU	10,000	4	3	120,000	DTSE												
		Monitoring & Evaluation by JICA Expert	10,000	4	3	120,000	UBEC												
	Workshop in Nigeria (February, 2009)	Meals	300,000			300,000	JICA	530,000	0	1,620,000	0	225,000	1,100,000	0	500,000				
		Meals	1,200	3	100	360,000	DTSE												
		Venue	25,000	3	3	225,000	SUBEBs												
		Accommodation	5,000	3	100	1,500,000	UBEC												
		Transport	2,500	2	100	500,000	LGEAs												
		Medical/Miscellaneous	50,000			50,000	DTSE												
Advocacy & Sensitization	Workshop (September)	Teaching Materials	8,000		100	800,000	JICA												
		Monitoring & Evaluation from NCU	10,000	4	3	120,000	DTSE												
		Monitoring & Evaluation by JICA Expert	10,000	4	3	120,000	UBEC												
		Meals	300,000			300,000	JICA	530,000	0	1,620,000	0	225,000	1,100,000	0	500,000				
		Venue	40,000	3	100	120,000	DTSE												
		Accommodation	5,000	4	100	2,000,000	States												
		Transport	5,000	4	100	2,000,000	States												
	Promotion	Medical/Miscellaneous	50,000			50,000	DTSE												
		Teaching Materials	8,000	1	100	800,000	JICA												
		Publish Newsletter	500,000	1	1	500,000	JICA												
Expert	Promote the Project activities of by the media	500,000	1	1	500,000	JICA	530,000	0	0	0	0	Transport from States to Abuja	1,810,000	0	2,000,000				
Expert	Education Evaluation	500,000		1	500,000	JICA													
	Mathematics	500,000		1	500,000	JICA													
	Science	500,000		1	500,000	JICA													
Cost demarcation of each organisation							2,010,000	1,369,200	3,380,000	30,000	18,942,000	12,570,000	128,000	3,000,000					
Total Cost of the Project							41,421,200												
% of Cost demarcation from total cost							4.9%	3.3%	8.2%	0.1%	45.7%	30.3%	0.3%	7.2%					
Cost of Each State							6,314,000												
% of Cost of Each State from total cost							15.2%												

Appendix 14-d
Cost estimate and demarcation for stakeholders

Estimate in Naira

	Year 1	Year 2	Year 3-4	Total
JICA	29,586,500	13,520,000	12,570,000	55,676,500
FME (DTSE, NCCE, UBE & National Steering Committee)	2,100,800	4,672,800	6,789,200	13,562,800
3 SUBEBs (Niger, Kaduna and Plateau)	22,250,400	18,767,400	18,942,000	59,959,800
Others (COEs, LGEAs & States)	489,600	2,620,000	3,120,000	6,229,600
Total	54,427,300	39,580,200	41,421,200	135,428,700
JICA %	54.4%	34.2%	30.3%	41.1%
FME (DTSE, NCCE, UBE & National Steering Committee)%	3.9%	11.8%	16.4%	10.0%
SUBEBs %	40.9%	47.4%	45.7%	44.3%
Others (COEs, LGEAs & States) %	0.9%	6.6%	7.5%	4.6%

*

	Year 1	Year 2	Year 3-4	Total
Each SUBEB (amount by Naira)	7,416,800	6,255,800	6,314,000	19,986,600
Each SUBEB %	13.6%	15.8%	15.2%	14.9%

Estimate in US\$ (\$ 1 = N 130)

	Year 1	Year 2	Year 3-4	Total
JICA	\$227,588	\$104,000	\$96,692	\$428,281
FME (DTSE, NCCE, UBE & National Steering Committee)	\$16,160	\$35,945	\$52,225	\$104,329
3 SUBEBs (Niger, Kaduna and Plateau)	\$171,157	\$144,365	\$145,708	\$461,229
Others (COEs, LGEAs & States)	\$3,766	\$20,154	\$24,000	\$47,920
Total	\$418,672	\$304,463	\$318,625	\$1,041,759

Appendix 14-e

Equipments provided for the Government of Nigeria

1. Equipments provided at the Federal level (for NCU/DTSE and NTs/NCCE)

	Unit Cost in N	Quantity	Amount
Desktop Computers	165,500	4	662,000
Notebook PC	240,000	2	480,000
Photocopier	430,000	2	860,000
Printer	48,000	2	96,000
Projector	350,000	1	350,000
OHP	30,000	1	30,000
UPS	10,000	4	40,000
Cabinet	30,000	6	180,000
Video Camera	100,000	1	100,000
White Board	20,000	2	40,000
Stabilizer	10,000	4	40,000
Generator	70,000	1	70,000
Scanner	33,000	1	33,000
Digital Camera	15,000	1	15,000
Library material(books)	100,000	1	100,000
M/S Equipment	100,000	1	100,000
	Total Amount		3,196,000

