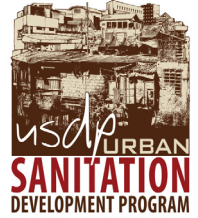# Environmental Health Risk Assessment (EHRA)

The Urban Sanitation Development Program or USDP is a development program grant from Dutch Government for the Government of Indonesia (GOI) to assist Indonesia to achieve progress in reaching the Millenium Development Goals (MDG), especially in sanitation sector. The USDP provides Technical Assistance to the "Accelerated Sanitation Development for Human Settlements" program (PPSP). A GOI program implemented by the National Water and Environmental Sanitation Working Group, a sanitation-oriented collaborative program betwen eight Ministries, with Bappenas as lead agency. PPSP is implimented through a PMU at Bappenas and three PIUs at the Ministries of Health, Home Affairs and Public Works. USDP'S services focus on facilitation and capacity building and training targeting the principle stakeholders and actors in the PPSP program. DHV BV in assosiation with PT. Mitra Dutaconsult, Royal Hoskoning Indonesia, Witteveen plus Bos Indonesia, MottMacDonald Indonesia, IRC International Water and Sanitation centre and PEM have been contracted to provided a range of technical services in support of the implementation of PPSP.

What is EHRA?

EHRA (Environmental Health Risk Assessment) is a participatory survey in the city that aims to understand the conditions of sanitation and hygiene facilities and community behaviors. The result will be utilized for the development of the sanitation program including advocacy at the regency / city to the village.

Why Doing EHRA?

1. Sanitation development requires an accurate understanding of the conditions.
2. Secondary data related to sanitation generally are not available at village/kelurahan level. Existing data generally are spread over different offices and not centrally available.
3. EHRA is a study that produces representative data at the regency/city. The study can serve as a guide in the village/kelurahan.
4. EHRA is providing "ammunition" to village and higher government levels as well as horizontally to fellow citizens or stakeholders village/kelurahan.

Purpose and Benefit

The purposes of EHRA study are :
1. Getting an idea of the condition of sanitation facilities and health-risk behavior.
2. Advocating to the public on the importance of sanitation services.
3. Providing a common understanding in setting up a reliable survey team.
4. Learning together about the Survey of Environ mental Health Risk Assessment.
5. The Survey Working Group capable to carry out EHRA in each Regency / City.

The benefit of EHRA study : it is used as an ingredient in the preparation of the City Sanitation White Book and Strategy City Sanitation (SSK).

Focus of EHRA Study

1. Sanitation facilities studied, include :
    - Sources of drinking water
    - Waste disposal services
    - Latrines
    - Wastewater sewers
2. Learned behavior related to hygiene and sanitation with reference to 5 pillars of Total Community Based Sanitation (STBM), include :
    - Open Defecation Free
    - Hand washing with soap
    - Drinking water management and food hygiene
    - Solid waste management in household level
   - Waste water and micro drainage management in household level

SPOT CHECK ??
a quick survey that should be done by supervisors for checking the performance of enumerators
The minimum number of respondents is 5% of the total respondents

EHRA in PPSP Work Frame

EHRA is the main primary study in PPSP that generates data about sanitation and environmental heath problems. Data from EHRA study is very important input for determining sanitation risk area in Regency/City Sanitation White Book.

"Milestone of EHRA Study"
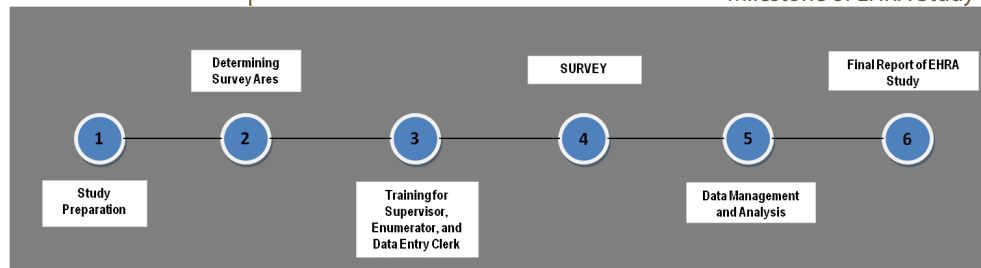
Study Preparation, activities includes meeting/workshop for establishing the working group (pokja). The minimum requirements for the working group are :
1. Study Coordinator (Department of health)
2. Members (BAPPEDA, Bappermas, KLH, DKP, Infokom, etc)
3. Coordinator for the Regency/City (Head of health center)
4. Data Entry Team(Data Processing Party in BAPPEDA, BPS, etc)
5. Data Analysis Team(Region Working Group)

"We Ensure the Working Group (Pokja) can Implement EHRA Study Independently because : The Working Group can determine the study area with 4 main criteria by their self
The questionnaire is simple with easy data processing : the time for interview and observation is short
Provision of visual aid for enumerators : decreasing error rate when making selection of the type of sanitation facilities"

6. Enumerator (Active Village Cadre such as cadre in PKK group, Integrated Health), Care Pos (Posyandu), Family Planning (KB), etc.

Work planning and budgeting should also be established at this stage

Determining Survey Areas, includes Clustering, village (desa/kelurahan) determination, and respondent determination.

