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Measurement of forced labour

Statistics on forced labour

ILO Fundamental Principles and Rights at Work Branch
(ILO FUNDAMENTALS)

Contents

1. Introduction

In June 1930, the 14th session of the International Labour Conference adopted the *Convention concerning Forced or Compulsory Labour (No. 29)*. The convention calls on member States to undertake measures to suppress the use of forced or compulsory labour in all its forms within the shortest possible time. To date, it has been ratified by 178 member States, representing the second highest number of ratifications after the *Worst Forms of Child Labour Convention, 1999 (No. 182)* with 181 ratifications to date. The child labour convention makes also reference to forced labour and calls on member States to take immediate and effective measures to secure the prohibition and elimination of the worst forms of child labour, including all forms of slavery, or practices similar to slavery, such as the sale and trafficking of children, debt bondage and serfdom and forced or compulsory labour.

The supplementary *Convention on Abolition of Forced Labour, 1957 (No. 105)*, with 175 ratifications to date, calls on member States not to make use of any form of forced or compulsory labour (a) as a means of political coercion or education or as a punishment for holding or expressing political views or views ideologically opposed to the established political, social or economic system; (b) as a method of mobilising and using labour for purposes of economic development; (c) as a means of labour discipline; (d) as a punishment for having participated in strikes; (e) as a means of racial, social, national or religious discrimination.

More recently, the International Labour Conference adopted the Protocol of 2014 to the Forced Labour Convention, 1930, closely linked to the United Nations Protocol to Prevent, Suppress and Punish Trafficking in Persons Especially Women and Children, supplementing the United Nations Convention against Transnational Organized Crime (Palermo Protocol)[1]. The ILO Protocol calls on member States to take measures to prevent and eliminate the use of forced labour, and to provide victims with protection and access to appropriate and effective remedies, such as compensation, and to sanction the perpetrators of forced or compulsory labour.

The need to undertake "immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking" has now been inscribed as a core element of the Sustainable Development Goals of the United Nations (Target 8.7) and the promotion of full, productive and *freely chosen* employment (emphasis added) is part of the ILO Decent Work Agenda, 2001.

In order to draw attention to the importance and magnitude of forced labour in the world, the ILO prepared minimum global estimates, first, in 2005 and then in 2012 and more recently in 2016. The results show that on average at any given time there were 24,850,000 persons in forced labour in 2016 of whom about 17 percent were children aged 5-17 years.[2] Although not directly comparable due to differences in scopes, methodologies, regional groupings and

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[1] Protocol to Prevent, Suppress and Punish Trafficking in Persons Especially Women and Children, supplementing the United Nations Convention against Transnational Organized Crime, Adopted and opened for signature, ratification and accession by General Assembly resolution 55/25 of 15 November 2000.

[2] *Global Estimates of Modern Slavery: Forced Labour and Forced Marriage*, ILO and Walk Free Foundation in partnership with the International Organization for Migration (IOM), Geneva, 2017.

data sources, the earlier results showed 12.3 million persons in forced labour in 2005[3] and 20.9 million in 2012[4].

In parallel, ILO has engaged in activities aimed at supporting the improvement of national statistics. It conducted initially four pilot surveys with national coverage dealing with forced labour and human trafficking of adults and children, and then expanded, in collaboration with national partners, to ten participating countries: Armenia, Bangladesh, Bolivia, Georgia, Guatemala, Côte d'Ivoire, Mali, Republic of Moldova, Nepal and Niger. The experience gained from these surveys was documented in one volume to serve as survey guidelines to estimate forced labour of adults and children at national level.[5] Further survey work was undertaken with specially designed forced labour surveys, some with national scope (Uzbekistan 2014-15, Ethiopia 2014, Timor-Leste 2016, Nepal 2017, Brazil 2018, Peru 2018, Niger 2018), and others for a specific region of the country (Maranhao, Brazil 2017) or specific sectors of the economy such as fishery (Thailand 2013), palm oil (Malaysia 2018), and cotton picking (Uzbekistan planned for 2019). Others were undertaken for particular population groups such as internal migrant workers (Nepal 2013, Myanmar 2015), internally displaced persons (Sudan 2018, Democratic Republic of Congo 2018, Nigeria 2018), and a feasibility study was carried out among Bulgarian communities in the Netherlands (2016).

Separately and as part of its global estimation of forced labour, the ILO supported jointly with the Walk Free Foundation (WFF) 27 national surveys on forced labour in 2016, supplementing 28 prior surveys conducted by WFF in 2014 and 2015. The surveys were implemented by Gallup Inc. as a special module attached to its annual World Poll in countries where face-to-face interviewing were conducted and authorities granted permission for implementation.

The statistical work of the ILO was first presented at the 17th ICLS (2003), where the need for data on forced labour in order to raise awareness and design appropriate policies to combat the problem was noted. Delegates also highlighted the need to define observable criteria for assessing the existence of a forced labour situation. At the 18th ICLS (2008), the Conference encouraged further developmental work on the measurement of forced labour, and noted, in particular, the statistical challenge of measuring the worst forms of child labour other than hazardous work, such as bonded child labour and forced labour of children. At the 19th ICLS (2013), the Conference adopted a formal resolution recommending that the ILO "set up a working group with the aim of sharing best practices on forced labour surveys in order to encourage further such surveys in more countries."[6] The resolution further specified that the working group "should engage ILO constituents and other experts in discussing and developing international guidelines to harmonize concepts, elaborate statistical definitions, standard lists of criteria and survey tools on forced labour, and to inform the 20th International Conference of Labour Statisticians on the progress made."

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[3] *ILO Minimum Estimate of Forced Labour in the World*, Patrick Belser, Michaelle de Cock and Farhad Mehran, Geneva, April 2005.
[4] *ILO Global Estimate of Forced Labour. Results and methodolog*y, International Labour Office, Special Action Programme to Combat Forced Labour (SAP-FL), Geneva, 2012.
[5] ILO, *Hard to see, harder to count. Survey guidelines to estimate forced labour of adults and children*, ILO, 2012.
[6] ILO, *Resolution concerning further work on statistics of forced labour*, adopted by the 19th International Conference of Labour Statisticians, Geneva, October 2013.

Pursuant to this resolution, the ILO formed a technical working group composed of some thirty participants from a broad range of institutions including national statistical offices, other government agencies, social partners, non-governmental organizations, academic institutions, UN agencies, and other relevant bodies. The technical working group held six meetings (Geneva, April 2015; Lisbon, September 2015; New York, December 2015; Kathmandu, June 2016; Vienna, November 2016; Bangkok, December 2016) to prepare the working group on forced labour statistics held in Rio de Janeiro, 20-22 May 2018. The working group examined in detail the operationalization of the definition of forced labour embedded in the ILO Convention on forced labour (No. 29, 1930) and discussed the various aspects of measurement of forced labour at national and sectoral level including traditional forms of forced labour, forced labour of children, commercial sexual exploitation, human trafficking, bonded labour, state imposed forced labour, and forced labour in particular branches of economic activity and among specific population groups.

The present room document describes the main topics of discussion of the Working Group and consolidates the outcome in the form of draft guidelines on statistics of forced labour, submitted for review and endorsement by the 20th ICLS in the annex of the room document. Apart for this introductory section (Section 1), the room document is organized into 8 other sections as follows: objectives and scope (Section 2), main concepts and definitions (Section 3), items of data collection (Section 4), data sources (Section 5), survey design (Section 6), role of interviewers and ethical considerations (Section 7), data analysis and international reporting (Section 8) and global estimation and follow-up activities (Section 9).

2. Objectives and scope

The main objective of these guidelines is to encourage countries to test the conceptual framework for measuring forced labour. The use of common concepts and definitions for measuring forced labour should help test the validity of the framework in different settings and to identify areas of modifications and improvements where necessary. The testing should also help to assess the effectiveness of the methodologies in different national circumstances and to find ways to confront any unsuspected situations. Finally, and more importantly, the analysis of the results should permit the evaluation of the relevance of the statistical indicators for the monitoring of national policies and plans to eradicate forced labour in any form it manifests itself in different countries.

The experience of the ILO to date shows that the choice of data collection strategy depends on the form of forced labour to be measured and on the measurement objective. While the concepts and definitions may be identical, the statistical tools necessary to measure state-imposed forced labour may differ from those needed to measure privately-imposed forced labour. Similarly, there may be distinctions in the statistical approach of measuring forced commercial sexual exploitation or measuring forced labour in other particular sector of the economy.

In general, the proposed conceptual framework distinguishes among three broad measurement objectives: (a) the measurement of the prevalence of forced labour in a country at the national or more refined geographical level; (b) the measurement of the characteristics of forced labour to understand its nature and form; and (c) the measurement of the

prevalence and characteristics of forced labour in a particular sector of the economy or a specific population group.

