

# Needs assessment: occupational health effort post in the informal sector in Pakpak Bharat District, Indonesia



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## ABSTRACT

**Introduction:** The majority of workers in the informal sector have not received occupational health services. This study aims to explore health issues and assess the community's need for Occupational Health Services within the group of farmers.

**Methods:** The activities are categorized into three parts: 1) Self-Assessment Survey (ASA). Data collection for the Self-Assessment Survey (SAS) activity is conducted using a questionnaire instrument, with a total of 10 farmer respondents collected to answer the questionnaire consisting of 5 assessments: work environment, personal protective equipment and safety, work performance, farmer's health, and workplace hazards. 2) Village Community Assembly. Data collection for the Village Community Assembly activity is done through a Focus Group Discussion (FGD) with 35 study participants determined using a purposive sampling technique. 3) Establishment of occupational health effort posts. The implementation of the establishment of occupational health effort posts is done through a joint assembly with the village community and a facilitator team. Data analysis is conducted descriptively based on a Needs assessment. Musculoskeletal complaints, inadequate pesticide use for health requirements, and insufficient use of personal protective equipment were found.

**Results:** The components of a needs analysis are based on considerations such as problem gaps, resource availability, support, and funding. The establishment of occupational health effort posts provides an appropriate platform for farmers to become acquainted with, prevent, early detect, and improve workers' health.

**Conclusion:** Healthcare personnel need to continuously provide support and health services through enhancement, guidance, and training to the farming community so that they can prevent and improve their health.

**Keywords:** need assessment; post occupational health efforts; musculoskeletal complaints; worker health; Self-Assessment Survey.

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## INTRODUCTION

Occupational health services are needed in all sectors, not only in the formal sector but also in the informal sector. Formal sector workers receive occupational health service facilities from the institutions, agencies, or companies where they work. In contrast to informal sector workers who do not have health facilities because their type of work is not under an institution, agency, or company, work activities are not organized,<sup>1</sup> and work independently. Informal sector workers have not received satisfactory health services.<sup>2</sup>

The central statistics agency in Indonesia recorded that in 2021 informal sector workers in Indonesia amounted to 59.62% or 78.14 million.<sup>3</sup> The increase in

informal sector workers is due to several reasons including the unavailability of jobs, the number of young adult population is increasing and no special education is needed to work in the informal sector. The informal sector plays a major role in the country's economy even though the wages received are below the applicable city minimum wage.<sup>4</sup>

Several types of informal sector jobs are currently developing in Indonesia, such as tailors, traders, public transport, farmers, fishermen, and others. Health problems for informal sector workers such as farmers and fishermen are quite high, including pesticide poisoning due to using more than 3 types of pesticides and spraying pesticides 2-3 times.<sup>5</sup> Hearing loss and muscle complaints are felt by

fishermen who catch fish using a "fish arrow speargun" by diving in the waters of Lake Toba.<sup>6</sup> Fishermen's health problems on Batam Island, such as myopic eye disorders, skin allergies, and rheumatism due to the marine environment, can cause occupational diseases.<sup>7</sup>

Establishing an occupational health post can overcome the importance of health services for informal workers. The Indonesian government's attention to informal sector workers is stipulated in the Minister of Health Regulation 100 of 2015 concerning Integrated Occupational Health Effort Posts, which become a forum for the health of informal sector workers.<sup>8</sup> The government's target of at least 1 health center having 1 work health post has not been achieved.<sup>9</sup> Another phenomenon is

the number of occupational health effort posts in the work area of the community health center; only a few are active. The number of Occupational Health Effort posts at the Semarang City Health Service was recorded as 30 units, and only 2 posts were active.<sup>10</sup> Pakpak Bharat Regency is an expansion of Dairi Regency, 204 km from Medan city and takes 6 hours, dirt road conditions and some areas of damaged road conditions. The majority of people work as farmers and there is no occupational health post. Therefore, it is necessary to provide occupational health facilities for farmers in the region.

## METHOD

The implementation of the need assessment activities for occupational health effort posts was carried out from October 2021 to January 2022 in Pakpak Bharat Regency, Sumatra Province, Indonesia. This research received approval from the ethics committee of the Maluku Husada High School of Health number: 95/KEPK/STIK/X/2021. Before carrying out the activity, coordination was carried out first across sectors, in collaboration with health organizations, namely the Indonesian Association of Public Health Experts (IAKMI) level central, provincial, and regional. Indonesian Association of Occupational Health Experts (PAKKI) at provincial and regional levels.

