

# **The necessity of Information Technology among Indonesian NGOs to increase the program and organizational performances**

*By PAKTA IT Team*

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## **Executive Summaries**

At the present, Indonesian NGOs has growth extensively not only in numbers but also in issues they are working on. NGO as a facilitator of change in the community is expected to be able to accommodate flow of information and manage data in a more professional approach to support the field activities. The result of this assessment shows that there are some fundamental problems in using the information technology among NGOs such as internal policy within the organizations with regard to IT, human resources, IT proficiency, and limited resources to provide equipment including the technology itself.

Some of the NGOs which are involved in the assessment, do not possess yet a firm policy that makes IT as priority to support their program activities. In fact, some of the executive managers still consider IT as of no great concern to be applied.

The discrepancy in the view and the needs on IT between the staff and the executive managers occurred. The conflict of interest on the use and the urgency of IT come up between the staff and the managers. The staff considers IT as one of the most important tools to support their field activities while the managers still see IT as a low priority.

From human resource perspective, NGOs on the outside of Java have very limited human resources in terms of numbers and quality. This was caused by limited infrastructure facilities provided to support the development of human resources. NGOs face difficulties in looking for a good IT specialist since they have to compete with the business sectors which can provide a better facilities and rewards.

From the proficiency of the technology, NGO still do not possess a type of management information system that combines conventional practice, Internet Technology and other alternative information technology. The inadequate resource in technology particularly in outer Java, hinder NGOs to set up the type and the development of MIS.

Funding agency which has been supporting NGOs, seems to have inarticulate vision in human resources development with regards to IT for their local partners (NGOs). This is proved by the number of equipments funded but with limited support in the quality development of the IT specialist.

The academic who are expected to have stronger vision and mission in the development of IT to empower the community and civil society, are in fact have lost their social vision. This was demonstrated by the limited contributions directly targeted to the development of IT among NGOs or in the society which was implied in the form of IT as commercial products to the society and NGOs.

Furthermore, the IT specialist has shaped IT as a business in the mind of college students, which eventually shapes them to become a business oriented people. This was proved by the NGO's difficulties in searching for IT specialist from academic because of the volunteerism basis in NGOs is considered not to have a good prospect.

The IT human resources work for NGOs currently tend to use and develop the technology in an applied pattern of IT business. The outlook of some NGOs that sees information as a commercial product can prove this.

From the perspective of private sectors, there are very few products that can be used appropriately by the NGOs. The reason is because IT specialists from private sectors have very limited understanding on NGO's vision and philosophy.

To address the problems, we need to develop IT strategic concept, which incorporate the priorities in the implementation of the program activities. This should be done in a near future, since the problems come up due to the structure of the organizations starting from the policies, human resource, IT infrastructure at district level into technology access that finally shape a chain of errors which has to be cut off by providing appropriate facilities. The focus of the solutions are:

1. Creating common perception about IT and the importance of MIS for all levels of management in the organization, as a start up to institutionalize IT concept that address the needs.
2. Human resources development to increase proficiency in IT, not only for operational purpose but also for the development and the use of IT technology.
3. Development of IT supports mechanism in NGOs that can facilitate the hardware, software, network, presentation of information sources, technical assistance and transfer of technology in all levels.

#### **Methods of Need Assessment study:**

1. The study focuses on IT capability and sustainability in local NGO. (Hardware, software, Human resource, Technical Assistance and IT sustainability)
2. Involving 26 NGOs from 6 province ( Jakarta, West Java, East Java, Aceh, East Kalimantan, North Sulawesi and Jayapura)
3. Interview with all level of management including IT person
4. Assessing the equipment (hardware and software)
5. Assessing IT support in each location ( University, ISP, TELKOM, IT training center, Computer shop )

#### **Fact of IT application in NGO:**

##### **Hardware and software:**

1. 97% of NGO using computer for their activities
2. The range of computer specification 386 DX to Pentium III 700
3. Using MS Office, WordStar 4.0/70 and Lotus 5.0/5.2 for program application
4. Using Win 95, Win 98, NT, Win2000 and DOS 5.0/5.1 for Operating system
5. Using programs application for design/publishing, web development, email/ internet, statistic and accounting.

##### **IT human resource:**

1. Not all NGO has IT human resource who responsible in maintaining hardware and software and developing IT concept. 53% of NGO has IT person, but 42% out of them have no IT academic background
2. Using part time consultants for maintaining hardware, software and LAN
3. All of NGO staff are familiar with MS Office

##### **LAN application:**

1. 11% of NGO have no internet connection
2. 36% of NGO have Local Area Network.
3. These existing LAN are not use optimally for data/information sharing but only for exchange files between PC, Internet sharing and printer sharing.
4. 100% of NGO using LAN has no security for LAN and Internet connection.