(a) Prevalence: The measurement of the prevalence of forced labour requires a broad-based survey tool or a comprehensive set of administrative records that can provide accurate information on the number of persons in forced labour in the country with, to the extent possible, separate counts on women, children, migrant workers, and other population groups at risk. An important aspect of measuring prevalence is the assessment of trends and monitoring of the progress toward the elimination of forced labour. The statistical tools for measuring the prevalence of forced labour should therefore be robust and replicable to provide estimates of trends with sufficient accuracy to distinguish, at least, between progress and stalemate.

(b) Characteristics: The measurement of the characteristics of forced labour requires survey tools that can efficiently identify enough and representative numbers of persons in forced labour from whom valid information can be obtained on the nature and practice of forced labour they have experienced, in particular the recruitment process, the working and living conditions of the workers, and the circumstances of forced labour in which they are. The measurement of characteristics of forced labour involves not only quantitative data but also qualitative information on personal experience of persons in forced labour. Such information can provide valuable insight for understanding the process of forced labour and means of combating it.

(c) Sector: The measurement of the prevalence and characteristics of forced labour in a particular sector of the economy or among a specific population group requires innovative statistical tools that can cost-effectively target the sector or population of interest and obtain the necessary information in an accurate and ethical manner. While the particular sectors or population groups of interest may not be the same in all countries, the experience gained and the measurement approach tested in one country may be immensely instructive for another.

3. Main concepts and definitions

The ILO Forced Labour Convention, 1930 (No. 29) defines, in its Article 2, forced or compulsory labour for the purposes of the Convention as "all work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily." The essential elements of this definition are "work or service", "involuntary" and "menace of any penalty."

The main statistical challenge of the ILO has been to operationalize these elements so that forced labour can be measured and monitored in practical statistical applications. For forced labour to be statistically measured, its contour should be clear enough so that it can be identified in practice, for example, through direct observation or indirectly through its trace in court judgements or police reports or other similar administrative records or retrospectively through responses to specially designed questions administrated at the place of residence or place of work or other convenient locations. The following proposed definition of forced labour for statistical purposes has been developed after extensive field testing and

discussion with statistical and legal authorities and members of the Working Group on Statistics of Forced Labour mentioned earlier.

- Forced labour

For statistical purposes, a person is classified as being in forced labour if engaged during a specified reference period in any work that is both involuntary and under the threat or menace of a penalty.

(a) The *reference period* may be short such as last week, last month or last season, or long such as the past year, the past two years or the past five years. A short reference period may be appropriate where the concern is the measurement of forced labour among a particular category of workers. A long reference period may be appropriate where the concern is the measurement of forced labour among a general population group.

(b) *Work* is defined in line with the international standards concerning statistics of work, employment and labour underutilization adopted by the 19th International Conference of Labour Statisticians, 2013. It comprises any activity performed by persons of any sex and age to produce goods or to provide services for use by others or for own use. In certain circumstances, the scope of work for the measurement of forced labour may be broadened to include activities such as begging for third parties that go beyond the scope of production of goods and services covered by the general production boundary of the System of National Accounts (SNA).

(c) *Involuntary work* refers to any work taking place without the free and informed consent of the worker. Circumstances that potentially give rise to involuntary work include, inter alia, unfree recruitment at birth or through transaction such as slavery or bonded labour; situations in which the worker must perform a different job from that specified during recruitment without his or her consent; abusive requirements for overtime or on-call work that were not previously agreed with the employer; work in hazardous conditions to which the worker has not consented, with or without protective equipment; work with substandard or no wages; work under degrading living conditions linked to the job; work for other employers than agreed; work with a substantive change in job tasks than agreed; work for longer period of time than agreed; work with no or limited freedom to terminate work contract.

(d) *Threat and menace of any penalty* are the means of coercion used to impose work on a worker against his or her will. Elements of coercion may include, inter alia, threats or violence against workers or workers' relatives; restrictions on workers' movement; debt bondage or manipulation of debt; withholding of wages or other promised benefits; withholding of valuable documents (such as identity documents or residence permits); and abuse of workers' vulnerability through denial of rights or privileges, threats of dismissal or deportation.

(e) The measurement of forced labour of persons should not be limited to the context of an employer-employee relationship but also to other types of work relationships. It should thus cover all categories of workers including employers, independent workers without employees, dependent contractors, employees, family helpers, unpaid trainee workers, organization-based volunteers and other unpaid workers, as defined

in the Resolution concerning statistics on work relationships adopted by the 20th International Conference of Labour Statisticians, 2018.

In the case of children, the criterion of *involuntary work* of the statistical definition of forced labour of a person does not apply as the validity of "free and informed consent" of children is subject to legal interpretation.

Forced labour of children is defined as work performed by a child during a specified reference period falling under one of the following categories:

(i)   work performed for a third party, under threat or menace of any penalty applied by a third party (other than his or her own parents) either on the child directly or the child's parents; or

(ii)   work performed with or for his or her parents, under threat or menace of any penalty applied by a third party (other than his or her own parents) either on the child directly or the child's parents; or

(iii)   work performed with or for his or her parents where one or both parents are themselves in a situation of forced labour; or

(iv)   work performed in any one of the following worst forms of child labour: (a) all forms of slavery or practices similar to slavery, such as the sale and trafficking of children, debt bondage and serfdom, [as well as forced or compulsory labour,] including forced or compulsory recruitment of children for use in armed conflict; (b) the use, procuring or offering of a child for prostitution, for the production of pornography or for pornographic performances; (c) the use, procuring or offering of a child for illicit activities, in particular for the production and trafficking of drugs as defined in relevant international treaties.

The term *child* refers to any individual under 18 years of age at the time of measurement, in line with the United Nations Convention on the Rights of the Child and the ILO's Worst Forms of Child Labour Convention, 1999 (No. 182).

In cases (i) and (ii) of the definition, where the child is working for a third party or for or with his or her parents who are not in forced labour, the classification into forced labour depends only on the criterion of "threat or menace of any penalty imposed by a third party (other than their parents)".

When the child is working with or for his or her parents who are themselves in forced labour (case iii), "involuntary work" and "threat or menace of any penalty" of the parents are also conditions of the working child and the child is therefore also classified in forced labour as his or her parents.

Finally, when the child is working in one of the worst forms of child labour as indicated in case (iv), the conditions of "involuntary work" and "threat or menace of any penalty" are implicit and the child is classified as being in forced labour.

Schematic representations of the basic elements of the proposed statistical definition of forced labour of adults and children are shown in the following diagrams 1a and 1b:
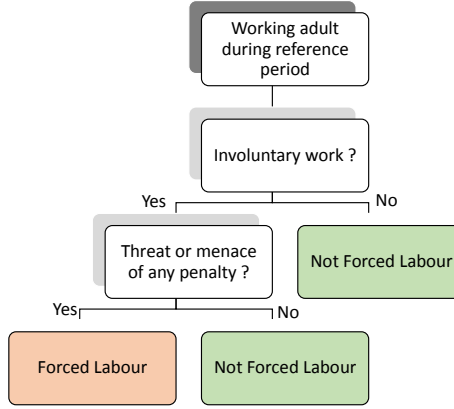
1a. Schematic representation of the statistical definition of forced labour of adults

Work = Any activity performed by persons of any sex and age to produce goods or to provide services for use by others or for own use
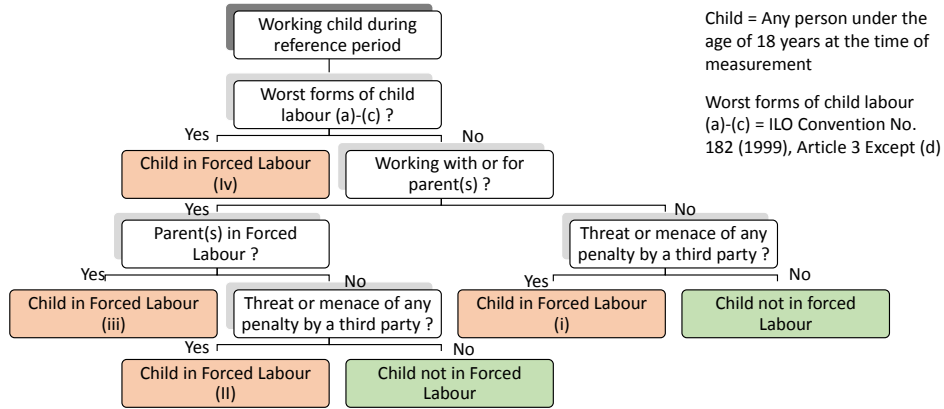
Involuntary work = Any work taking place without the free and informed consent of the worker

Threat or menace of any penalty = Any means of coercion used to impose work on a worker against his or her will

Reference period = Short such as last week, last month or last season, or long such as past year, past five years or lifetime

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                  Working adult
                  during reference
                  period

                  Involuntary work ?
        Yes                         No

   Threat or menace              Not Forced Labour
   of any penalty ?
  Yes              No

Forced Labour      Not Forced Labour
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1b. Schematic representation of the statistical definition of forced labour of children

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              Working child during
              reference period

              Worst forms of child
              labour (a)-(c) ?
     Yes                        No

Child in Forced Labour      Working with or for
        (Iv)                    parent(s) ?
                Yes                                  No

        Parent(s) in Forced                  Threat or menace of any
             Labour ?                        penalty by a third party ?
   Yes                   No              Yes                         No

Child in Forced      Threat or menace of any    Child in Forced     Child not in
Labour (iii)         penalty by a third party ? Labour (i)          Labour
              Yes                  No

       Child in Forced      Child not in Forced
       Labour (II)          Labour
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Child = Any person under the age of 18 years at the time of measurement

Worst forms of child labour (a)-(c) = ILO Convention No. 182 (1999), Article 3 Except (d)

It is clear from this definition that not all child labour, as defined by the 18th ICLS[7], is forced labour. Worst forms of child labour (a)-(c) are forced labour, but other forms of child labour may be forced labour only under certain conditions. It should also be mentioned that there are work activities of children that are forced labour but not otherwise child labour. This is the case, for example, of a teenager working short hours on a non-hazardous activity with his or her parents who are in forced labour. The child's activity, though not by itself child labour, is considered forced labour because of the fact that the parents are in forced labour.