Activities are grouped into 3 parts:

1. Self-Introspective Survey (SIS). Data collection for the Self-Introduction Survey (SIS) activity was carried out using an instrument in the form of a questionnaire compiled by the Indonesian Association of Occupational Health Experts (PAKKI) and made observations. A total of 10 farmer respondents were collected to answer a questionnaire consisting of 5 assessments: work environment, personal protective equipment and safety, work physiology, farmer health, and hazards in the workplace.
2. Village Community Meeting. Data collection for village community deliberation activities was carried out through a Focus Group Discussion (FGD) held at the office of the village head of Pardomuan, Si Telu Tali Urang Julu District, Pakpak Bharat Regency.

The 35 study participants were determined using a purposive sampling technique, with the following criteria: willingness to be research informants until completion, representatives from the District Health Office, sub-district heads, heads of health centers, village heads, village secretaries, neighborhood heads, community leaders and farmers in Pakpak Bharat District. The list of questions is in the Introspection survey interview guide [supp.1]

3. Establishment of work health effort post. The implementation of activities to establish an occupational health effort post was carried out using deliberations with the village community, with a team of facilitators, village heads, village secretaries, and community leaders.

The limitation of the research is to carry out the 3 activities above, namely conducting introspective surveys, conducting FGDs, and forming occupational health effort posts. The research was conducted by research teams 1, 2, and 3. Data analysis was carried out descriptively based on the Need assessment referring to four components: problem gaps, availability of resources, support, and funds.<sup>11</sup> Observation and interview data are compiled in observation notes, and displayed in tables and figures. The focus group discussion activities and deliberations on the formation of an occupational health effort post are displayed with pictures.

## RESULT

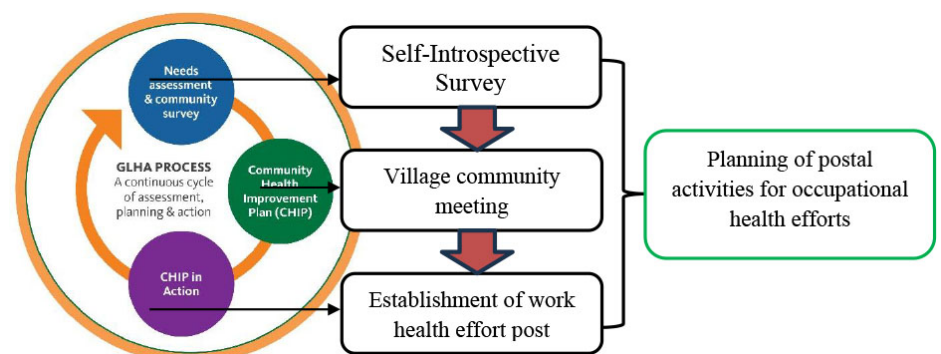
The needs assessment activity for the establishment of an occupational health

effort post follows the stages of an introspective survey, village community meetings, and the establishment of an occupational health effort post in the following Figure 1.

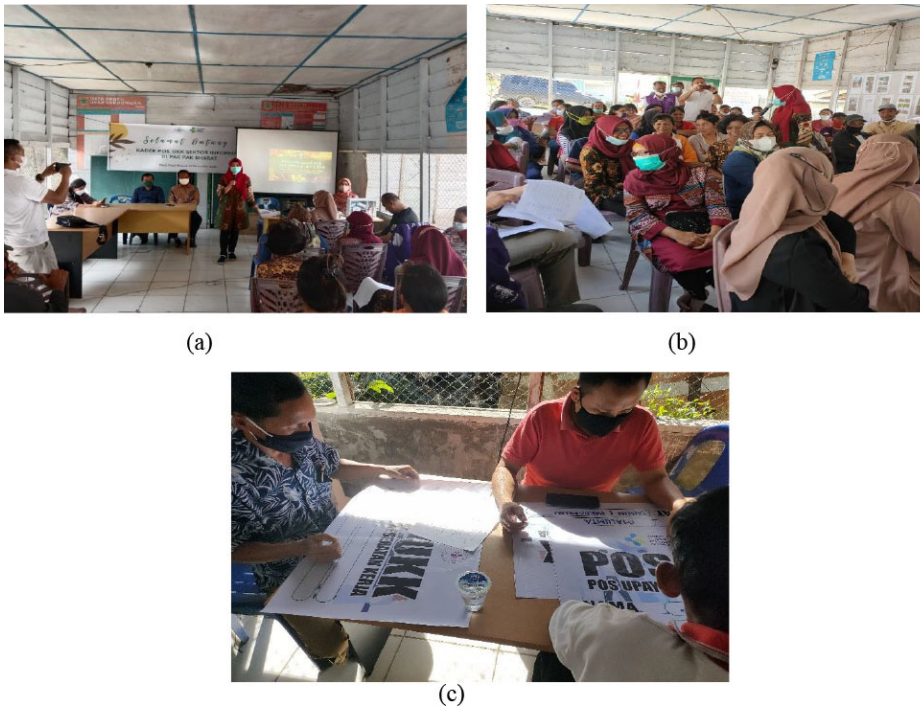
Needs assessment is based on assessing community needs based on health needs.<sup>12</sup> The process starts with collecting primary data by conducting face-to-face health surveys (need assessment and community survey). Assessment of community needs becomes the foundation and partners for compiling programs and determining activity priorities in the Community Health Improvement Plan (CHIP) area. On the other hand, the openness of the program plan involves stakeholders building a commitment to sustainability. Needs assessment serves as a roadmap for improving current and future public health. The purpose of need assessment in health services is to obtain various information needed for planning activities and to benefit public health. assessment of individual needs to be part of the needs of the population.<sup>13</sup>