Training for Supervisor, Enumerator, and Data Entry Clerk. Data collection is an important parts of the EHRA study to determine the data's accuracy and validity. Survey planning and schedule are also prepared in this stage.

Survey. The selected enumerators collect data from respondents in survey area. Supervisors examine the questionnaire results prepared by the enumerators by doing spot-checks and making a daily reports and recapitulation. Spot check is carried out by using 5% of total respondents.

Data Management and Analysis. Questionnaire information is entered by the data entry clerk using epi info software. Before analysis started, the supervisors should re-check the data entry result to minimize error rate. After making sure the data validity and accuracy, all of data is processed by statistical-based computer software, SPSS. The main result of this step is Sanitation Risk Index (Indeks Risiko Sanitasi).

4. **Flooded area,** inundation that interfere peace of the community with the parameters of the water height, broad

flood plain/inundation, and duration of low tide.

Based on Krejcie-Morgan table (1970), the minimum number of respondent for EHRA study is 400 respondent per regency/city. While the minimum number of respondent per village (kelurahan/desa) is 40 respondents which is divided to 8 RT (5 respondents per RT in the village/kelurahan/desa). The Working Group (Pokja) in regency/city may add the number of respondent if sufficient funds are held but, the number of respondents per village/desa/kelurahan in each cluster must remain proportional.
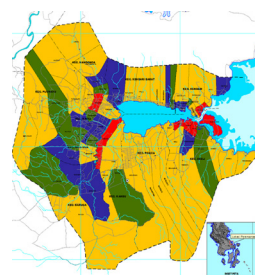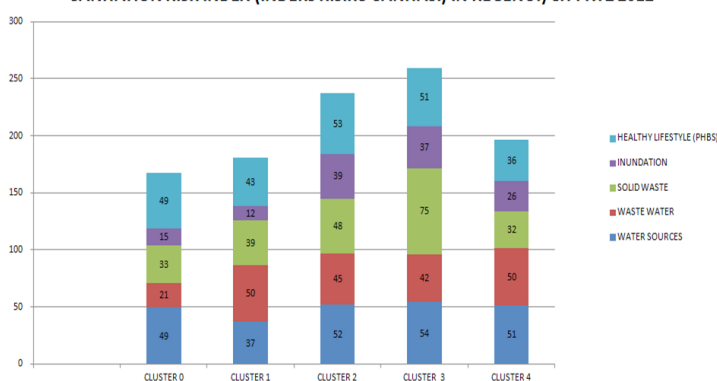
Sanitasion risk is defined as a decline in quality of life, health, and environmental caused by low access to sanitation services and facilities and lack of a healthy lifestyle (PHBS). EHRA studies analyze the sanitation risk at household level and translate it quantitatively in the form of Sanitation Risk Index (Indeks Risiko Sanitasi = IRS). The information that can be taken from IRS include :

1. Differences sanitation problems in each cluster
2. Differences priorities in each cluster about sanitation problems that must be solved

The information above can be the basis for determining sanitation strategy in regency/city. Furthermore, the IRS will be combined

Determining Survey Area

One new aspect of the improvement in the study EHRA is a method of determining the target survey area through a process called Clustering. Clustering results also can be used as well as an early indication of risk area. Further sampling method used is called "Cluster Random Sampling". This technique is suitable for determining the number of samples if the source data to be studied very widely. The sampling was based on a predetermined area population.

with secondary data and SKPD's perception to generate sanitation risk area (area berisiko sanitasi)

SANITATION RISK INDEX (INDEKS RISIKO SANITASI) IN REGENCY/CITY XYZ 2012

Legend: HEALTHY LIFESTYLE (PHBS), INUNDATION, SOLID WASTE, WASTE WATER, WATER SOURCES

Determination of cluster is based on main criteria and additional criteria. The main is the criteria which determined by the PPSP program and shall be used by all Sanitation Working Groups in Regency/City. While the additional criteria is the criteria that may be determined by the Sanitation Working Group in Regency/City if there is anything specific assessed in the regency/city in question related to environmental health risks due to sanitation. The existence of additional criteria must meet the following requirements:

1. Maximum of only one type of additional criteria
2. The effects should be specific and non-redundant (same / repeated) with the main criteria.

There are four main criteria for determining cluster in EHRA study, include :

1. **Population density,** the number of people per area
2. **The poverty rate,** readily available but fairly representative showing socio-economic conditions of each regency and / or village / village.
3. **Watershed,** area/region flowed the river/drainage/irrigation channels with potential use as latrines and garbage disposal by the local community.

EHRA Data Use
Making Sanitation Risk Area
Map of sanitation risk area is an important tools for determining a good sanitation strategy in regency/city. Sanitation Risk Index (IRS) is the final result of EHRA study and is used for making the sanitation risk map as the final result of EHRA study can be used as one of component for making sanitation risk map.

Impact of EHRA Data
1. Indication of areas at risk at regencies/cities/villages/kelurahan will help the Working Group to get a good overview (helicopter view) of conditions throughout the regencies/cities.
2. EHRA study result (IRS) are based on interviews and observations of respondents provide the "Zoom In" to see the real

Detailed EHRA is accessible at www.sanitasi.or.id

PPSP
Percepatan
Pembangunan
Sanitasi
Permukiman

Fact sheet