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[7] ILO, "Resolution concerning statistics of child labour," adopted by the 18th International Conference of Labour Statisticians, Geneva, 2008.

- Forms of forced labour

Diagram 2 shows the decomposition of forced labour into "state-imposed forced labour" and "privately-imposed forced labour". Also shown are three main forms of forced labour, namely forced commercial sexual exploitation, bonded labour and trafficking for forced labour. The main forms of forced labour shown in the diagram are not exhaustive and not necessarily mutually exclusive. The diagram also shows forced labour of children cutting across all forms of forced labour. The different forms of forced labour are defined below for statistical purposes.

2. Main forms of forced labour

Forced labour

State-imposed forced labour

Private imposed forced labour

Forced commercial sexual exploitation

Bonded labour

Trafficking for forced labour

Forced labour of children
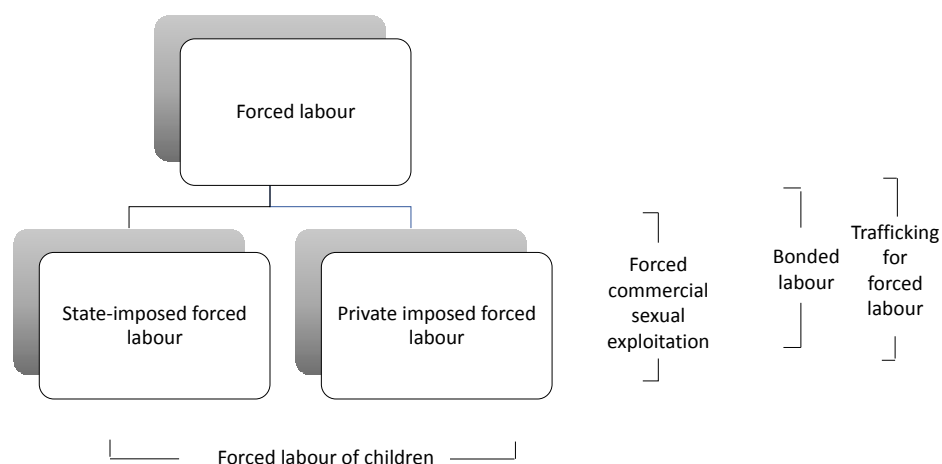
State-imposed forced labour refers to forms of forced labour imposed by State authorities, regardless of the branch of economic activity in which it takes place. It includes labour exacted by the State as a means of political coercion or education or as a punishment for expressing political views; as a punishment for participating in strikes; as a method of mobilizing labour for the purpose of economic development; as a means of labour discipline; and as a means of racial, social, national, or religious discrimination. While it is recognized that States have the power to impose compulsory work on citizens, the scope of these prerogatives is limited to specific circumstances, for example, compulsory military service for work of purely military character; normal civic obligations of citizens of a fully self-governing country and assimilated minor communal services; work or service under supervision and control of public authorities as a consequence of a conviction in a court of law; work or service in cases of emergency such as war, fire, flood, famine, earthquake, etc.

Privately-imposed forced labour refers to forced labour in the private economy imposed by private individuals, groups, or companies in any branch of economic activity. It may include activities such as begging for a third party, which, as noted earlier, go beyond the scope of production of goods and services covered in the general production boundary of the System of National Accounts (SNA).

Forced commercial sexual exploitation refers to forced labour in the private economy imposed by private individuals, groups, or companies for commercial sexual exploitation. It includes women and men who have involuntarily entered a form of commercial sexual exploitation, or who have entered the sex industry voluntarily but cannot leave it. It also covers all forms of commercial sexual exploitation of children including the use, procuring, or offering of children for prostitution or pornography irrespective of their consent.

Bonded labour is a form of forced labour in which the job or activity is associated with (i) an advance payment or loan from recruiters and/or employers to the worker or to his or her family members; (ii) a financial penalty, meaning that the terms of repayment are unspecified at the outset and/or in contravention of laws and regulations regarding the amount of interest or other repayment conditions, or the job or activity is under-remunerated (in relation to legal regulations or the labour market); and (iii) some form of coercion until a worker or family member has repaid the loan or payment advance.

Trafficking for forced labour. A person trafficked for forced labour is a victim of a form of crime in which the victim is recruited, transported, transferred, or harboured or received by certain means including coercion, deception or abuse of vulnerability for the purpose of exploitation in forced labour. When the victim is a minor, the means are irrelevant.[8] [The Statistical definition of trafficking for forced labour will be further elaborated in collaboration with UNODC.]

In addition, the concept of duration in forced labour is defined. It plays a central role in the harmonization of national statistics on forced labour derived on the basis of reference periods of different lengths. Duration in forced labour is also by itself an important indicator of forced labour, as it provides information that is relevant to assessing the degree of exposure to forced labour.

Duration in forced labour is defined as the total number of days or months a person was in forced labour during the specified reference period. Duration in forced labour may concern one or multiple spells of forced labour that occurred in the reference period. The complete spell of forced labour experienced by a person may have started before the specified reference period and may continue after the end of the specified reference period.

4. Items of data collection

The data collection initiatives on forced labour should provide the necessary information for accurate identification of persons in forced labour as well as for understanding the characteristics of forced labour in terms of its nature and form and for analysing the resulting statistics by different social and demographic characteristics of the population. The items of data collection may be grouped accordingly into data items on socio-demographic characteristics and data items on forced labour characteristics. The main items under each group are listed below. They are based on the experience gained by the ILO in conducting national and sector surveys on forced labour and reported in the ILO *Hard to see, Harder to count* publication.

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[8] https://www.unodc.org/documents/treaties/UNTOC/Publications/TOC%20Convention/TOCebook-e.pdf

- Socio-demographic characteristics
  - Sex
  - Age or date of birth
  - Marital status
  - Educational attainment
  - Place of residence (urban/rural area)
  - Migrant status
  - Country of birth
  - Country of exploitation
  - Occupation
  - Branch of economic activity
  - Status in employment

- Forced labour characteristics
  - Indicators of involuntary work
  - Means of coercion
  - Duration of forced labour
  - Recruitment process (such as how job was found, where recruitment took place, written or oral contract, type of information received at time of recruitment)
  - Working and living conditions (such as hours of work, income from work, social security coverage, paid sick leave, and paid annual leave)

Where measurement is focused on a particular sector of the economy or a given population group, the items of data collection should also include information on the specific features of the sector or population group of interest, in addition to the general items listed here. In certain cases, it may also be appropriate to collect data on forms of work and work relationships (employee, independent contractor, own-account worker, contributing family worker, etc.).

- Branch of economic activity

The classification of branch of economic activity for forced labour should to the extent possible be in line with the latest international standard industrial classification of all economic activities. A preliminary classification used in the ILO/Walk Free Foundation National Surveys on Forced Labour conducted in 27 countries as part of the Gallup World Poll 2016 covers the following major branches of economic activity:
  - Agriculture and forestry
  - Fishing; Mining and quarrying (in particular brick kilns)
  - Manufacturing
  - Construction
  - Wholesale and retail trade, repair of motor vehicles and motorcycles or cycles
  - Accommodation and food service activities
  - Military
  - Arts, entertainment and recreation
  - Prostitution and sexual exploitation
  - Drug production, sales and trafficking
  - Begging

- Personal services including massages, beauty parlours, etc.
- Domestic work
- Other activities

5. Data sources

Because forced labour is universally condemned and outlawed, its measurement poses great challenges of data collection and statistical analysis. Forced labour is a rare and isolated phenomenon with prevalence rate measured in units of one per thousand persons, and with relatively high concentration in particular pockets in certain countries. The rarity and unevenness of the phenomenon makes data collection on forced labour a complex task. Also, by its nature, forced labour is generally hidden, escaping in the most part administrative data sources and survey undertakings. Gaining access to persons in forced labour is typically difficult and, even where reached, the persons often fear reprisal and avoid giving truthful responses in surveys.

