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**Promoción y protección de todos los derechos humanos,
civiles, políticos, económicos, sociales y culturales,
incluido el derecho al desarrollo**

Informe del Relator Especial sobre las implicaciones para los derechos humanos de la gestión y eliminación ecológicamente racionales de las sustancias y los desechos peligrosos*

Nota de la Secretaría

La Secretaría tiene el honor de transmitir al Consejo de Derechos Humanos el informe del Relator Especial sobre las implicaciones para los derechos humanos de la gestión y eliminación ecológicamente racionales de las sustancias y los desechos peligrosos, preparado en cumplimiento de la resolución 36/15 del Consejo.

De conformidad con el mandato, el Relator Especial examina en el presente informe la situación de los trabajadores implicados y afectados por la exposición ocupacional a sustancias tóxicas y otras sustancias peligrosas en todo el mundo. Propone unos principios que tienen la finalidad de ayudar a los Estados, las empresas y otros actores principales a respetar a los trabajadores y protegerlos de la exposición ocupacional a sustancias tóxicas y de ofrecer reparaciones por las violaciones de sus derechos.

* El anexo del presente documento se reproduce tal como se recibió, únicamente en el idioma en que se presentó.



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I. Introducción

1. Toda persona tiene derecho a condiciones equitativas y satisfactorias de trabajo¹. Todo trabajador tiene derecho a la dignidad, a ser tratado de forma ética y respetuosa y a no ser sometido a condiciones de trabajo deshumanizadoras o degradantes. En virtud de los Objetivos de Desarrollo Sostenible, los Estados se han comprometido con un objetivo ambicioso: asegurar el trabajo decente para todos para 2030².
2. A pesar de la existencia de obligaciones claras relativas a la protección de su salud, trabajadores de todo el mundo se encuentran inmersos en una crisis de salud pública causada por su exposición a sustancias peligrosas en el trabajo. Mientras que durante decenios la Organización Mundial de la Salud (OMS), la Organización Internacional del Trabajo (OIT) y otros han instado a adoptar medidas para responder a esta crisis de salud pública, el problema mundial de la exposición de los trabajadores a sustancias peligrosas sigue sin abordarse de manera apropiada.
3. Se estima que cada 15 segundos muere un trabajador por haber estado expuesto a sustancias tóxicas en el trabajo³, mientras que en todo el mundo más de 2.780.000 de trabajadores mueren todos los años a causa de unas condiciones de trabajo inseguras o insalubres⁴. Las enfermedades ocupacionales son la causa de 2,4 millones de muertes prematuras (más del 86% del total)⁵. Una “enfermedad ocupacional” es cualquier enfermedad contraída principalmente como consecuencia de la exposición a factores de riesgo derivados de la actividad laboral, como la exposición crónica a productos químicos industriales tóxicos, plaguicidas u otras sustancias químicas para la agricultura, la radiación y el polvo, entre otros peligros⁶. Todos los años se comunican aproximadamente 160 millones de casos de enfermedades ocupacionales⁷. Se estima que la inacción de los Estados y de las empresas ante esta crisis mundial de salud pública tiene un costo equivalente a casi el 4% del producto interno bruto mundial, es decir, prácticamente 3 billones de dólares⁸.
4. El cáncer representa más del 70% de las enfermedades ocupacionales en todo el mundo y se estima que como mínimo causa la muerte de 315.000 personas todos los años⁹; entre el 5,3% y el 8,4% del total de casos de cáncer, y entre el 17% y el 29% de las muertes provocadas por el cáncer de pulmón entre los hombres, se atribuyen a la exposición ocupacional a sustancias tóxicas¹⁰. Casi todos esos casos de cáncer pueden prevenirse¹¹. Hasta la fecha se han identificado más de 200 factores conocidos distintos, como las

¹ Declaración Universal de Derechos Humanos, art. 23.

² Véase OIT, “Trabajo decente y la Agenda 2030 de Desarrollo Sostenible”, 2 de noviembre de 2017. Los mecanismos de derechos humanos de las Naciones Unidas definen el “trabajo digno” como “el trabajo que respeta los derechos fundamentales de la persona humana, así como los derechos de los trabajadores en lo relativo a condiciones de seguridad laboral y remuneración”. Comité de Derechos Económicos, Sociales y Culturales, observación general núm. 18 (2005) sobre el derecho al trabajo.

³ Päivi Hämäläinen, Jukka Takala y Tan Boon Kiat, *Global Estimates of Occupational Injuries and Work-related Illnesses 2017* (Singapur, Workplace Safety and Health Institute).

⁴ *Ibid.*

⁵ *Ibid.*

⁶ OMS, “Occupational and work-related diseases” (sin fecha).

⁷ Confederación Sindical Internacional, “Trabajo tóxico: No más exposición mortal”, 13 de abril de 2015.

