

PROCUREMENT OF AN INTEGRATED ELECTRONIC TEACHING AND LEARNING SYSTEM

BACKGROUND

The Commissioning Organisation: The Lutheran World Federation (LWF); an International Non-Governmental Organization working in Kenya, Djibouti and Somalia providing humanitarian and assistance services to refugees in the areas of Community services, Education and sustainable livelihoods projects intends to procure **electronic learning devices** to be integrated in primary education in Dadaab and Kakuma Refugee camps using solar power which is also going to be installed within this project (on-going). LWF is managing 21 primary schools with an estimated enrolment of 61,314 pupils in Kakuma and 22 primary schools in Dadaab Refugee camps (7 in Hagadera, 8 in IFO and 7 in Dagahaley) with an estimated enrolment of 58,839 learners.

The project is funded by the German Ministry for Economic Cooperation and Development (BMZ) and supported by Diakonie Katastrophenhilfe, which is the humanitarian assistance agency of the Protestant Agency for Diakonie and Development (EWDE) headquartered in Berlin and represented by their Regional Office for Eastern and Southern Africa in Nairobi.

All learners in the camps study the validated Kenya Ministry of Education (MoE) Curriculum. LWF works closely with the MoE in registration, quality assessment and monitoring of schools in refugee camps; register refugee children for national examinations and offer certification upon completion. Taking cognizance of Information and Communication Technologies (ICT) as a globally recognized effective medium for learning, the Kenyan government made a commitment to provide computers for use in teaching in primary schools. This is expected to enable teachers to integrate ICT in their teaching starting from Grade one. The MoE is currently working on a policy on ICT in schools.

PURPOSE

The project's main components of solarisation of schools in Kakuma and Dadaab as well as the equipping of schools with electronic learning devices (as per this tender) are intended to bolster access of refugee learners to the national curriculum as well as non-formal educational content and modern means of IT-assisted teaching and learning. The electronic learning devices will be used for delivery of the Competence Based Curriculum rolled out by the Kenya Ministry of Education, Science and Technology in phases and currently at Phase 1 targeting early years of learning (comprising of pre-primary and lower primary schools). The project activity will target learners in Grades 1 to 3. An e-learning lesson timetable will be designed and incorporated in the school master timetable which will ensure each class is assigned 35 minutes per lesson.

UTILIZATION

The e-learning system should enable a teacher to determine the content shown on tablets used by individual learners from a central teacher's device. Students will also use the devices in a self-guided manner. The e-learning content should be available offline on each of the teaching and learning devices, but online functionality needs to be inbuilt to be used on demand.

To allow detailed monitoring of uptime and usage of devices and electronic learning content, the e-learning system needs to include an automatic electronic logging functionality on each device (without user interaction) and send these logs to a central database (e.g. on the teacher's device) from where it can be picked for further consolidation of data from all schools (ideally via internet).

COMPONENTS

The electronic learning system will include:

1. **Instructor (teacher) devices (master)** with the capability to remote control and screencast various learning content on each students' learning device (slave) (+automatic logging as described under "purpose").
2. **Tablets for learners** which provide easy access to the official national Competence Based Curriculum (CBC) content and ideally further non-formal electronic learning content (+ automatic logging as described under "purpose"). The content should be available on the devices offline, but online functionality needs to be present and to be activated via the teacher's master device.
3. Instructor and learner devices need to be equipped with **suitable operating system(s)** and **e-learning content management software** as well as approved learning content for the Kenyan CBC and non-formal e-learning content to add value. It is important that the teacher and learner devices work together in a reliable hassle-free manner with options to mirror screens, show different content on the teacher's device than on the learners' devices, remote-access individual learner devices via the teacher's device, etc. Hardware, operating system, e-learning software, and e-learning content need to operate seamlessly together (incl. the device-access and content-utilisation logging functionality described under "purpose").
4. **Wireless Access point router** will be used for class Local Area Networking as that will enable the learners with tablets to access the server hosting the content. There will be no internet connectivity. Content sharing will be enabled through wireless access point router.
5. **Speakers** will be used during lesson presentation to amplify the teachers' voice during illustrations, offering further explanation and/or emphasizing a point, and when asking questions to promote and enhance active learner participation in the teaching and learning process

All devices for a class should be stored safely in a durable hardcover casing (lockable) with individual compartments for safe storage and charging all at once. This casing should also feature a sturdy handle

for easy carrying for the purpose of transporting them between administration block and the classrooms for use by teachers and learners.

KENYA INSTITUTE CURRICULUM DEVELOPMENT (KICD) APPROVED COMPETENCE BASED CURRICULUM- GRADES 1- 3

The electronic devices should come with already installed Competence Based Curriculum for Grades 1 to 3 approved by KICD for the following leaning activities from KICD approved publishers:

1. Mathematics Activities
2. English Language activities
3. Kiswahili Language activities/Kenya sign language
4. Environmental Activates
5. Hygiene and sanitation activities
6. Psychomotor (Movement) and creative activities
7. Literacy activities
8. Religious Education Activities (Islamic and Christian)
9. Teachers' guide for each learning activity area(to be uploaded in the master device)

The preference is on the content developed by established publishers with experience in supplying Kenya Institute of Curriculum Development approved textbooks to schools such as; Longhorn Publishers, Kenya Literature Bureau, Oxford University Press, Jomo Kenyatta Foundation Publishers, East African Educational Publishers, Moran (E.A) Publishers Ltd and Atifaal Publishers (specifically for Islamic Religious Education Content) .