It is therefore crucially important to have some prior knowledge of the nature and spatial distribution of the phenomenon before deciding on the appropriate data collection strategy to measure forced labour. For this purpose, the national laws and other legal instruments that refer to forced labour, human trafficking, slavery, bonded labour, etc. should be reviewed, and the main stakeholders be identified including government ministries, trade unions, employers' organizations, human rights commissions, international organizations, religious leaders, non-government organizations, etc.

The review should also cover reports on rescued persons by local authorities, police forces, tribunal judgements, non-governmental organizations, deportation centres and other government or non-governmental institutions. The review of these sources supplemented by interviews with selected key informants should provide an initial understanding of the forms and magnitudes of forced labour, and its sectoral and geographic distribution in the country.

Such preliminary investigations should help to make choices on the appropriate data sources for the statistical measurement and monitoring of forced labour at the national level or among particular target groups. There are a number of ways to collect data on persons in forced labour: at the dwelling or household where they reside; at the enterprise or establishment or farm holding where they work; or through other places such as at the service provider where they go, the street where they work or live, the national border where they cross, or the news or document where they are reported. The main sources of data may be grouped into three broad categories: household surveys, establishment surveys and administrative records. Statistics of forced labour may also be compiled on a combination of these sources.

• Household surveys

If a single source is used, household-based surveys provide, in general, an adequate and comprehensive scope to collect statistics on both prevalence and characteristics of forced labour, and to cover, in principle, all workers living in regular households, including undocumented migrant workers and children below the legal age for admission in

employment. Household-based surveys on forced labour can be conducted independently as "stand-alone" surveys or special modules attached to existing national surveys. The strengths and limitations of household-based surveys for measuring forced labour can be generally described as follows:

Strengths
- Provided the sample size is sufficiently large and the households are selected with probability sampling, household surveys allow the calculation of national estimates of forced labour with prescribed margins of error.
- Household surveys allow the collection of additional data relevant for an analysis of the nature of forced labour, such as demographic characteristics, education, employment history, recruitment, hours of work, wages and working conditions.
- If adequately designed, the results of household surveys can be used to compare the situation of workers in forced labour with that of workers at large.
- Migrant workers who have been trafficked for forced labour can be sampled in the same way as any other residents.
- As household surveys address, in principle, all household members, data can be collected to assess the impact of forced labour on the children and relatives of the household.
- Because household surveys reach respondents in their living quarters, they are likely to feel freer to talk about their work experience than they would at their workplace in the presence of their employer or work colleagues.

Limitations
- Unless special provisions are made, workers living in non-regular housing such as units not covered in their workplace, in hidden accommodations provided by the employer or in non-registered dwellings will not be covered by the survey, thus producing survey bias.
- Because not all households have members in forced labour and depending on the sample design, the sample size may have to be very large, making some household surveys costly and complex to implement.
- It is difficult in household surveys to obtain information on households or household members who live and work abroad, unless it targets returned migrants. The characteristics of returned migrants may however differ systematically from those of other migrants.

- Establishment surveys

Data on forced labour can also be collected through establishments or the place of work of workers. Establishment-based surveys of forced labour may be suitable where the operators of the establishments are themselves the target of the study or where the study concerns a particular branch of economic activity or where measurement of forced labour may be inserted as part of a broader survey on a less sensitive topic. Also, if the employer agrees to be interviewed, it is possible to analyse the demand side of forced labour and have access to the administrative records and financial accounts of the establishment. Establishment surveys, like household surveys, have strengths and limitations as source of data on forced labour:

Strengths
- In establishment surveys, it is possible to analyse the demand side of forced labour where the employer agrees to be interviewed.
- Data can be collected not only through interviews but also through direct observation, and in certain circumstances through access to administrative records and financial accounts of the establishment, thus providing a rich source of information on the work environment and conditions of work.
- Where a sampling frame is available, the existence of auxiliary information makes it possible to target specific branches of economic activity.
- Because establishments tend to have a skewed distribution, with many small units and few large units, the survey can be stratified by size of establishments thus improving the efficiency of the survey.
- Provided the owner or operator of the establishment agrees, interviews can be conducted directly with workers. Persons in forced labour can thus be interviewed along with other workers present in the establishment and not be singled out for special attention.

Limitations
- Interviewing workers at their workplace on such a sensitive issue as forced labour may be difficult in practice. Employers may refuse access or the workers themselves may be reluctant to participate in the survey or to provide honest answers, even if interviewing takes place away from the actual work site. The fact that an employer knows that a survey is taking place may create a climate of fear and suspicion, and workers may be threatened or face possible retaliation for participating in it.
- Given the high turnover of establishments in many countries, the maintenance of up-to-date registers of establishments for sampling purposes may be complex and costly, especially in respect of the numerous small establishments.
- Establishments that rely exclusively on forced labour will most likely not be recorded in business registers because of its illegality, and therefore will not be accessible through conventional establishment surveys.

- Administrative records

Administrative records, such as lists of forced labour victims compiled by local authorities or police force, or by non-governmental organizations and other service providers, may provide useful sources of data for producing estimates of the prevalence of forced labour at relatively low cost. Administrative records on forced labour can also be combined with household-based or establishment-based surveys, for example, as multiple sampling frames for direct selection and interview of workers at their place of residence or work, or as information for targeting area frames for indirect selection of households and establishments. In all circumstances, it is important to ensure that the units reported in the administrative sources satisfy the criteria of the international definition of forced labour.

In countries where administrative records on persons in forced labour or persons potentially in forced labour are available or can be constructed based on governmental reports and data files of non-governmental organizations, the information may be used to estimate under certain assumptions the total number of persons in forced labour including those not

reported in any of the administrative sources (the "dark figure"). A methodology draws on capture-recapture sampling and analyses the overlap between the reported cases in the different administrative files and draws conclusions on how many persons in forced labour there should have been in the total universe to enable finding the observed pattern in the available sources. A generalized version called Multiple Systems Estimation (MSE) has been applied to estimate the number of victims of modern slavery in the United Kingdom[9] and human trafficking in the Netherlands[10].

The essential elements of the UK methodology are described below. The data are obtained from six lists compiled by the National Crime Agency, known as NCS Strategic Assessment, from different administrative sources: Local Authority (LA); Police force (PF); Government Organization, mostly Home agencies, e.g., UK Border Force, Gangmasters Licensing Authority (GO); Non-governmental organization (NG); National Crime Agency (NCA); the general public, through various means (GP). Altogether, the six lists identified 2,744 potential victims of modern slavery, some appearing on two, three or four lists as shown in the tabulation below.

Analysis was carried out to identify the log-linear model that best fitted the data assuming a Poisson distribution. It was found that PF and NCA could be combined into a single list and the model that best fitted the five-list data contained six of ten possible interactions: LA*NG, NG*GP, PF*GP, LA*PF, GO*GP and NG*GO. The resulting estimate of the total number of potential victims of modern slavery in the UK was 11,313 with standard error 802. The methodology of MSE is based on a number of assumptions that need verification for adequate application. Also, the implementation of the methodology requires certain care for proper interpretation of the results.

[9] Kevin Bales, Olivia Hesketh and Bernard Silverman, *Modern Slavery in the UK. How many victims?*, Significance, June 2015.

[10] UNODC, "A multiple system estimation of the numbers of presumed human trafficking victims in the Netherlands in 2010-2015 by year, age, gender, form of exploitation and nationality," United Nations Office on Drugs and Crime, Research brief, 2017.

3. Multiple Systems Estimation (MSE) of modern slavery in the UK

Six lists derived from the UK National Crime Agency (NCS) Strategic Assessment

LA	NG	PF	GO	GP	NCA	n	LA	NG	PF	GO	GP	NCA	n
x						54			x	x			69
	x					463			x		x		10
		x				907			x			x	31
			x			695				x	x		8
				x		316				x		x	6
					x	57					x	x	1
x	x					15	x	x	x				1
x		x				19	x	x			x		1
x			x			3		x	x	x			4
	x	x				56		x	x			x	3
	x		x			19			x	x		x	1
x				x		1	x	x	x	x			1
	x				x	3				Grand total = 2744			

Source: Kevin Bales, Olivia Hesketh and Bernard Silverman, *Modern Slavery in the UK. How many victims?*, Significance, June 2015. [25]

Assumptions

- One crucial assumption of MSE is that the various lists can be regarded as samples of the sample population, a closed population with no "births" and "deaths". One way to verify this assumption is to ensure that the lists refer to the same period of time and are compiled with the same criteria of inclusions and exclusions.
- For the results to be meaningful, the common population from which the lists are regarded as samples should refer to the target population of the study, with no measurement errors. In the present context, this means that the criteria of inclusions and exclusions should be in line with the criteria of "involuntariness" and "menace of penalty" embedded in the ILO definition of forced labour. Also, individuals should be uniquely labelled or identifiable so that their presence or absence in each of the lists can be determined.
- To the extent possible, the lists should be compiled in such a way that the application of the MSE methodology permits separate measurement of the different types of forced labour (forced labour for commercial sexual exploitation, forced labour for other economic exploitation, and state-imposed forced labour), preferably with breakdowns by sex and age group. For this purpose, it may be necessary to stratify the lists by relevant dimensions.
- Because MSE is based on administrative records, it is expected that the methodology be less costly than a national survey of the kind described earlier. But given that the required administrative lists are not always available outright, without further processing and compilation, its hidden cost may actually be more than it appears. It would therefore be instructive to evaluate the cost-efficiency of MSEs versus national surveys for equal-quality and equal-quantity outputs. It may turn out that MSEs are more appropriate in countries where prevalence of forced labour is very low, and national surveys in countries where prevalence is relatively high.

