

DIRECTORATE OF AGRICULTURE & FOOD PRODUCTION, ODISHA

Tender for supplying 7000 smartcards for CKGA / DKM /FKO cards

Name of the Firm:

Contact Person:

Designation:

Address for communication:

Email and mobile number:

QCI certification: yes / no (enclose photocopy)

Quote:

Cost of one smartcard:

Cost of customization per card:

Taxes, if any:

Total:

We undertake to complete the task within the stipulated timeframe.

Signature

Date:

Place:

Seal:

Terms and Conditions of supply of FKO smartcards under “Biju Krushak Kalyan Yojana”

1. Enclose a DD for Rs 50,000 in the name of “Director, Agriculture and Food Production, Odisha”, payable at Bhubaneswar, towards refundable EMD
2. The successful bidder must deposit Rs 1,00,000 as Security, which will be released on successful completion of the task, in addition to the EMI.
3. The successful bidder must visit all the 30 district HQs for customization of FKO cards.
4. The successful bidder must deploy six teams with kits simultaneously. However, the successful bidder is encouraged to deploy ten teams and kits, for better results.
5. The definition of ‘kit’ is same as in Biju Krishak Kalyan Yojana. Each kit should be able to print 150 cards per day.
6. Payments will be made on the basis of the database handed over to the Director, Agriculture and Food Production, from time to time.
7. Each payment will be for at least 1500 cards.
8. The customization should start on 12.8.13 and be completed on 27.8.13 without fail. Detailed plan will be worked out by the Director, Agriculture.

Symmetric Key Infrastructure for Biju Krushak Kalyan Yojana Card Applications

BKKY is a Health Insurance Scheme for the Odisha Farmers. Odisha lives in its Villages and farmers are its backbone. They toil hard to feed the nation. They suffer in silence and when they are affected by ailments and diseases, pay heavy economic, social and emotional price. The most important and major cause of our farmers falling to poverty trap is the financial hazards and deprivation that health related expenses bring to them. Biju Krushak Kalyan Yojana is brought in as a tribute to the Farmers and their families to provide them health security. It is an earnest effort to provide them financial support through health and accident insurance as a part of the commitment of the welfare state. Rural Odisha houses 83% of the total population of the state. One of the major insecurities for rural populace and farmers is absence of health cover for such farmers and their family members. Insecurity relating to absence of health cover, heavy expenditure on medical care and hospitalization and recourse to inadequate and incompetent treatment is not only a social and psychological burden borne by these populace but there are significant economic costs resulting from loss of earning and progressive deterioration of health. Thus, with a view to providing health insurance cover to farmers in the Rural Odisha and their families, the Government of Odisha has announced the “Biju Krushak Kalyan Yojana”.

BKKY has been launched by Gov. Of Odisha and implemented by Department of Agriculture and Food Production to provide Health Services to Orissa Farmers. The objective of BKKY is to provide protection to households from financial liabilities of hospitalization. Beneficiaries under BKKY are entitled to hospitalization coverage up to Rs. 1,00,000/- for most of the diseases that require hospitalization. The Smart Card Security requirements for the BKKY Cards are listed as under,

- The card must provide the mechanism for establishing the proof of identity of beneficiaries at field.
- The card shall provide a mechanism to verify the authenticity of card at field.
- The card must be secure against unauthorized card cloning.
- The card must securely store the application data for field transaction, such that it cannot be accessible/ tampered by unauthorized agencies.
- The System should provide the mechanism, so that only authorized agencies are able to perform the card data modification to complete the field transactions.

KMS software has following major activities related to Smart Card technology,

1. Smart Card MRZ Data Design and Standardization.
2. Development of KMS Software
3. Framing the broad specification for Symmetric Key Infrastructure.

The establishment of Symmetric Key Infrastructure (SKI) is the basic requirement for implementing Smart Card Security against fake duplication, illegal tampering of information and implementing the authority environment to carry out different functionalities on BKKY Card data. The implementation of SKI requires similar level of procedural and physical security as is the pre requisite for PKI based Digital Certification Authority (CA). Keeping this in view, this document deals in detail about Tiers of SKI implementation, Processes at various levels, Roles and responsibilities, Physical Security Infrastructure, Disaster Recovery, and Risk Factors.