**Website application:**

1. 46% of NGO have a website for specific purposes as below;
  - a. Organizational promotion
  - b. Distributing Information
  - c. Alternative publishing Media

**Data management**

1. There is no rules in classifying strategic, technical and decision support data
  2. Application methods of data management are combining manual data management by using computer
  3. 60% of big NGO in Jakarta has used application software for finance and library, but the systems are not integrated with data management system.
- IT support in the area of Assessment

**Computer supply**

1. Computer distributor and equipment supplier have reach to all area of assessment with the various prices and services
2. The closed area for pricing, equipment stock and availability are : Jakarta, Bandung and Surabaya.

Computer Suplay

No.	City	Price	New Technology	Ready Stock	Nearst Supply
1.	JAKARTA	Indicator	Indicator	Ready	-
2.	ACEH	> 10 – 15 %	1 week	1-2 Days	Medan
3.	BANDUNG	= Jakarta	= Jakarta	Ready	Jakarta
4.	SURABAYA	= Jakarta	= Jakarta	Ready	Jakarta
5.	SAMARINDA	> 25 – 30 %	1 month delay	1-2 Days	Balik Papan or Surabaya
6.	MANADO	> 25 – 30 %	1 month delay	1-3 Days	Surabaya
7.	JAYAPURA	> 40 – 60 %	> 1 month delay	Indent	Surabaya or Jakarta

**Service and maintenance**

1. The availability services for hardware problems in area of Samarinda, Aceh, Manado and Jayapura takes more than 5 working days. The spare part should be imported from Jakarta or the nearest supplier area.
2. Hardware supply for assembling PC is more easier than branded PC (IBM, DELL, Compaq, ACER) in outside Java areas

Available Service and Maintenance facility

No.	City	Public Service Center	Vendor Service Center	Maintenance and Service Company	Estimate time to repair
1.	JAKARTA	Yes	Yes	Yes	1-2 Days
2.	ACEH	No	Yes	No	2-4 Days
3.	BANDUNG	Yes	Yes	Yes	1-2 Days
4.	SURABAYA	Yes	Yes	Yes	1-2 Days
5.	SAMARINDA	Yes	Yes	No	2-4 Days
6.	MANADO	Yes	Yes	No	2-4 Days
7.	JAYAPURA	No	Yes	No	> 5 Days

### Software house and Network service

1. Software house and network services are available in big cities like Jakarta, Bandung, Surabaya and Medan. In Banda Aceh, Samarinda, Manado and Jayapura has limited consultant services.

#### Software House and Network services

No.	City	Software House	Network Installation	Price	Quality
1.	JAKARTA	Indicator	Indicator	Indicator	Indicator
2.	ACEH	-	-	-	-
3.	BANDUNG	Yes	Yes	= Jakarta	= Jakarta
4.	SURABAYA	Yes	Yes	= Jakarta	= Jakarta
5.	SAMARINDA	No	Yes	Expensive	Average
6.	MANADO	No	Yes	Expensive	Average
7.	JAYAPURA	No	Yes	Very expensive	Poor

### Internet and Communication services

1. Phone Line and Leased Line has provided by TELKOM in all areas, but other type of communications are available in big cities.
2. Internet service provider has available in all areas of assessment, but in east part of Indonesia just has Wasantara and telkomnet, which provide very limited connection (9600 kbps)

Available, Internet service and Communication

Available Communication Service	Aceh	Jakarta	Bandung	Surabaya	Malang	Samarinda	Manado	Jayapura
Phone Line	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ISDN	-	Yes	Yes	Yes	-	-	-	-
Leased Line	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kabel Modem	-	Yes	-	-	-	-	-	-
VSAT	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Microwave	-	Yes	Yes	Yes	-	-	Yes	-
Available Internet Service	Aceh	Jakarta	Bandung	Surabaya	Malang	Samarinda	Manado	Jayapura
Dial Up	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cooperate Dial Up	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dedicated_Line	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Co Location Service	Yes	Yes	Yes	Yes	-	Yes	Yes	-
LAN Dial Up	Yes	Yes	Yes	Yes	Yes	-	Yes	-

### Some critical points about the utilization of information in NGOs.

1. NGO has a lot of data from their program activities at the field, but most NGOs do not have appropriate data management system to support their activities.
2. Available data and information can not be served optimally due to the difficulties in searching and serving the information
3. The existing information system could not function as information provider for the decision

maker.

4. Lack of management information system causes failure in disseminating information within the community, although the data and information are available.