- Other data sources

Other approaches of data collection include data collection at places of gathering of workers (such as street surveys, cross-border surveys, or surveys at service providers) or at places specifically designated for survey interviewing (such as surveys based network sampling and response-driven sampling).

Forced labour data can also be collected using qualitative methods or a combination of qualitative and qualitative methods. Qualitative methods may be particularly appropriate for understanding and obtaining information on the nature, causes and consequences of forced labour, especially for extremely hard-to-reach populations. Qualitative methods may also be particularly useful to obtain preliminary information for designing and implementing subsequent quantitative surveys.

6. Survey design

Survey design includes sample design and questionnaire design. The experience of the ILO in measuring forced labour in different national and sectoral contexts indicates that where measurement is based on surveys, data collection at the place of residence of workers or other convenient locations away from the place of work is more amenable to the administration of the sensitive survey questions and leads to more reliable survey results than data collection at the place of work.

Designing surveys at the place of residence of workers (household-based surveys) does not, however, mean ignoring available information on the place of work of workers. Experience has shown that the judicious use of administrative records and establishment-based information can substantially improve the efficiency of the sample design of household-based surveys on forced labour. This section describes the experience of the ILO in sample size requirement, oversampling areas of concentration; target sampling of households or individuals of interests; and questionnaire design.

- Sample size requirement

The sample size requirement of a survey depends on a number of factors and, in particular, on the measurement objective of the survey and the acceptable degree of precision of the resulting estimates. If the measurement objective is to estimate the prevalence of forced labour in a given population, the sample size should be sufficiently large to adequately represent the *total population*. On the other hand, if the measurement objective is to estimate the characteristics of forced labour, the sample size should be sufficiently large to adequately represent the *forced labour population*, a much smaller population than the overall population and thus involving a much more difficult task than that of measuring prevalence. Accordingly, it is more appropriate to express the sample size requirement for surveys of prevalence in terms of number of households and for surveys of characteristics in terms of number of persons in forced labour.

Table 4 presents typical values of sample size requirements on household-based surveys for measuring the prevalence rate of forced labour with specific margins of errors by degree of

geographic concentration of forced labour. The calculations assume a multi-stage sample design where the first-stage sampling units are geographical areas and the ultimate-stage units are household members with an average household size of 5 persons per household. The true prevalence rate is set at 0.006, the world average, and the desired degrees of precision of the estimate are expressed in terms of the margin of error, defined as twice the standard error, the standard error being the square-root of the variance of the estimate. The degree of geographic concentration of forced labour is measured in terms of design effect. The design effect is the variance of the estimate under a given sample design relative to the variance that would have been obtained under simple random sampling. In area sampling, the design effect reflects the geographical concentration of the phenomenon under measurement: the design effect for an evenly spread phenomenon is 1, while for a highly concentrated phenomenon it may be very high, e.g., 5 or even 10.

4. Typical sample size requirements for estimating the prevalence rate of forced labour, expressed in terms of number of households

Degree of geographic concentration of forced labour	Design effect *Deff*	Margin of error of estimate			
		+/-0.006	+/-0.004	+/-0.002	+/-0.001
No concentration	1	130	300	1,210	4,830
Low concentration	1.5	200	450	1,810	7,240
Mid concentration	2	270	600	2,410	9,660
High concentration	5	670	1,510	6,040	24,140
Very high concentration	10	1,340	3,020	12,070	48,290

Looking at the second column from the right, the results indicate that to achieve a mid-level margin of error of +/-0.002 in the estimation of the prevalence rate, the required sample size is about 1,210 households when the design effect is 1, corresponding to the situation where there is no particular concentration of forced labour in the population. Where there is some degree of concentration, corresponding to design effects in the range of 1.5 to 2, the required sample size is about 1,810 to 2,410 households. In situations of high or very high concentration of forced labour, corresponding to design effects of 5 or 10, the required sample size would be much higher, about 6040 to 12,070 households, to achieve the same level of margin of error.

The other columns of table 4 give the required sample size for achieving lower or higher levels of margin of error of the estimate of the prevalence rate. If a high margin of error is acceptable, the required sample size may be as low as 130 households when forced labour is evenly spread over the country. On the other hand, if a very low margin of error is demanded and forced labour is highly concentrated, the required sample size could be as high as 48,290 households.

An alternative approach to sample size determination is formulated in terms of the degree of confidence that one would like to ensure in correctly detecting changes in the prevalence rate over time. To fix ideas, suppose the goal is to decrease the number of persons in forced labour by half within the next five years. Then, one can formulate the sample size requirement as follows: what should be the sample size necessary to be 95% certain of detecting a 50-percentage change in the prevalence rate while accepting a 20% chance of making a false-change error (i.e. concluding that a change took place when it really did not)?

As a numerical illustration, suppose $p_1=0.006$ is the presumed current prevalence rate of forced labour and $p_2=p_1/2=0.003$ is the target in five years. If one accepts a 20% chance of making a false-change error, it means that the test of the null hypothesis $p_1=p_2$ against the alternative hypothesis ($p_1>p_2$) should have a power of 80%. Let n be the sample size. The level of significance of the test is given by[11]

$$alpha = pbinom(k,n,p_1=0.006)$$

where pbinom is the distribution function of the binomial distribution and k is the rejection criterion

$$k = qbinom(0.05,n,p_1=0.006)-1$$

qbinom being the quantile function of the binomial distribution. The power of the test for $p_2=0.003$ is then given by

$$power = pbinom(k,n,p2=0.003)$$

Based on these quantities, one can calculate that the smallest sample size n for which the test with alpha<0.05 has power>0.80 is

$$n = 3441$$

It should be mentioned that these calculations are based on the assumption of simple random sampling from a binomial distribution. In practice, the measurement of forced labour in surveys requires more complex sample designs. This means that the sample size n needs to be multiplied by the corresponding design effect which may be 2, 3, 4 or even higher.

Where the survey objective is the measurement of characteristics of forced labour, the precision requirement may be lowered and the sample size requirement may be calculated, as mentioned earlier, in terms of the number of persons in forced labour that should fall in the sample to achieve the prescribed precision requirement. Table 5 calculates the sample size requirement for different levels of margin of error under the assumption that the characteristic under measurement is evenly split and evenly spread among the persons in forced labour.

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[11] Hanlon, Bret and Bret Largest, "Power and Sample Size Determination", Department of Statistics, University of Wisconsin, Madison, November 3-8, 2011. http://www.stat.wisc.edu/~st571-1/10-power-2.pdf

5. Typical sample size requirements for estimating percentage of forced labour characteristics, expressed in terms of number of persons in forced labour

Margin of error of estimate	Required number of persons in forced labour in sample
+/-0.10	100
+/-0.05	400
+/-0.04	625
+/-0.03	1,100
+/-0.02	2,500
+/-0.01	10,000

The results show that for estimating the percentage of forced labour characteristics with a margin of error of 10 percentage point, the sample should include at least 100 target units, i.e. persons in forced labour. For a lower margin of error of 5 percentage points, the sample size requirement is higher, at least 400 target units. For a margin of error of 4 percentage points, the sample should contain at least 625 target units and so on. These calculations show that the order of magnitude of the sample size measuring forced labour characteristics is in the hundred target units, ranging from 400 to 1,100, for mid-level margins of error.

- Oversampling areas of concentration

In multi-stage sampling of households, the primary sampling units (PSUs) are generally formed by area units such as census enumeration areas. In such a setting, the main challenge where there is an uneven concentration of the target population among the area units is to try to identify the areas of concentration and to oversample them by assigning higher probabilities of selection to areas of concentration relative to other less concentrated areas.[12] This requires prior information on the areas of concentration which can be obtained by various means, for example, the use of relevant auxiliary data or by expert knowledge on the phenomenon in question or by especially designed pilot studies. The feasibility of the procedure depends also on the nature of the forced labour survey, that is whether it is conducted as an independent stand-alone survey or as part of an existing one with its own sample design.

Table 6 lists several methods of oversampling areas of concentration. Method (1) may be applied where the area sampling frame contains auxiliary variables correlated with forced labour. Examples may be the number of internal or international migrants according to the latest population census, or the number of domestic workers or other workers in vulnerable branches of economic activity. The auxiliary variable can then be used alone or in combination with other measures of size (such population or number of households) in calculating the probabilities of selection of the area units under sampling with probability proportional to size (pps sampling).