Below given is the summary in short about the SKI Framework and Key Management System.

1. Three Tier Structure of SKI.
2. KMS Life Cycle.
3. Parent Key Generation and Management.
4. Disaster Recovery of Parent Cards.
5. Generation of Master Key Cards and Issuance.
6. Personalization of Master Key cards at DKM.
7. Recharging of Master Key cards at DKM.
8. Downloading issuance details from Master Key card at DKM.
9. Issuance of BKKY Card.
10. Transactions with BKKY Card at Hospital.
11. BKKY Card issuance and updation at Kiosk.
12. Risk Factors Involved

1. Three Tier Structure of SKI

The Symmetric Key Infrastructure will consist of three levels of operation for generation and Management of Keys and related Cards. These are,

i. Central Key Generation Authority

Central Key Generation Authority (SKGA) is the centralized authority, which works as an overall custodian of the Key Management System across Odisha. CKGA is responsible for production of all kinds of Master cards and their distribution to respective DKMs (District Key Managers). CKGA maintains the parent keys required to produce different master cards. CKGA maintains the database of all the master cards issued to different States. CKGA processes are executed in a highest level of security as comparable to Digital Certification Authority Standards. CKGA setup and key storage etc are highly sensitive and therefore adopt a well-coded security methodology against compromise, sabotage or disaster etc.

ii. District Key Manager

District Key Manager (DKM), which is the district custodian agency for Key Management System, will be basically responsible for distribution of Field key cards among various Trusted Agencies within the District. The Deputy Directors of Agriculture have been notified as the DKM in their respective jurisdiction. DKM will receive required Master cards from CKGA, personalize them and distribute it to various Field Key Officers and empanelled hospitals under this project. Therefore distribution and management of master cards is the major defined role of DKM. Further they shall ensure and see to it that all the defined security codes are strictly being followed at the field by various trusted agencies, which are using master cards for various functions. DKM will also be responsible for originating the requirements of different type of master cards on need basis. Another important task that DKM will perform is to recharge various Issuance Cards, which have exhausted their issuance limit. They will also UNBLOCK Pins of the Field Key officer's card whose pin has got blocked due to maximum number of retry for the correct PIN. DKM processes require a secure infrastructure for performing various KMS related operations.

iii. Field Key Management

Field Key Management Agencies (FKMA) is the ultimate agency of usage of various master cards for issuance and other operations on BKKY Cards. The entities (Master Key Cards) for operation at field levels are

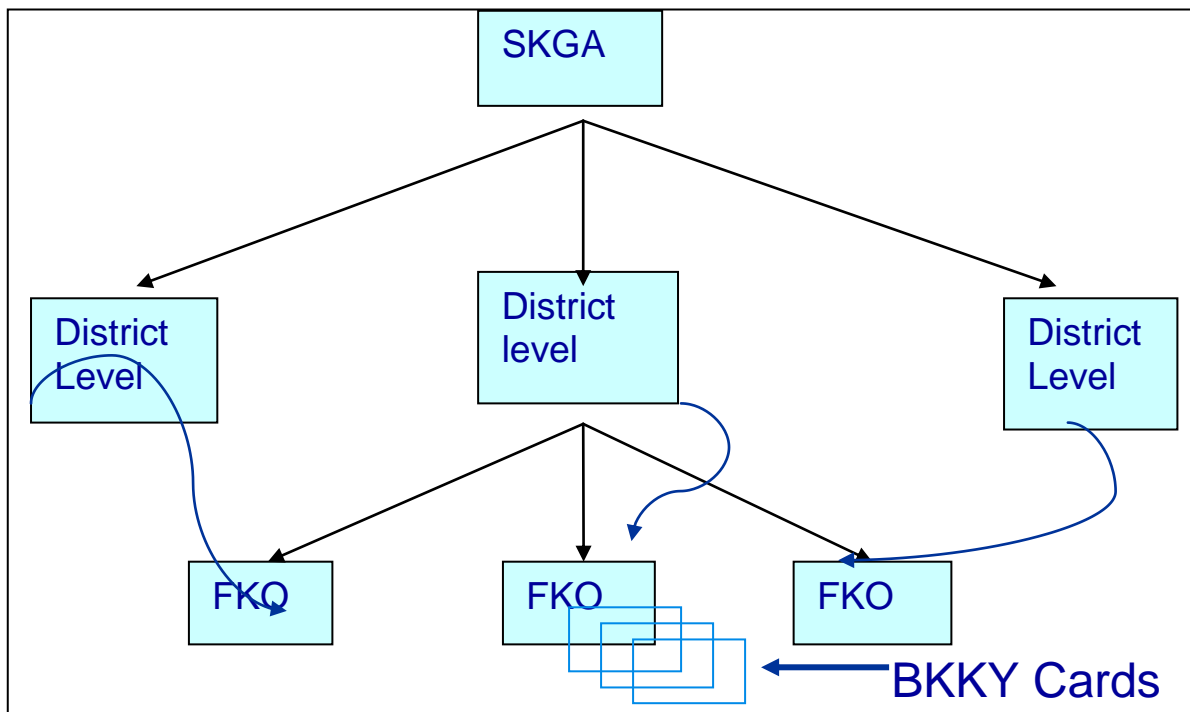
- a. Issuance Card (MIC)
- b. Kiosk Card (MKC)