**Perceive the awareness of the importance of IT by NGO:**

1. IT is important tools to support program activities.
2. IT is important to disseminate information to public and network
3. IT can meet a need at different management level in the organizations
4. IT and computerized MIS becoming higher priority.

**Problems encounter in IT development and application among NGOs:**

1. Computers and other supporting equipment are very limited
2. The limited IT resource person particularly in the outside of Java, and the difficulties of Jakarta NGOs to get good human IT human resources, especially out side Java, is limited. The NGOs also faces difficulties to have qualified IT human resource, since NGOs have to compete with private sectors that could provide better income and facilities.
3. Communication and internet infrastructure is very expensive in Indonesia. In the areas out of Java, the infrastructures are very limited and the speed is very low compare to the NGO need.
4. There are a lot of different opinions between the executive level and the staff level about IT application and different sense of urgency to support program activities and community services in the organization
5. Limited resources in funding and technical assistance for developing Information technology among NGOs.

**Critical issues behind the existing problems:**

1. Business sector can not relate to the IT needs in NGOs.
2. Educational system does not develop the necessary human resource for NGO IT development.
3. IT capacity building and technical assistance are very limited for NGO

**The needs from the assessment are:**

1. To increase knowledge and comprehension of IT development and application at all level of management in NGOs.
2. Quality improvement of IT human resource at NGO.
3. Technical assistance support for IT development in NGO and NGO network
4. IT information center for NGO Appropriate Information sources to address information needs among NGOs. The sources should be integrated and centralized as IT information center that easily accessed by NGO.
5. Computerized MIS supported by Data base system within each organization.

**Why IT is so essential for NGOs?**

1. MIS and data base can optimize the utilization of information and avoid lost and failure data and information.
2. IT can increase NGO performance by distributing appropriate information and data to the public and the network.
3. Information is the soul of NGOs activities, but the available information system are not really supported the activities especially if we compare this to the changes in the community in dealing with the changes in information technology.
4. Many of NGOs activities are a duplication or repetition of other NGO's, or many NGOs develop program that is not effective enough when it is being implemented. In this case, the lack of distribution of information about other NGOs activities plays an important role.
5. NGOs encounter problems in providing data as the basis for program reporting for donor

agencies, stakeholders and public. This was caused by the 'oral' culture and the unavailability of IT that could manage information of the program outcomes.

### **How IT, MIS and internet could improve NGOs performance and the success of its programs?**

1. IT provides easiness and effectiveness for NGOs especially in providing information as a tool to support program developments, mainly for decision-making process
2. Provides resources and time efficiency, in managing data and report as their responsibilities on the program implementation to donor agencies, network and public.
3. Internet will provide a wide range of networking for NGOs in accessing and communicating info as the sources in carrying out their activities, learning from other experiences in a more transparent way to all related parties (funding agencies, networks and public). By the support from a strong IT and MIS, the control function towards the success of a program will be more easy, fast and efficient.
4. Organizationally the roles and function of IT and MIS in improving the success of the program, can be illustrated as follows :
  - a. Program implementation (field work) could receive appropriate info support according to the program needs; MIS that is supported by a computerized system will shorten the time in composing the reports.
  - b. Program managers will be easier and accurate in supervising the program based on data recorded by field worker, which should be followed by a good MIS trough Excecutive information system
  - c. The Directors will have fast and complete access to the result of field management data and program as the basis for decision-making process; will have the supporting information in implementing their function as the executive personnel within the organization (tact info) in anticipating the changes towards economic, politics and social against organizational policy.
5. In general, the roles and function of IT, MIS and Internet in improving program success are:

#### From the public' s perspectives:

Public will be easier in looking for info about NGOs activities with regard to the community interest, so that the direct interactions between the community and the NGOs occurs widely and covers all level of the community.

#### From donors' perspectives:

The donor agencies will receive a complete, accurate and timely report as one of programs' responsibilities to the stakeholders and public.

#### From local government perspectives:

With "otonomi daerah", the lack of info, which is currently happening, can be overcome by the access of info, provided by NGOs; and finally NGOs can play active roles in economic development program that involves the community, local government by using IT (E-business community development and communal e-commerce).

#### From NGOs perspectives:

By its data and info availability about program's implemented activities, the work performances and quality towards internal or external organizations will be increased.

#### From NGO networks:

By the existence of the fast, efficient and wide coverage of info distribution, the program interactions could be faster and wider, not only for the development of program activity but also in methods. The duplications of failures could be decreased and the program concept completion could be easily achieved by the existence of wide and large info support.