### Introspective survey activity (SIS)

An introspective survey was conducted on 10 farmer respondents in Pakpak Bharat District face-to-face. Assessments are grouped on the work environment, use of personal protective equipment, work physiology, farmer's health, and hazards in the workplace (Table 1). The characteristics of the work environment are not different because of the same type of work. Identification of work environment exposure to heat and noise. None of the farmers used complete personal protective equipment, and all samples experienced MSDS (Musculoskeletal disorder) complaints; at the time of the survey,



**Figure 1.** Stages of need assessment and activities to establish an occupational health effort post.



**Figure 2.** Presentation of the results of the Self-Introduction Survey (a) Village Community Consultation (b) Formation of the Occupational Health Efforts Post group (c).

**Table 1. Results of an introductory survey on the occupational health of farmers in Pakpak Bharat District (n = 10)**

Self-Intropective Survey	Data findings	Total
Work environment	Heat	6
	Heat, noise	4
<b>Jumlah</b>		<b>10 (100%)</b>
PPE	Complete	0
	Incomplete	10
<b>Jumlah</b>		<b>10 (100%)</b>
Work Physiology	No complaints	0
	MSDS	10
<b>Jumlah</b>		<b>10 (100%)</b>
Farmer's health	Healthy	1
	Unwell	4
	Not healthy	5
<b>Jumlah</b>		<b>10 (100%)</b>
Hazards in the workplace	Using pesticides < 3 types	1
	Using pesticides ≥ 3 types	9
<b>Jumlah</b>		<b>10 (100%)</b>

Source: primary data, 2021, PPE (Personal Protective Equipment) MSDS (musculoskeletal disorders)

5 respondents were in an unhealthy condition, 4 respondents were unwell, and 1 respondent. The use of unsafe pesticides, several 9 respondents used more than 3 types of pesticides.

### Village Community Meeting

The second stage of the plan to establish an occupational health post is to hold

deliberations with the village community. The deliberation activity was held in one of the offices of the Pardomuan village head in Pakpak Bharat District. The activity was attended by sub-district heads, village heads, representatives from the district health center, doctors in charge of community health centers at first-level health facilities, midwives, community

leaders, facilitators from the Indonesian Association of Public Health Experts (IAKMI) North Sumatra Province.

Before the deliberation, the results of the introspective survey were presented in Figure 2a. Relevant to the previous researcher explaining that in the village community meeting activities, the results of an introspective survey activity were presented regarding occupational health safety issues so that priority issues could be discussed and plans for the establishment of an occupational health effort post.<sup>1</sup> In Figure 2b, the community discusses agreements and mutual agreements and engages in dialogue with the facilitator about the post's existence and benefits for occupational health efforts.

### Establishment of Occupational Health Efforts Post

Furthermore, the need assessment analysis for the establishment of an occupational health effort post is based on 4 need assessment components, namely problem gaps, availability of resources, support, and funds. It was concluded from the results of the need assessment and the action plan that it was necessary to establish an occupational health effort post for the farmer's group in Pardomuan village, which can be seen in the following Table 2.