Method (2) consists of grouping areas of concentration of forced labour on available information as separate strata, and oversampling these strata relative to others. The information may be partial, for example, simply knowing that area units in certain parts of

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[12] Verma, Vijay, *Sampling elusive populations: Applications to studies of child labour*, ILO Department of Statistics and FPRW/International Programme on the Elimination of Child Labour, 2013.

the country have relatively more concentration of forced labour, certain other parts less and the remaining parts very little or none. Then the sample size may be allocated disproportionally among the strata, and sample selection be carried out with higher probabilities of selection in strata of concentration relative to strata of lower or no concentration.

6. Five methods of oversampling areas of concentration depending on the availability of auxiliary information

Method (1)	PPS sampling with probabilities proportional to degree of concentration of area units if relevant information available in the area frame
Method (2)	Forming strata of concentration and disproportionately sampling the high concentration strata
Method (3)	Merging neighboring area units known to have high concentration and assigning them the sum of the selection probabilities of their components
Method (4)	Ranking the area units by broad categories of concentration and using the ranks in giving each area unit a score equal to its rank
Method (5)	Indirect sampling from a list frame linked to the area frame, e.g. list of establishments or plantations in the target branch of economic activity

Method (3) may be considered where forming strata concentration is not feasible because the forced labour survey is part of a broader survey, for example, a labour force, with its own measurement objective and sample design. In such situations, it may be acceptable to merge neighboring PSUs of higher concentration of forced labour in the first stage sampling of the broader survey and assigning them the sum of the probabilities of selection of their components. This simple method may be efficient in boosting the sample size for forced labour measurement.

Method (4) may be applied where it is possible to rank all units (PSUs) in the area frame according to the perceived rank of concentration of forced labour. Each PSU is then given a score equal to its rank. The score is 1 if the PSU is ranked the least concentrated, 2 if it is ranked the next lowest, and so on. The PSU with the highest concentration of forced labour gets the maximum score. Ties get the same score. The sample PSUs are then selected by pps sampling with measure of size defined as the product of the score and the population size of the PSU or the number of households in the PSU.

Method (5) may be considered where the available sampling frame is a list frame linked to the area frame. An example is the situation where the available sampling frame is a list of establishments or plantations on which the prevalence of forced labour is to be measured without surveying workers at the establishments or plantations in which they work. First, a sample of establishments or plantations is drawn from the available list frame. Then the sample establishments or plantations are linked to the area units in which they are located. The households in the linked area units are finally sampled and interviewed for the forced labour survey. The weight share method of indirect sampling accounts for situations where there are more than one establishment or plantation linked to the same area unit or where the selected sample area is linked to more than one establishment or plantation in the list frame. The methodology may be further improved by accounting for areas of concentration

not linked to any establishment or plantation in the list frame. This approach has been adopted in the employment survey of palm oil plantations in Malaysia, 2018.[13]

- Target sampling of households or individuals of interest

Major gains in efficiency could be achieved in multi-stage sampling designs, if oversampling of area units was followed by well-targeted sampling at subsequent stages, particularly in the ultimate stage when sample households or individuals are being drawn. Three methods of target sampling of households or individuals of interest, listed in Table 7, are described below.

7. Three methods of target sampling of households or individuals of interest

Method (a)	Screening before the ultimate stage sampling of households or individuals
Method (b)	Adaptive cluster sampling of households of interest
Method (c)	Respondent-driven sampling of individuals of interest

Method (a) consists of using the listing operation of the penultimate stage of sampling of multi-stage sample surveys of households to screen households of interest for target sampling at the ultimate stage of the sample selection. The main purpose of listing in conventional multi-stage sample designs is to update the sampling frame, taking into account population movements and new household formations that may have occurred since the last preparation of the sampling frame, including newly constructed buildings with living quarters, taking into account demolished or vacant buildings, or transformed dwellings no longer used as living quarters, such as dwellings turned into stores or workshops, or living quarters used as secondary housing units or for summer holidays.

The listing operation may be used to screen households of interest for target sampling. In the present context, this means identifying households with workers in the particular branch of economic activity or occupation category of interest or households with members in vulnerable groups that could have been in forced labour, for example, returned migrants from certain countries. The methodology involves the collection of information on each household in the area sample so as to classify it into one of the two categories, say, category C (Households reporting positively to the screening question); and category D (Households reporting negatively to the screening question) and counting the number of households in each category C and D. The counts are then used in the ultimate stage of sampling to sample the households in category C (households of interest) with a higher probability of selection relative to households in category D (households less likely to be of interest).

Method (b) is meant to reduce the cost of screening when there is information that households of interest tend to be living near each other. Adaptive cluster sampling refers to a sampling design in which an initial set of units is selected by some probability procedure, and whenever the variable of interest of a selected unit satisfies a given criterion, additional units in the neighborhood of that unit are added to the sample. In the present context, the

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[13] ILO, "Employment Survey in Palm Oil Plantations in Malaysia: Sample and Questionnaire Design", Draft report by Farhad Mehran, ILO Consultant, and Federico Blanco, ILO FUNDAMENTALS, Geneva, 10 May 2018.

efficiency gains of adaptive cluster sampling result from having to screen fewer households for the same number of households as would be identified had adaptive cluster sampling not been used. A version of the methodology has been used in several European countries as part of the Second European Union Minorities and Discrimination Survey.[14]

In the EU survey, the design provided for four core addresses randomly selected in each sample area. If a core address was found to contain eligible members of the target population, the interviewer was instructed to screen the two neighbouring addresses on either side of the core address, and the process continues until a stopping rule is reached. The adaptive chain stops if the interviewer reaches a neighbouring address that did not contain anyone who was eligible, or if eligibility could not be established, or if another core address is reached. To improve the efficiency of the field operations, the EU survey also established a dropping rule so as to avoid excessive screening in area units with no or very few target units. In adaptive cluster sampling, the sampling weights should be appropriately adjusted to take into account the multiple ways that a household may be selected. The EU survey considered further weight adjustments to take into account the fact that in many cases addresses were not successfully screened for eligibility, and the full length of the adaptive chains was not always established where the fieldwork was stopped in the area upon reaching the set maximum number of interviews.

Method (c) may be considered when the households or individuals of interest do not necessarily live next to each other, but they are related to each other through a peer relationship, i.e. they know each other like a person in forced labour who may know another person in that situation as they work together in the same occupation or the same branch of economic activity. The methodology, called respondent-driven sampling, is designed to sample hard-to-reach populations through their social network. Sampling begins with a set of initial participants who serve as 'seeds', and expands in waves through selection (or recruitment) of other members of the target population under a specific protocol of coupons and incentives. Statistical theory shows that after many waves of sampling, the dependence on the initial sample is reduced and the final sample may essentially be treated as a probability sample.

The ILO, in collaboration with DSP-groep, an institute for policy research and innovation based in Amsterdam, The Netherlands, and staff and volunteers of FairWork, an Amsterdam-based NGO providing services for migrant workers, conducted a pilot study in 2016 to assess the feasibility of response-driven sampling for reaching Bulgarian migrant workers in the Netherlands and to explore whether or not the survey method could provide insights into the nature of labour exploitation, in sectors most involved in exploitative practices. [15] The main conclusion of the study was that respondent-driven sampling is a demanding method of sampling requiring strict control of survey operations, and to be effective it should start with a sufficient number of well-chosen seeds to reach different parts of the target population and reflect its diversity. Given the theoretical strength of the

[14] European Union Agency for Fundamental Rights, *Second European Union Minorities and Discrimination Survey, Technical Report*, EU-MIDIS II, Luxembourg, 2017.

[15] Manja Abraham and Jan van Dijk, "Measuring forced labour victimization among Bulgarians in the Netherlands. A pilot study", DSP-groep, Amsterdam, December 2016.

methodology, it would be instructive to further test it in collaboration with a national statistical office and at an appropriate stage of a multi-stage sample design, such as a national labour force survey.

- Mode of data collection and questionnaire design

From the ILO experience in measuring forced labour with surveys emerged a number of general guidelines concerning modes of data collection and questionnaire design, in particular,

(a) Data collection at the place of residence or other convenient locations away from the place of work. Evidence showed that the workplace is not an appropriate location to interview workers on items related to forced labour. Workers tend to avoid participation in the survey and if they do participate, they are often reluctant to provide honest answers in fear of reprisals by the manager or employer.
(b) Face-to-face interviewing. Cognitive studies carried out prior to the forced labour modules implemented as part of Gallup World Poll indicated that that the forced labour module could not be effectively administrated with other modes of data collection such as telephone interviewing or interviewing by mail.
(c) Self-response. The ILO/WFF analysis of the results of the Gallup surveys on forced labour showed that the prevalence rate of forced labour differed considerably if the data were obtained by the person himself or herself (self-response) or by another household or family member (proxy response) as shown in the following table. The large effect of proxy response is likely to reflect the fact that the respondents have limited information on the sensitive part of the work experience of other family members.