## **Recommendation**

### *General recommendation*

#### Human resource development

1. Conducting some efforts to increase the awareness of the importance of IT at three level of managements (executive, management and field staff levels)
2. Operational computer training (software and hardware) in order to develop IT concept in each organisastion
3. Training on Internet as communication media and information distribution for all staff
4. Developing model of transfer IT knowledge from IT team to all staff in organization

#### Hardware

1. Addition and upgrading computer and other equipment
2. Developing LAN with data facilities for NGO that have more than 3 PC
3. Built communication infrastructure or alternative internet provider in Aceh and east Indonesia
4. Provide alternative communication facility with mass information distribution capability to reach community at grass root level, such as radio for Irian people

#### Software

1. Standardization data forms and applications as basic for information sharing at national level
2. Support software and antiviruses distribution due to issue of Microsoft pirate software
3. Providing specific software in design and publishing to support communication media development

#### Internet and communication

1. Devepoing and upgrading NGO web portal facility
2. Developing internet base communication media in area of Samarinda, Aceh and Jayapura facilitated by local information center

#### Data Management

1. Socialization on manual documentation and filing system that compatible with computer base filing system
2. Developing computer base data management system at organization level

#### Infrastructure and supporting facility

1. Developing guide module for IT development in NGO
2. Developing local data center as follow initiating information center in local level
3. developing IT team at local level. Operational of IT team should be under NGO forum
4. Cross sectoral collaboration among funding agencies in facilitating IT development for NGO.

### *Recommendation by area*

#### Jakarta

1. Facilitating MIS and data base development for NGOs network
2. Security application system
3. Facilitating developed LAN
4. Training on the importance of IT to support activity to all level of management

### Aceh

1. Training on the importance IT to support activity to all level of management
2. Initiate IT satellite / local host to support technical assistance at local level
3. Facilitating MIS and data base development for NGO forums
4. Developing LAN for local NGO
5. Facilitating innovations of IT and information media facilities

### Bandung

1. Training on the importance of IT to support activity to all level of management
2. Built relation with university in developing IT for NGO

### Surabaya

1. Training on the importance of IT to support activity to all level of management
2. Facilitating forum as center of information at regional level
3. Developing and application MIS for forum members

### Malang

1. Training on the importance of IT to support activity to all level of management
2. Built relation with university in developing IT for NGO

### Samarinda

1. Training on the importance of IT to support activity to all level of management
2. Developing IT Team under NGO forums
3. Developing Information center as communication post and information distribution using high speed internet connection

### Manado

1. Training on the importance of IT to support activity to all level of management
2. Developing IT Team under NGO forums
3. Developing NGO network wich coverage Ambon, Jayapura and larger areas

### Jayapura

1. Training on the importance of IT to support activity to all level of management
2. Developing IT Team under NGO forums
3. Developing alternative media for information distribution to reach remote areas
4. Strengthening human resource in publishing and IEC development technology
5. Developing Information center as communication post and information distribution using high speed internet connection

## **Lesson learned form previous IT Program**

### General problems:

1. The previous IT programs do not have model of human resource development in IT for program and network
2. Too exclusive for D&G organization.
3. Using high cost technology that could not adapted by members.
4. The previous IT program focusing on providing equipment (hardware, software and LAN) but no developing on data management system

### Nusa.net

1. Nusa net has success in delivering email service for particular NGO network in D&G issues.
2. Less anticipate the changing of technology to accommodate the communication services

to the members

3. Could not provide global information and communication services to members

#### Jaring.net

1. There is no strengthening program on IT among Jaring net member.
2. Using bottom up flow information without a appropriate MIS both in center and the local host

#### **PAKTA Foundation's Highlight IT Program (1996-2001)**

1. Maintaining Indonesian HIV AIDS webpage
  2. Developing Program on strengthening HIV/AIDS NGO's network through electronic communication (Invodef-project), supported by UNAIDS-APICT Bangkok. Involving 8 NGO in 4 province (Jakarta, West java, Jogjakarta and East Java)
  3. (1997-1999) Extending the Infodev Project to 4 provinces (North Sumatra, North Sulawesi, South Sulawesi and Bali) and involving 56 NGOs. This period supported by Cabot foundation
  4. Developing Indonesian NGOs Portal ( WWW.LSM.OR.ID and WWW.NGO.OR.ID)
  5. Facilitating web space and email freely for local NGO
  6. Developing MIS and Data Base for PKBI Youth Center in 6 provinces. This program supported by UNFPA
  7. Developing MIS and Data base for PKBI head office in Jakarta
  8. Trainer on MIS training for NGOs forum in Aceh. Held by WALHI ACEH
  9. Initiating PAKTA IT Camp on April 2001.
  10. Facilitator for WALHI database workshop on April 2001
  11. Developing Database Monitoring and Evaluation Project (Monev) with Frank Page. This program supported by CSSP - USAID
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