c. Hospital Card (MHC)

Field Key Officers (Issuance) will be the custodian of MIC cards and will be responsible for issuance of BKKY Cards at field level. The Agriculture Overseers (AOs) and the Village Agriculture Workers (VAWs) will be the FKO for BKKY. They can also perform authorized card modification. The cardholder shall be provided a PIN as the usage of the card is protected for any unauthorized operation. The pin shall never be disclosed to any one and shall be changed frequently for confidentiality. They must keep the cards in safe custody.

Field Key Officers (Kiosk) will be the custodian of MKC cards and do the kiosk operation. Their usage will be similar in nature of MIC Card and it can be programmed to have limited number of usage. They can also modify the existing BKKY card. The FKO cardholder shall be provided a pin to protect any unauthorized operation. The pin shall never be disclosed to any one and shall be changed frequently. The officer delegated this responsibility must take full precaution for keeping the card in safe custody & usage.

Field Key Officer (Hospital) will be the custodian of MHC cards issued by DKM. They will perform the card modification authorized, to be carried out at hospital. Their usage is also protected by PIN and the officer delegated this responsibility must take full precaution for keeping the card in safe custody & usage.



2. KMS Process Cycle

Below given is the process flow and complete Process Cycle for KMS operations, after the Parent Keys are generated and are in safe custody at the Directorate of Agriculture and Food Production - Odisha.

- i. DKM consolidates the requirements of various cards under his jurisdiction.
- ii. Sends these requirements along with the details of trusted authorities, already earmarked for the purpose, to SKGA

- iii. CKGA after receiving request from DKM gives a batch number to individual request.
- iv. CKGA processes the request by starting the process of production of required master cards.
- v. CKGA produces the master cards.
- vi. CKGA dispatches the cards to DKM nodal officer either in person or through some secured channel.
- vii. DKM personalizes each Master card from the information received from the trusted agencies (FKOs) at field level as mentioned in point number (i) above in this section, and generates default PIN/Password for individual card.
- viii. Personalized cards are then dispatched through secured channel or handed over in person to the trusted agencies of Field Key Officer.
- ix. Field Key officer receives the cards, modifies the PIN/Password of his card and acknowledges the receipt to DKM and also sends the detail of received cards.
- x. After getting satisfied from the acknowledgement, DKM updates his database.
- xi. FKOs in any case, must keep their PIN/Passwords safely and never disclose them to anybody. They must also change their PIN/Password every week in normal routine and earlier, if they feel it has been compromised.

3. Parent Key Generation and Management

For SKI and KMS to be in place, Parent Seed Keys are required to be generated one time in the beginning of the System life. For all time to come, these Parent Seed Keys will be used to regenerate the Parent Keys for issuance of Master Cards. There will be five Parent Seed Key Cards (PSK Cards) containing four parent Seed Keys. Any three of these Cards will be required at any point of time to generate the Master Keys. The five PSK Cards will be distributed among highest-level officials. These MSK cards will be usable in conjunction with the SKGA Nodal Officer Key Card (CNOK).

4. Disaster Recovery of Parent Seed Cards

As MSK Cards are the root of state wide KMS, there will be Disaster Recovery Backup sets of the MSK Cards, to be used in case of Damage, Disaster.