It was agreed upon the results of discussions with the community to form an occupational health effort post consisting of a minimum of 10 people. Figure 2c forms 10 groups and locations of farmer health posts. Each group writes down the name of the occupational health effort post. Requirements for the establishment of an occupational health effort post for a minimum number of workers of 10 people.<sup>8</sup>

### DISCUSSION

Introspective survey activities obtained several important findings including sources of exposure to the work environment in the form of heat and noise pressure, farmers did not use complete personal protective equipment hats, masks, protective clothing, and shoes. Musculoskeletal complaints, the use of pesticides does not meet health requirements, and 5 out of 10 farmers are

**Table 2. Need assessment for the establishment of an occupational health effort post in Pakpak Bharat District**

No.	Need assessment component	Analysis and findings	Action plan
1.	Problem gap	Farmers' health problems, use of pesticides not by health requirements, not using personal protective equipment, MSDS complaints	<ul style="list-style-type: none"> <li>- Education</li> <li>- Improved working posture</li> <li>- Facilitate the completeness of personal protective equipment</li> </ul>
2.	Availability of resources	The district health office through the community health center provides support and training for cadres	Cross-sectoral and sustainable collaboration
3.	Support	Communities, village officials, the district health office and district government	Motivating and moving the community acts as a subject for their health independently
4.	Funding	Participation from village and community	Fundraising with partners

Source: primary data, 2021, MSDS (musculoskeletal disorders)

in an unhealthy condition.

Collecting data and information on workers covering individual health is carried out by means of self-introduction surveys. an activity to identify, collect and study workers' health problems by the group of workers themselves with guidance from community health center officers or health workers so that data is obtained about community problems.<sup>1</sup>

Seeing the gaps found in the need assessment study, the program action plan includes education, improving work posture, and facilitating the completeness of personal protective equipment. Previous researchers explained that the awareness and knowledge of workers is still low about hazards in the work environment they can threaten the safety and health of workers. Found a significant relationship between knowledge and occupational health. If the worker's knowledge is good, the worker's health will also be good, this is because workers receive information and explanations about work hazards that they can distinguish hazards and carry out work according to procedures.<sup>2,14</sup>

The meeting was held in the presence of the local government. Community involvement in discussions and questions and answers indicated that the establishment of an occupational health post received full support. The involvement of all stakeholders in the activity of establishing an occupational health effort post is an important factor in empowerment activities<sup>15</sup> which is inseparable from the sustainability of the health program. The establishment of the occupational health effort post was successfully carried out by involving entrepreneurs, and household appliance

industry workers in Bugangan, Bugangan Health Center, and Semarang City Health Office.<sup>16</sup>

The community recognizes health problems through village community deliberation activities where the facilitator, together with the community and local government, compiles a program of activities at the occupational health effort post.<sup>1,17</sup> The existence of an occupational health post to protect the safety and health of workers requires human resources who understand occupational health issues and, are able to mobilize the community to be involved in the activities of the occupational health effort post. Relevant to the previous researcher's explanation, the occupational health post requires support from the public health center to determine the target group. The occupational health effort program in Lalang Atas Village found that in this occupational health effort post it has been implemented and is running but is still limited to examining general diseases, and there is no special recording of occupational diseases.<sup>17,18,19</sup>

Guidance and management of occupational health effort posts in the city of Semarang under the sports health unit so that their existence can be sustainable.<sup>10</sup> Therefore cooperation and strengthening cross-sectoral communication at all health facilities so that the program can be sustainable.<sup>20</sup> It was explained that communication affects the quality of health services and facilities. Good communication and interaction make it easier to achieve goals. The quality of stunting services at integrated service posts that are oriented towards strengthening health worker communication, and cross-sectoral communication has a positive

impact on increasing satisfaction. This will build public trust so that the community plays an active role in supporting programs to accelerate the reduction of stunting prevalence and stunting elimination in Indonesia.<sup>21</sup>

## CONCLUSION

Introspective survey activities found problems in the work environment exposure to heat and noise. None of the farmers used complete personal protective equipment, and all samples experienced MSDS (Musculoskeletal disorder) complaints, at the time of the survey 5 respondents were in an unhealthy condition, 4 respondents were unwell, and 1 respondent. The use of unsafe pesticides a number of 9 respondents used more than 3 types of pesticides. The need assessment serves as a road map for preparing plans for the establishment of occupational health effort posts, compiling activity programs to improve worker health, protect against occupational hazards, and prevent occupational diseases now and in the future. Support from the health office and first-level community health centers is needed for training programs for cadres, educating workers, and improving work posture so that the post of occupational health efforts can be sustainable. Local governments can develop partnerships with the private sector, companies, and other business entities to facilitate the completeness of personal protective equipment.

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## CONFLICT OF INTERESTS

There is no conflict of interest between the authors.

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