eKasih
NATIONAL DATABANK OF POVERTY MALAYSIA
1st Place Winner: Advancing Knowledge Management in Government United Nations Public Service Awards (UNPSA), 2012

IMPLEMENTATION COORDINATION UNIT
PRIME MINISTER'S DEPARTMENT
INTRODUCTION

Poverty is a global concern. Malaysia is no exception. In 1970, it was estimated about 49.3% of the households reported still living under the poverty line income. Government then managed to reduce the poverty to 3.6% and hardcore poverty to 0.7% in 2007 due to the expansion of the economy and the implementation of specific programmes towards increasing the productivity and improving the living standards of the people.

Given such a successful achievement, Malaysian government is still committed and continued to play the leading role to reduce the incidence of poverty until 2.8% and zero hardcore poverty by end of 2010. With regard to this, more target-specific programmes should be planned. However, the incidence of poverty was become a small proportion of Malaysian population and the challenge was how to address and reach the deep pockets of poverty across the region particularly in urban and rural areas without having information who they are and where they lived.

Having a problem when there was no single agency to coordinate and monitor the poverty eradication programme at the national level. As a result, nobody is ensured that the poor really receive or enjoy the benefits thereof. Apart from that, no progress monitoring is done to the poor after the assistance was given. They might be felled back to poor after few months survived. There are also no standardize mechanism and established unified criteria used by agencies to determine poverty group and this has created many problems such as unverified data and many more issues in dealing with aid distribution to the poor and hardcore poor. Moreover, for agencies practicing manual process, the data might not reliable and not even be up-to-date and timely that were caused inaccuracies in reporting. Thus, the statistics used at national level for planning might not be accurate.

The Malaysian Government however has appointed several ministries, agencies, NGOs and Associations responsible for poverty eradication programme at federal and state levels. Before eKasih was introduced, only a small percentage of agencies have an automated system while some of them are still entirely using manual process. There was no integration or consolidation among them resulted multiple sets of data. As an example, one individual can apply assistance from many agencies while the agencies did not know what assistance already being given to that individual. These were caused a high possibility of overlapping of assistance and furthermore lead to data integrity and consistency issues.
THE SYSTEM

eKasih was established in October 2007 as a new initiative to improve the effectiveness of poverty eradication implementation programme. It is a centralized National Poverty Data Bank which keeps information related to poverty such as detail profile of the poor and hardcore poor, aids’ received from various government or non-government agencies and also economic programme/project received from any government or non-government agencies.

The main objective of eKasih is to avoid duplication of aids/programme given to the poor and hardcore poor by establishing a central data bank which can be accessed and used by all aiding agencies and other related parties involved in poverty eradication programme at federal and state levels. Thus, all agencies are accessed and referred to the same repository.

eKasih keeps detail profiling of the poor and hardcore poor as a base for national poverty programme planning and aid distribution. Information captured are:
• Detail of programme/project information;
• Head of household (HOH) profile;
• Member of household (MOH) profile including details of location, residence, education, skills and job, property ownership, health;
• Household income;
• Aids received.

As of Mei 2012, there are more than 400,000 head of household and more than 1 Million member of household registered and verified in eKasih.

The system has four main components:
• Poverty Profile (Individual, Aids, Programme/Project);
• Executive Information System (Dashboard, GIS, Dynamic Reporting) provides facility for management to monitor and track the latest status of poverty in the form of dashboard;
• Knowledge Data Based (Best Practices, E-Library);
• GIS (Geography Information System) for better presentation.

eKasih is an online web based application system operating on Microsoft platform. The application is running on Windows Server 2003 using Microsoft Internet Information Services (IIS) 2.0 Web Server. It used Microsoft ASP.NET 2005 as the web development tools and is written using C Sharp (C#). For the content management tools, it used Microsoft SharePoint Server 2007. The web application is connected to Microsoft SQL Server 2005 database engine.
Report generated by the application is pre-designed using Microsoft Reporting Services. For the Executive Information System (EIS) and data analysis, eKasih uses another supporting tool, Speed miner Business Intelligence to generate an adhoc analysis and dynamic reporting for the top management in the form of dashboard, performance tracking, trajectory and poverty mapping. ETL Server is used to load the data from eKasih database to Business Intelligence Server (EIS module).