Family relationship with respondent	Prevalence rate per '000
Total	**4.64**
- Self	10.41
- Spouse/partner	5.21
- Son or daughter	1.19
- Father or mother	2.87
- Brother or sister	2.16

(d) Treatment of refusals and don't knows. The ILO/WFF analysis of the Gallup surveys also showed that refusals to reply to certain sensitive questions or replies given as "don't know" are generally not neutral and hide a reluctance to divulge information on a situation deemed painful or delicate.
(e) Questions sequence on prevalence. The ILO is attempting to develop a model questionnaire for measuring the prevalence of forced labour. A recent version includes the following sequence of questions:

Q01	How did you find this job?
Q02	Where were you recruited?
Q03	Did you incur a debt or make an advanced payment to obtain this job? Plan for reimbursement?
Q04	Did you sign a contract?
Q05	At the time of recruitment, did you receive information about …? 1. Type of job you would be doing 2. Working hours 3. Working conditions 4. Wages 5. Length of time you would be in this job
Q06	Are you performing any activity in your job, or is there any condition of work to which you did not agree?
Q07	If you decide to stop working with this employer, can you leave without repercussions?
Q08	What are you risking if you leave your current employer?
Q09	Have you actually received a threat or experienced such a menace? Please describe.
Q10	How long have you been in this situation?

(f) Importance of verbatim information. The analysis also showed that an effective tool for improving the interpretation and accuracy of the data on forced labour is the collection of additional information in the form of verbatim statements describing the circumstances of forced labour experienced by persons in forced labour such as the following open-ended question used in 27 of the Gallup surveys conducted in 2016:

> Q. You mentioned that […] was forced to work by an employer or recruiter. Can you tell me in your own words how the employer or recruiter kept […] from quitting that work? (Open ended question) (Probe if necessary) Anything else?
> (Write all responses verbatim and then code)

The information was used to recode the answer categories of the earlier closed question on means of coercion. The information proved also extremely valuable for understanding the circumstances that were experienced by the persons in forced labour.

7. Role of interviewers and ethical rules

Where data on forced labour are collected by face-to-face interviews, the role of interviewers is of crucial importance as interviewers constitute the point of contact with the respondent and the source of information. The workload of interviewers and their training programme should be carefully planned so that the performance of the interviewers in their face-to-face data collection is of the highest level.

Interviewers should also be trained for the particular aspects of data collection on forced labour, namely the importance of avoiding the use of words such as forced labour and trafficking during interviews, making clear from the outset that the objective of the survey is research thus avoiding false expectation from participation in the survey. As some respondents may nevertheless discuss their personal situation and seek help, it is necessary that interviewers be familiar with national laws relating to forced labour and trafficking, especially with regard to complaints procedures and victims' rights. They should also be

receiving instructions during training on what to do in this type of situation, including familiarity with systems of referrals so as to be ready to indicate some kind of solution or intervention to assist workers in distress.

Given that in virtually all countries the exaction of forced labour is a crime, discussing the issue with workers and asking questions about it may endanger respondents and interviewers, with ramifications to the perpetuators who may be the recruiters, other intermediaries, employers or people hired by employers. It is thus fundamental to take all the necessary precautions so that the survey does not entail negative repercussions on the people involved in the survey. Both interviewers and interviewees need to be protected and feel safe in their participation in the survey. The ILO has developed a set of rules to be respected in survey operations addressing adults and children. They are listed in the ILO manual *Hard to see, harder to count,* and reproduced below:

- The interviewer must find a safe, neutral place for the interview. The adult respondent should normally be alone; he or she may feel more able or more at ease to answer questions truthfully without the presence of witnesses, as even close relatives may be unaware of the real working conditions. However, if the worker asks for others to be present, the interviewer should agree. It is essential to make sure that no employer, supervisor or guard can overhear the conversation; if this is not possible, the interviewer can either skip potentially sensitive questions or note down the fact that the interview took place in the presence of the employer or supervisor.
- Words relating explicitly to forced labour and trafficking should not be using during the interview. Since some respondents may be aware that courts can award compensation to victims of trafficking or forced labour, it is essential to make it clear at the outset that the objective of the survey is simply research so that no false expectations are raised.
- Some interviewers may encounter workers in very dangerous situations who need immediate help. The interviewers should have been instructed during their training what to do in this type of situation and must be ready to indicate some kind of solution or intervention to assist workers in distress.
- Some workers may take the opportunity of meeting someone from the outside to seek help, or to ask where they can make a complaint. Interviews should have with them cards that are easy to distribute discreetly and that provide the addresses or phone numbers of government or non-government offices (including medical centres) in the area that can provide appropriate support for the workers.
- If preliminary research has revealed that women and girls are victims of sexual violence or are being forced into prostitution, or that there are restrictions on freedom imposed on women/girls in general, special attention should be given to having women in the teams of interviewers.
- Interviewers must be familiar with national laws relating to forced labour and trafficking, especially with regard to complaints procedures and victims' rights.
- Interviewers may be threatened upon entering a village or the vicinity of an enterprise or farm. Their training should include procedures for immediately leaving an area in case of danger, and they should be equipped with mobile or satellite phones to be able to contact their supervisors at any point during their work.
- During the interview, workers may sometimes start talking freely about their experience of forced labour and may describe means of coercion, threats or penalties that are not

listed in the questionnaire. It is very important to let workers talk freely and to note down these aspects discreetly.
- Given the possible danger to which interviewers may be exposed, they must have the option to withdraw from the survey at the end of the training period without suffering any penalty, if they feel that the task may be too risky for them.
- There is a possibility, as with all surveys, that adult or child respondents may ask for cash or presents in exchange for the time they spend being interviewed. The appropriate response to such requests needs to be discussed and agreed during training, and clear rules be laid down and strictly adhered to by researchers in the field. It is common practice to give respondents some awareness- or health-related items, or some light refreshment, but remuneration in cash is not recommended. In any event, the duration and timing of the interview should be such that it causes the least disruption possible to the work or daily schedule of the respondent.

Additional rules for the interviewing of children:
- The place of the interview (living quarters, workplace or a neutral location) should be selected in the best interests of the child, the choice of being guided by considerations of privacy.
- The time of day when the interview takes place is crucial. If it takes place during working hours, interviewers should make sure that the child will not be penalized for the work not done because of the interview. If it takes place outside working hours, interviewers must bear in mind the child's need for rest after a day's work.
- The notion of "informed consent" is central to all surveys. In the case of forced labour, which children may not be aware of, they have the right to be informed of the objectives and possible outcome of the research. This can be done without using the terms "forced labour" or "trafficking" as such. Instead, sections of the questionnaire can be presented in simple terms, for example: "We are now going to talk about why you work here, how you happen to be working for this person." If the forced labour is taking place in a family context, the parents should also consent to the interview.
- The "right to say no" applies to both adults and children. But children are probably used to obeying adults without question or may be afraid to say no. Interviewers must be trained to explain to children that they really are free to refuse to participate or to answer certain questions.
- As the survey will raise issues of possible coercion and violence by employers, some children may be overwhelmed with emotion and start crying or suddenly stop talking. They may also talk about highly abusive or dangerous conditions, in which case the interviewer should be prepared to indicate some psychological, medical or social assistance, or even to remove the child from the place if they believe that he or she is in immediate danger. This course of action must be carefully planned during the training.
- Should a child be found in a situation of forced labour, but not be at immediate risk, the interviewer must similarly be prepared to indicate effective assistance, by referring him or her to local service providers and ensuring that he or she is not put in danger during this process."

8. Data analysis and international reporting

- Data analysis

The main statistics of forced labour are the prevalence and prevalence rate of forced labour. The prevalence of forced labour refers to the number of persons who experienced forced labour during the specified reference period for measurement. The prevalence rate of forced labour is the ratio of the prevalence of forced labour to the base population for which the measurement is made, expressed generally per one thousand persons.

When measuring the national prevalence rate of forced labour, the base population is total population of the country during the specified reference period, covering both the working age population and the children population below the working age. When measuring the prevalence rate of forced labour in a particular population group, the base population is the total number of persons in that population group. When measuring the prevalence rate of forced labour in a particular branch of economic activity or a specific occupation category, the base population is the total number of workers in that branch of economic activity or that occupation category.

In general, the statistics of forced labour should be reported by sex and age group distinguishing at least between children below working age and adults at or above working age, and where feasible, by other social and demographic characteristics such as migrant status, country of citizenship, branch of economic activity and occupation category. To the extent possible, the data on forced labour should include quantitative information on duration in forced labour, means of coercion, nature of involuntary recruitment, nature of involuntary work and type of impediment to leaving the work. Where relevant, the prevalence of forced labour should be separately measured for the two main components of forced labour, namely privately-imposed forced labour and state-imposed forced labour. Also, where relevant, separate measurement should be made on forced commercial sexual exploitation, trafficking for forced labour, bonded labour, and the data analyzed by age.

- International reporting

Given that the prevalence and prevalence rate of forced labour depend on the length of the reference period, and that countries may use reference periods of different lengths depending on national circumstances and measurement objectives, it is advisable, for the purpose of international comparability, to convert the statistics of prevalence of forced labour to a standard measure that does not depend on the length of the reference period used for the survey. One possibility would be to fix a standard reference period (for example, one year) to which national statistics on forced labour should comply for international comparison purposes.