5. Generation of Master Key Cards and Issuance

As explained in KMS Process Cycle above, all functionality master cards containing required Master Key for the specific functionality will be generated at CKGA on the request of DKM. Generation process will involve presence of any three trusted agents to use their MSK card.

6. Personalization of Master Key cards at DKM

The term 'personalize' means putting the details of owner/user of the Master Key card inside the MRZ (machine readable zone) of the Card. All master key cards generated at SKGA will be received by DKM, who in turn will personalize these cards by earmarking the trusted agent's/Field Key officer details who will be responsible for its usage and safe custody of these cards. They will also allocate unique authority ID for each FKO's during personalization. The DKM cards issued by SKGA to each district nodal officer shall be used for performing this functionality at the site.

7. Recharging of Master Key cards at DKM

During personalization the issuer cards (MIC & MKC) will be set for generation of limited number of BKKY cards. After this limit is exhausted, issuer cards will

seize to issue further cards till they are recharged by DKM, using DKM card. The DKM cards issued by SKGA to each district nodal officer shall be used for performing this functionality at the site.

8. Downloading issuance details from Master Key Cards.

When the FKO issues a new BKKY card, it's URN (Unique Relation Number) and the chip no. gets logged in the FKO's MIC or MKC card. These details will be downloaded at the DKM office for settlement of insurance premium. This can be further used for various MIS purposes also.

9. Issuance of BKKY Card

At each enrollment site, BKKY Cards will be generated with the help of MIC Cards. The KMS Component shall perform following.

1. Shall verify the PIN/Password of FKO.
2. Shall verify the format of data and structure already written by the personalization software.
3. Shall perform the Unique Key Derivation for BKKY Card and inject the keys.
4. Shall log the BKKY card's URN and Chip into the MIC Card.

At the end of the day or whenever the card gets exhausted the FKO(issuer), downloads the issued card details from his MIC card to the District Database, prints the date wise CSN/URN Numbers, signs the list and hands it over to the authorities.

Tender Qualification Criteria:

Biometric Scanner:

- 500 ppi optical fingerprint scanner (22 x 24mm)
- High quality computer based fingerprint capture (enrolment)
- Preferably have a proven capability to capture good quality fingerprints in the Staten rural environment
- Capable of converting fingerprint image to RBI approved ISO 19794-2 template.
- Preferably Bio API version 1.1 compliant

Smart Card Reader:

- PCSC compliant
- Read and write all microprocessor cards with T=0 and T=1 protocols

Smart card printer:

- Supports color dye sublimation and monochrome thermal transfer
- Edge to edge printing standard
- Integrated ribbon saver for monochrome printing
- Prints at least 150 cards/ hour in full colour and up to 1000 cards an hour in monochrome
- Minimum printing resolution of 300 dpi
- Automatic or manual feeder for card loading
- Compatible to microprocessor chip personalization

Smart Cards

Specifications for Smart Cards:

Card Operating System shall comply to SCOSTA standards ver. 1.2b with latest addendum and errata.(refer web site <http://scosta.gov.in>). The Smart Cards to be used must have the valid SCOSTA Compliance as per National Informatics Center, New Delhi,

SCOSTA Card:

- Microprocessor based Integrated Circuit(s) card with Contacts, **with minimum 64 Kbytes available EEPROM** for application data or enhanced available EEPROM as per guidelines issued.
- Fully compliance to **SCOSTA**
- SCOSTA Smart Cards should be able to TDES (Triple DES – Data Encryption Standard) with SKI (Symmetric Key Infrastructure).
- Compliant with ISO/IEC 7816-1,2,3
- Compliant to SCOSTA 1.2b Dt. 15 March 2002 with latest addendum and errata
- Supply Voltage 3V nominal.
- Communication Protocol T=0 or T=1.
- Data Retention minimum 10 years.
- Write cycles minimum 100,000 numbers.
- Operating Temperature Range –25 to +55 Degree Celsius.
- Plastic Construction PVC or Composite with ABS with PVC overlay.
- Surface – Glossy.
- Make – Samsung / ST Micro



Handwritten signature and date: 26.7.13

Director, Agriculture and Food Production
Govt of Odisha