2. Equipments provided at the State level (for SCU/SUBEBs)

	Unit Cost in N	Quantity	Amount
Desktop Computers	165,500	3	496,500
Notebook PC	240,000	3	720,000
Photocopier	430,000	3	1,290,000
Printer	48,000	3	144,000
Projector	350,000	3	1,050,000
OHP	30,000	3	90,000
UPS	10,000	3	30,000
Cabinet	30,000	6	180,000
Video Camera	100,000	3	300,000
White Board	20,000	3	60,000
M/S Equipment	100,000	3	300,000
Scanner	33,000	3	99,000
Digital Camera	15,000	3	45,000
Library material(books)	100,000	3	300,000
Desk for Desktop Computer	22,000	3	66,000
Generator	150,000	3	450,000
Stabilizer	10,000	3	30,000
	Total Amount		5,650,500
	Amount for each state		1,883,500

Appendix 14-f
State Cost Estimate for State INSET

First Year (2006) Detail Budget Analysis

		Items	Unit Cost in N	Quantity		Total Estimate	Responsible Organizations
				Package	Persons		
State INSET	Running Cost	Transport for participants	2,000	2	200	800,000	SUBEBs
		Transport for TOT	2,500	2	4	20,000	SUBEBs
		Accomodation for TOT	2,500	13	4	130,000	SUBEBs
		Renovation cost for Accomodation	2,000,000	1	1	2,000,000	SUBEBs
		Meals	1,200	13	200	3,120,000	SUBEBs
		Honorarium for TOT	2,500	13	4	130,000	SUBEBs
		Stationery	150,000	1	1	150,000	SUBEBs
		Admin support	150,000	1	1	150,000	SUBEBs
		Opening & Closing ceremony	200,000	1	1	200,000	SUBEBs
		Utility	200,000	1	1	200,000	SUBEBs
		Contingency	200,000	1	1	200,000	SUBEBs
		Monitoring & Evaluation from States	300,000	1	1	300,000	SUBEBs
Total						7,400,000	

Second Year (2007) Detail Budget Analysis

		Items	Unit Cost in N	Quantity		Total Estimate	Responsible Organizations
				Package	Persons		
State INSET	Running Cost	Transport for participants	2,000	2	196	784,000	SUBEBs
		Transport for TOT	2,500	2	8	40,000	SUBEBs
		Accomodation for TOT	2,500	13	8	260,000	SUBEBs
		Renovation cost for Accomodation	200,000	1	1	200,000	SUBEBs
		Meals	1,200	13	196	3,057,600	SUBEBs
		Honorarium for TOT	2,500	13	8	260,000	SUBEBs
		Stationery	150,000	1	1	150,000	SUBEBs
		Admin support	150,000	1	1	150,000	SUBEBs
		Opening & Closing ceremony	200,000	1	1	200,000	SUBEBs
		Utility	200,000	1	1	200,000	SUBEBs
		Contingency	200,000	1	1	200,000	SUBEBs
		Monitoring & Evaluation from States	300,000	1	1	300,000	SUBEBs
Total						5,801,600	

Third-Fourth Year (2008) Detail Budget Analysis

		Items	Unit Cost in N	Quantity		Total Estimate	Responsible Organizations
				Package	Persons		
State INSET	Running Cost	Transport for participants	2,000	2	196	784,000	SUBEBs
		Transport for TOT	2,500	2	8	40,000	SUBEBs
		Accomodation for TOT	2,500	13	8	260,000	SUBEBs
		Renovation cost for Accomodation	200,000	1	1	200,000	SUBEBs
		Meals	1,200	13	196	3,057,600	SUBEBs
		Honorarium for TOT	2,500	13	8	260,000	SUBEBs
		Stationery	150,000	1	1	150,000	SUBEBs
		Admin support	150,000	1	1	150,000	SUBEBs
		Opening & Closing ceremony	200,000	1	1	200,000	SUBEBs
		Utility	200,000	1	1	200,000	SUBEBs
		Contingency	200,000	1	1	200,000	SUBEBs
		Monitoring & Evaluation from States	300,000	1	1	300,000	SUBEBs
Total						5,801,600	