The system was completed and implemented nationwide starting from July 2008. Every agency responsible for poverty is granted online access to the same source of data according to their group of responsibilities. As a result, agencies are able to provide suitable programme for the poor and hardcore poor based on information stored in eKasih. Poverty status and poverty mapping can be accessed by all registered users. Coordination and monitoring of the poor and hardcore poor can easily be done through eKasih as the entire poverty list is already captured.

eKasih has also enhanced its reporting module to a mobile application called ICU Mobile Executive Report (iMEX) which enables Prime Minister, Deputy Prime Minister, Cabinet Ministers and Chief Secretaries of the related ministries to access eKasih reports through iPad, iPhone, Blackberry and Androids. The application was launched on September 2011. The technology makes the monitoring and planning at the fingertips at a very quick, concise, and intuitive way.
THE RESOURCES

eKasih was developed in-house using internal resources and without system development cost. The time taken to develop was five months. The team comprises of six people which include one project manager and five system developers. The cost for development is only for the infrastructure such as Web Front End Server, Application Server, Database Server, software license, storage, communication peripherals and maintenance which cost about RM 7 Million. The server is located at ICU JPM Headquarters in Putrajaya and accessed by 3900 users from 264 agencies throughout the country. ICU JPM’s Team was leading the development work with the engagement from Microsoft Consultant Services (MCS) as the Technical Advisor.

Data collection was conducted by Department of Statistics (DOS) in the initial stage. DOS was engaged since they are a premier government entrusted with the responsibility to collect, interpret and disseminate latest and real time statistics in the monitoring of national economic performance and social development. A total of RM 6 Million was allocated to DOS to conduct poverty census across the region. There are over 300 of part-time enumerators among local citizens was hired and trained by DOS and deployed nationwide.

There is also a Project Manager in each district of the 14 states appointed among the poor and hardcore poor who is responsible to help in the implementation process, user training, resolve issues and act as a single point of contact for eKasih.

An ongoing updating is done by Statistician attached at State Development Office (SDO). They are responsible for verification of poor and hardcore poor profile.
On 31st October 2007, Cabinet Meeting has decided to appoint Implementation Coordination Unit, Prime Minister’s Department (ICU JPM) as the main coordinator in eradicating poverty. The decision to establish a National Databank of Poverty was made during the Chief Minister Meeting dated 1st November 2007. In line with that, ICU JPM formed a project team to develop the National Databank of Poverty also known as eKasih.

There are 2 divisions in ICU JPM involved in eKasih implementation. The application development is done by National Databank and Innovation Centre (NADI) while the coordination, monitoring and planning for poverty eradication programme are done by Society Wellbeing Division (BSR).

Initially, data from different database sources were scattered throughout all agencies involved in poverty eradication programme. Department of Statistics (DOS) was then conducted poverty census in an organized manner (according to DOS’s international standard) to verify the existing data. This resulted in high data integrity and reliability as compared to previous method where verification data done by various agencies and according to different rules and procedures. After data has been verified, it will then be captured through data entry system called Poverty Household Census (BIRM) before uploaded into eKasih.

Through an establishment of eKasih, an online open registration was introduced which provides a gateway for the public to register online. The citizen can register for themselves or on behalf of the poor. Each registered cases will be investigated by statisticians at State Development Office (SDO) of ICU JPM at the respective states. An on-site detailed verification is arranged and tabled to the Focus Group committee at the district or state level for endorsement before necessary aid is given. This facility has indirectly improve the effectiveness of government service delivery to citizen.
eKasih notifies the coordinator of the respective programme/projects through email once the new application of aid is captured. At the same time the agencies can also suggest the suitable programme/project to the household based on the information in eKasih. The two-way approach has resulted in faster distribution of programme/project to the right target group. Thus, increase the efficiency and transparency of the ministries/agencies especially in dealing with programme/project distribution.

Poverty status is automatically calculated by the system based on household income and Poverty Line Income (PLI). With the implementation of eKasih the PLI used is standardised and uses as the criteria to determine the poverty status (poor or hardcore poor). Reports on the poverty status can be generated from the system anytime. Performance monitoring mechanism in the form of dashboard is also provided in ekasih for national and state performance monitoring based on the Key Performance Indicator (KPI)'s set. The status of poverty will be updated from time to time based on the increase of monthly earnings by the head of household.