Such an approach would, however, be inadequate when the national statistics on forced labour refer to a particular branch of economic activity or occupation group. These statistics are generally based on a short reference period such as a week, and their extension to a longer reference period such a year is problematic, both conceptually and practically. An alternative approach is to base the standard measure of forced labour for international

comparison purposes on the notion of "instantaneous prevalence of forced labour", i.e. the number of persons in forced labour at a given time during the specified reference period. The instantaneous prevalence of forced labour can be obtained by multiplying the prevalence of forced labour during the specified reference period with the average duration of forced labour expressed as a fraction of the length of the reference period. A numerical example illustrates the process.

Suppose the prevalence of forced labour of a given country A is measured over a reference period of 5 years and the resulting statistics give the figure of 20,000 persons who experienced forced labour in that five-year period and the average duration of forced labour experienced by the persons in forced labour during the five-year period was 1 year. Then the instantaneous prevalence of forced labour is calculated by multiplying the five-year prevalence figure with the average duration of forced labour expressed as a fraction of the five-year reference period,

$$instantaneous\ prevalence = 20{,}000 \times \frac{1}{5} = 4{,}000$$

This means that while there were 20,000 persons in forced labour during the five-year reference period, on average there were 4,000 persons in forced labour at any given time during that period.

The data and the calculations for country A are shown in the first column of the following table. The second column shows the corresponding calculations for country B where forced labour is measured over a one-year reference period. The calculation shows that the five-year prevalence rate of forced labour in country A is 2 per thousand (20,000 persons in forced labour for a country with the population of 10 million inhabitants). The corresponding calculation for country B shows that the one-year prevalence rate of forced labour in that country is 1.6 per thousand inhabitants, suggesting that the prevalence of forced labour in country B is slightly lower than in country A.

8. Calculation of instantaneous prevalence rate of forced labour and international comparison

		Country A	Country B
1	Population	10,000,000	25,000,000
2	Prevalence of forced labour	20,000	40,000
3	Prevalence rate of forced labour	2 per thousand	1.6 per thousand
4	Reference period	5 years	1 year (12 months)
5	Average duration of forced labour during reference period	1 year	6 months
6	Average duration as fraction of reference period	0.2 (=1/5)	0.5 (=6/12)
7	Instantaneous prevalence of forced labour	4000 (=0.2x20000)	20000 (=0.5x40000)
8	Instantaneous prevalence rate of forced labour	0.4 per thousand	0.8 per thousand

The comparison is, however, misleading as the reference periods of the measurement in the two countries differ. The two countries also differ in the duration of forced labour experienced by the persons in forced labour. In country A, the average duration of forced labour during the five-year reference period is 1 year, i.e. one fifth or 0.2 of the length of the reference period. In country B, the average duration of forced labour during the one-year reference period is 6 months, i.e. 0.5 of the length of the reference period.

Taking into account the differences in the length of the reference periods and the average duration of forced labour in the calculation of the instantaneous prevalence rates, the results show that, in fact, the comparable prevalence rate of forced labour in country B is twice as high as in country A. There are on average 0.8 persons in forced labour per one thousand inhabitants in country B, while the corresponding figure for country A is 0.4 persons in forced labour per thousand.

The relationship between instantaneous prevalence and broader measures of prevalence lies in the general relationship between data on stocks and flows. The instantaneous prevalence is a measure of average stock of forced labour and the prevalence of forced labour during a reference period is a measure of flow. In general, the relationship between average stock and flow of a phenomenon is given by

$$average\ stock = flow \times duration$$

representing the expression used for the calculation of instantaneous prevalence and instantaneous prevalence rate in Table 5. The following analogy may help to understand the difference between stock and flow, and the relation between them: the amount of water in a bathtub at a given time (stock) is equal to the rate at which water is entering the bathtub (flow) times the length of time the water has been pouring in (duration).

- Meta data

To help interpret the statistics of forced labour, the nature of the underlying data should be clearly described. In particular, the reference period of the statistics should be specified. The reporting should also indicate whether the statistics refer to the stock of forced labour at a given point of time or the flow of forced labour during a specified period of time. For proper interpretation of the statistics, the data on stock or flow should be complemented with estimates of the average duration of forced labour during the specified reference period. It is also essential to indicate whether the statistics refer to persons in forced labour who experienced forced labour in the reporting country or in a country other than the reporting country.

The reporting of data on forced labour should be accompanied by a methodological description of how the data were collected. The description should provide information on the scope of the data, the main concepts and definitions, the corresponding counting rules, as well as the breakdowns and classifications, and where relevant the sampling and estimation procedures. It should also include an assessment of the quality of the data, including where relevant and feasible, the measurement errors of the main estimates, the response rate, the rate of proxy-response, and the sampling errors in the case of a survey.

9. Global estimation and follow-up activities

- Global estimation

The ILO has produced to date global estimates of forced labour on three occasions, referring to the years 2005, 2012 and 2016.[16] The methodology used in 2005 and 2012 was based on capture-recapture sampling of reported cases of forced labour. The capture-recapture methodology used for global and regional estimation of forced labour and its underlying assumptions have been reviewed extensively and the numerical results quoted widely. The 2016 ILO global estimation of forced labour was carried out in collaboration with the Walk Free Foundation (WFF) and the International Migration Organization (IOM). It included separate estimates on forced marriage and used a different methodology than that used in the previous two exercises.

The 2016 global estimation combined different approaches using different data sources for different forms of forced labour. The central element was the use of specially designed national surveys for measuring forced labour exploitation of the adult population and forced marriage, but excluding forced sexual exploitation, state–imposed forced labour, and forced labour of children for which measurement based on national surveys were found to be inefficient. The adoption of a survey-based methodology for global estimation of the main component of forced labour, i.e. forced labour exploitation of the adult population was based on two considerations:

- To produce global and regional estimates of forced labour using national surveys with specially designed questionnaires in line with the criteria of the ILO Convention 29 on concerning Forced or Compulsory Labour (1930); and
- To learn about national measurement of forced labour with the view to provide the ILO with more experience for developing the present draft guidelines.

In 2016, 28 national surveys were supported by the ILO jointly with the Walk Free Foundation, supplementing 27 prior surveys supported by WFF in 2014 and 2015. The surveys were implemented by Gallup Inc. as a special module attached to its annual World Poll in countries where face-to-face interviewing were conducted and authorities granted permission for implementation. The resulting data were used to produce global estimates of forced labour exploitation for adults. The corresponding estimates of forced sexual exploitation and forced labour of children were built on models of profiles of registered victims from the International Migration Organization (IOM) database. Global estimates for state-imposed forced labour were derived from validated sources and systematic review of comments of the ILO supervisory bodies on ILO Conventions on forced labour.

The results show that on average at any given time there were 24,850,000 persons in forced labour in 2016 of whom about 17 percent were children aged 5-17 years. Forced sexual

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[16] International Labour Office, *ILO Minimum Estimate of Forced Labour in the World*, ILO, Geneva, 2005.
_____?_, *ILO Global Estimate of Forced Labour. Results and Methodology*, ILO, Geneva, 2012
__?___, *Global Estimates of Modern Slavery: Forced Labour and Forced Marriage*, ILO and Walk Free Foundation in partnership with the International Organization for Migration (IOM), Geneva, 2017.

exploitation constituted about 19 percent of total forced labour and state-imposed forced labour about 16 percent. Due to substantial differences in scopes, methodologies, regional groupings and expanded data sources, the 2016 global estimates are not directly comparable with the 2005 and 2012 ILO estimates (12.3 million and 20.9 million, respectively). In the absence of enough national surveys, these estimates were based on capture-recapture sampling of reported cases of forced labour.

- Sustainable Development Goals

The Sustainable Development Goals (SDGs) are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. There are 17 goals dealing with a broad range of topics including climate change, economic inequality, innovation, sustainable consumption, peace and justice, among other priorities.[17] SDG 8 concerns decent work and economic growth, and SDG target 8.7, in particular, calls for taking "immediate and effective measures to eradicate forced labour, end modern slavery and human trafficking …". A related SDG target 5.2 calls for the elimination of "all forms of violence against all women and girls in public and private spheres, including trafficking and sexual and other types of exploitation."

No indicator on forced labour is, however, specified in the final list of Sustainable Development Goal Indicators (Tier 3), essentially due to the lack of internationally agreed statistical standards on the topic. The present draft guidelines, if endorsed by the 20th ICLS, should therefore contribute to the development of international standards on statistics of forced labour and provide the basis for the promotion of national statistics on this topic for the monitoring of SDG 8.7 and SDG 5.2 in as many countries as possible.

- Other follow-up activities

To facilitate the process of testing the guidelines in different national circumstances, the ILO envisages, through collaborative arrangements with countries, international, regional and sub-regional organizations, and workers and employers' representatives:
   (a) to prepare technical manuals on practical methods for data collection, data processing, data analysis and data transmission on forced labour; and
   (b) to provide technical assistance through training and capacity building.