TEACHER TRAINING ON USE, HANDLING & MANAGEMENT OF E-LEARNING DEVICES

Teachers' capacity and lack of adequate power in most of the schools were cited as the main challenges to efforts to embrace e-learning. As such, approximately 270 teachers (6 teachers per school for 45 schools) will undergo 3 days induction training during the roll out of the project on; use, handling and management of the electronic devices in order to integrate the same in curriculum delivery. Specifically, the teachers will be trained on; how to access content on the master device, connect the learners' individual devices to the master device and share content; and use of the classroom management system for monitoring and control of learner activities. A two-day follow up training will be done six months after the initial training

PREFERRED MINIMUM TECHNICAL SPECIFICATIONS

Item	Minimum specifications		
Tablet	Type	Details	Descriptions
	Product Form	Product Form	Straight Plate
		Dimensions	258*172.6*10.1mm
	LCD	Screen Size	10.1' 16:10



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	TP	Touch Module	5 Point Capacitive
	Battery	Type	Lithium-ion polymer battery
		Capacity	3.7V/6000mAH(7900mAH optional)
		Endurance	> 6 Hours
	Type	Details	Descriptions
	CPU	Type	Intel Quad-core
		Speed	1.8GHz
	RAM	Capacity	2GB DDR3L
	ROM Flash	Capacity	32GB
	Speaker	Size	Built-in 8Ω/0.8W speaker x 2
	G-sensor	Built-in	Gravity acceleration sensor
	Type	Details	Descriptions
	Connectivity	WIFI module + BT	WIFI 802.11a b/g/n+BT 4.0
	Type	Details	Descriptions
	Power adapter	Standard Configuration	5V/2A
	Protective Casing		
	Type	Details	Descriptions
	Operating System	Operating system version (preferably dual boot)	Windows 10 / Android
	Warranty		One year Warranty
	Tailored Carry Case & Cabinet for charging /storage		
Audio speakers	To be used with teachers master device. The preferred option would be that the speaker has an internal battery as well as wireless connectivity.		
Wireless Access point Router	Local Area Network - Access point router for e-learning devices. The Access point router should also enable connection to the internet when required (4G)		
Kenya Institute Curriculum Development (KICD) approved Competence Based Curriculum- Grades 1- 3	<p>The electronic devices should come with already installed Competence Based Curriculum for Grades 1 to 3 approved by KICD for the following learning activities from KICD approved publishers:</p> <ol style="list-style-type: none"> 1. Mathematics Activities 2. English Language activities 3. Kiswahili Language activities/Kenya sign language 4. Environmental Activates 5. Hygiene and sanitation activities 6. Psychomotor, (Movement) and creative activities 7. Literacy activities 8. Religious Education Activities (Islamic and Christian) <p>NB. The teacher master devices should also be installed with approved CBC teacher guides</p>		

	for the above activity areas.
Monitoring and reporting of tablets use	The tablets should come along with an already installed with classroom management system for monitoring and control of student activities. It should have capability to record and generate up-time reports/updates about all the users and activities in the system.
Teacher training/capacity	Approximately 270 teachers (6 teachers per school for 45 schools) will undergo 3 days induction training during the roll out of the project on; use, handling and management of the electronic devices in order to integrate the same in curriculum delivery. The teachers will be trained on; how to access content on the master device, connect the learners' individual devices to the master device and share content; and use of the classroom management system for monitoring and control of learner activities. A two-day follow up training will be done six months after the initial training
After sale support on Repair and Maintenance of electronic devices	General repairs and maintenance including functional challenges such failure to power on, hanging during booting process/being unresponsive, overheating, charging issues Train 3 LWF IT staff on how to carry out minor repair and maintenance of the devices

In summary, the quote should capture all the elements listed below (A-E):

A. E-learning devices

Each school will have:

1. One KIT of 40 tablets (in a durable hardcover casing (lockable) with individual compartments for safe storage and charging all at once). This casing should also feature a sturdy handle for easy carrying for the purpose of transporting them between administration block and the classrooms for use by teachers and learners.
2. One teacher tablet (Instructor (teacher) device (master)
3. One Wireless Access point router
4. One Audio Speaker (or audio speakers depending on the configuration)

B. Kenya Institute Curriculum Development (KICD) approved Competence Based Curriculum- Grades 1- 3

The electronic devices should come with already installed Competence Based Curriculum for Grades 1 to 3 approved by KICD for the following learning activities from KICD approved publishers:

1. Mathematics Activities

2. English Language activities
3. Kiswahili Language activities/Kenya sign language
4. Environmental Activates
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6. Psychomotor, (Movement) and creative activities
7. Literacy activities
8. Religious Education Activities (Islamic and Christian)

NB. The teacher master devices should also be installed with approved CBC teacher guides for the above activity areas.

C. Monitoring and reporting use of tablets

The tablets should come along with an already installed classroom management system for monitoring and control of student activities. It should have capability to record and generate up-time reports/updates about all the users and activities in the system.

D. Teacher training/capacity

Approximately 270 teachers (6 teachers per school for 45 schools) will undergo 3 days induction training during the roll out of the project on; use, handling and management of the electronic devices in order to integrate the same in curriculum delivery. The teachers will be trained on; how to access content on the master device, connect the learners' individual devices to the master device and share content; and use of the classroom management system for monitoring and control of learner activities. A two-day follow up training will be done six months after the initial training

E. After sale support on Repair and of Maintenance of electronic devices

General repairs and maintenance including function challenges such failure to power on, hanging during booting process/being unresponsive, overheating, charging issues. Train 3 LWF IT staff on how to carry out minor repair and maintenance of the devices.

ADDITIONAL NOTES

Non-formal e-learning content adds value.

Device remote tracking solutions are not compulsory but welcome for identification of devices in the event of loss (To be quoted separately).

Branding of e-learning kit components for easy identification desired

We are open to innovative complementary solutions during the show casing of e-learning systems by interested bidders.