Technical supports to users are provided through MedICT counter which is one stop centre to resolve technical issues faced by users. Problems can also be reported and tracked online through the Call Centre system developed by ICU JPM. By having this feedback mechanism ICU JPM is able to respond fast to any problems faced by the users.

With the implementation of eKasih, duplication of aids/programme/projects to the same target can be avoided as every ministries/agencies refer to the same repository. The impact of the programme implemented can easily be measured.

There are 6 main ministries involved in programme/project distribution. There are Ministry of Education (MOE), Ministry of Women, Family and Community Development (KPWKM), Ministry of Agriculture and Agro-Based Industry (MOA), Ministry of Rural and Regional Development (KKLW), Ministry of Federal Territories and Urban Welbeing (KWPKB) and Ministry of Human Resource (MOHR). On the other side, there are numbers of non government agencies who came to ICU JPM to seek for the names of the poor as their programme’s recepients.
The concept of eKasih is well accepted by all ministries/agencies and cabinet ministers as one of the innovative solution to improve efficiency in aids and programme/project distribution to the poor/hardcore poor. Report on poverty status is presented at various high profiles meeting including National Action Committee chaired by the Prime Minister.

The statistic indicates that the implementation of eKasih has significant reduction on the poverty rate. Since it was rollout in July 2008, monthly tracking report from eKasih shows a significant reduction of the poor and hardcore poor in the system as a result of aids and suitable programme/project given to the right target. As of November 2011, about 70,000 of the poor and hardcore poor were out from poverty and the number will tremendously increase by end of this year.

Benefits of eKasih are a mixture of G2G, G2C and G2B. In case of G2G, eKasih not only provides benefits to ICU JPM, it also helps other agencies to alleviate issues of data integrity and monitor the impact of the program. For G2C, there is no doubt that eKasih is directly benefits the community especially the under privilege groups. For private companies, they are advised to partner with Government agencies to implement economic projects which directly involve or benefit the participant. They are also advised to use the registered eKasih participant for any project under corporate social responsibility (CSR) or giving special incentives for children education and health.
THE CHALLENGES

Through the implementation of eKasih, there are some of the major obstacles discovered. The first obstacle is dealing with large volume of data collection particularly in Raising Living Standard of Low Income Household (LIH). This is one of the Malaysia’s National Key Result Area (NKRA) announced by the government in 2010. This group which household income is less than RM 2,000.00 per month and the group make up about 55% of total Malaysia’s population. The biggest challenge, though, is allowing for component upgrade, application system enhancement while continuing to process data 24/7. Fortunately, eKasih was designed using three-tier architecture which is flexible and robust. It can easily be expanded to accommodate large volume of data and increase in number of users with minimal changes to the system.

The second obstacle is frequent changes in policy and procedure in the implementation process flow. Changes in development policy will normally have a direct impact on eKasih in terms of the processes as well as the application system itself. Thus, eKasih need to be dynamic and constantly realign its strategies and directions. As the number and diversity of programme/projects increases, the techniques of monitoring of aid distribution also need to be improved in order to address new challenges and demands. In order to accommodate these demands, some policies or procedures may also need to be changed. Reflecting these considerations, a permanent team has been set up at ICU JPM, to operate, maintain and study the impact of any policy changes to eKasih.

The third obstacle is network infrastructure readiness. The availability of a reliable and high performance communication network throughout Malaysia is very critical to the success of eKasih implementation. This is especially in the rural and remote areas where the accessibility of the network is unreliable due to geographical limitation. The Government has recently approved the implementation of the National Broadband Project that focuses on upgrading the network infrastructure and bandwidth nationwide. This project is crucial to the success of IT industry. While waiting for the National Broadband project to take off, ICU JPM has also initiated its own network upgrading exercise in collaboration with Malaysian Administrative Modernisation and Management Planning Unit (MAMPU). Network bandwidth for eKasih sites across the nation has been upgraded from 64 kbps to a minimum of 256 kbps.

The last obstacles discovered is high turn-over rate among officers involved in eKasih implementation. Among the main reasons were promotion, relocation and retirement. Some ministries and agencies have back-up officers to take over or carry out duties in the event if the responsible officer is unavailable. Continuous change management and training programmes need also to be carried out to ensure continuity. Another approach adopted is the ‘Training for Trainer’ concept. By doing so, the trainers can act as first level support within the ministries or agencies.
THE KEY SUCCESS

The success of eKasih was not gained over night. There were many challenges faced during the course of its development, operation and maintenance. Some were critical success factors that were not identified and managed early, which resulted in many implementation problems along the way.

Among the lessons learned are top management support and user commitment. The success of eKasih depends upon the commitment and involvement of a cross-section of individuals throughout the ministries and agencies. Leadership within the project team is also crucial as well as support from the top management to ensure all parties concerned about the initiative.

Another lesson learned is on the involvement of local leaders. At initial stage, local leaders were missed out during the census and realising that their involvement are crucial to ensure data accuracy, the next round of census local leaders are included to strengthen data collection.

Change management process plays an important role in making sure the implementation of a project is successful. In the case of eKasih, the change management process start from the beginning of the project where the awareness briefing was given to all potential users at the federal, state and district level.

Quick-win project is the approach used to identify project in order to get quick impact. However, long term projects are also planned to sustain the household income.

Appropriate and continuous training is another essential component which makes the initiative success. A well-planned, effective and transferable training to the users is important to ensure they are clear about their roles and responsibilities. Trained users are more likely to play the role than those who do not receive adequate and timely training. The issue of training has always been brought up as a key reason for not using eKasih. Training is provided on scheduled basis and can also be arranged upon request. Workstation is also provided whereby the users can have walk-in training if required.
A SWOT Analysis is also conducted which is one of the useful techniques for understanding the strengths, weaknesses, for identifying both the opportunities open and the threats we are facing in the network infrastructure.

HTTPwatch is one of the network tools used to capture the HTTP traffic and detect potential problems at users’ place. It will summarize the HTTP activity in user’s browser in a log files. Another tool used is called PinPlotter which helps to pinpoint where the network and internet connection problems in an intuitive graphical way, and continue monitoring the connection in long-term to further identify an issues.

A series of nation tour is carried out to all State Development Offices, ministries and agencies’ office once a year and supported by our Infrastructure Unit in NADI. An analytical report is then presented to the team and possible actions will be taken to fix the issues to ensure reliability and availability of the system infrastructure.

**COMPARISON OF CATEGORIES BY YEAR**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Head of Household</th>
<th>Exceed Threshold</th>
<th>Vulnerable</th>
<th>Poor</th>
<th>Hardcore Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>(226,540)</td>
<td>2</td>
<td>48</td>
<td>31</td>
<td>19</td>
</tr>
<tr>
<td>2010</td>
<td>(273,928)</td>
<td>15</td>
<td>49</td>
<td>33</td>
<td>13</td>
</tr>
<tr>
<td>2011</td>
<td>(365,886)</td>
<td>21</td>
<td>44</td>
<td>30</td>
<td>13</td>
</tr>
<tr>
<td>2012</td>
<td>(400,675)</td>
<td>22</td>
<td>39</td>
<td>26</td>
<td>13</td>
</tr>
</tbody>
</table>

*as at 31 May 2012

** 2012 - Revised PJJ

- **19.8%** Year
- **33.4%** Year
- **9.51%** Year
THE RECOGNITION

In August 2010, eKasih was selected as a winner for MSC Malaysia APICTA Award under Best of e-Inclusion & e-Community categories. This Award is presented to the most innovative nomination for developing ICT solutions in Malaysia that support communities and bridge the digital divide. Then, on Oktober 2010, eKasih has been selected as a winner for International APICTA Award under Best of e-Government categories defeating 17 nations across the Asia-Pacific region. There are a total of 29 Malaysian finalists for the awards, consisting of 24 companies, 3 universities and 2 schools and 4 Malaysian entries have won including eKasih.

eKasih was also recognized by Futuregov as it was shortlisted for the best electronic government application category in October 2009.

The apex of recognition was recently received by ICU JPM from United Nations Public Service Awards (UNPSA) on June 25th, 2012 under category of Advancing Knowledge Management in Government.
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