⁸ Gerry Eijkemans, “The importance of workers’ health to advance the United Nations Sustainable Development Agenda”, *Occupational & Environmental Medicine*, vol. 75, Supp. 2 (abril de 2018); OIT, “Global action needed to tackle rising work-related injuries and diseases, OIT says”, 7 de septiembre de 2017.

⁹ OIT, *Promover el trabajo decente en la industria química: Iniciativas innovadoras* (Ginebra, 2013), pág. 20.

¹⁰ Jukka Takala y otros, “Eliminating occupational cancer in Europe and globally”, OSHWiki, 30 de mayo de 2017.

¹¹ *Ibid.*

sustancias químicas tóxicas y la radiación, como carcinógenos humanos conocidos o probables, y los trabajadores están expuestos a muchos de ellos en su entorno laboral¹².

5. Las enfermedades pulmonares debilitantes y mortales, las enfermedades neurológicas y los trastornos reproductivos, como la esterilidad y la imposibilidad de llevar un embarazo a término, son tan solo algunos de los efectos para la salud que sufren los trabajadores expuestos a sustancias tóxicas. La exposición ocupacional es el origen del 12% de las muertes causadas por enfermedades pulmonares obstructivas crónicas, y se estima que otras 29.000 muertes son debidas a enfermedades ocupacionales como la silicosis, la asbestosis y la neumoconiosis¹³.

6. Debido a las diferencias en las funciones sociales, incluidas las funciones ocupacionales y en el hogar, las mujeres y los hombres están expuestos de modos diferentes a las sustancias químicas tóxicas por lo que respecta, entre otras cosas, a las sustancias con las que están en contacto y al grado de exposición. Las diferencias biológicas entre los hombres y las mujeres, como las diferencias fisiológicas y hormonales, crean susceptibilidades distintas a los efectos de la exposición¹⁴. Por ejemplo, es más probable que las mujeres almacenen en sus tejidos adiposos niveles de contaminantes ambientales superiores a los de los hombres. Durante el embarazo, la lactancia y la menopausia, los cuerpos de las mujeres atraviesan cambios que pueden incrementar su susceptibilidad a los efectos en la salud de la exposición a sustancias tóxicas.

7. Una preocupación particular es la relativa a la exposición a sustancias químicas tóxicas de las trabajadoras en edad reproductiva. Proteger únicamente a las mujeres embarazadas contra la exposición es insuficiente porque, mientras se desarrolla, el feto puede ser dañado por la exposición anterior al conocimiento del embarazo. Los efectos nocivos para la salud, especialmente de las mujeres embarazadas y del feto, pero también del conjunto de la fuerza de trabajo, se producen a niveles extremadamente bajos de exposición. A medida que se dispone de más información sobre los efectos nocivos, los niveles de exposición que anteriormente se consideraban “seguros” se van modificando constantemente a la baja, y siguen naciendo niños con diversas consecuencias negativas para la salud debido especialmente a la exposición de sus madres a sustancias químicas tóxicas durante el embarazo (A/HRC/33/41)¹⁵.

8. Es probable que en las estadísticas oficiales se subestime la amplitud del problema. Por ejemplo, en algunos contextos y países se comunican de manera muy insuficiente los casos de exposición¹⁶. Dado que los índices oficiales de incidencia se basan en los datos comunicados, un país avanzado como Finlandia puede presentar una incidencia de enfermedades ocupacionales superior a la de un país como la India, simplemente porque el primero tiene más facilidad para diagnosticar e identificar la exposición ocupacional como origen de una enfermedad. Por otra parte, algunos países no cuentan con una definición legal o con una lista de referencia de las enfermedades ocupacionales que facilite la comunicación de los casos de enfermedades y de muertes por causas específicas. Es posible que las principales enfermedades ocupacionales, como la enfermedad pulmonar obstructiva crónica, no se reconozcan suficientemente y haya una tendencia a no diagnosticarlas en todos los casos¹⁷. Además, y de manera muy importante, los trabajadores autónomos, los agricultores de subsistencia y los trabajadores de la economía informal raramente constan en las estadísticas nacionales. La fuerza de trabajo informal constituye una gran proporción de la fuerza de trabajo mundial y representa una mayoría de los trabajadores en algunos países, los más extensos y poblados de los cuales están en las regiones menos

¹² OMS, Centro Internacional de Investigaciones sobre el Cáncer, “IARC monographs on the evaluation of carcinogenic risks to humans”, 29 de junio de 2018. Puede consultarse en <https://monographs.iarc.fr/agents-classified-by-the-iarc/>.

¹³ OMS, *Global Health Risks: Mortality and Burden of Disease Attributable to Selected Major Risks* (Ginebra, 2009), pág. 25.

¹⁴ Programa de las Naciones Unidas para el Desarrollo (PNUD), *Productos químicos y género*, 2011.

¹⁵ Véase también OMS, *Summary of Principles for Evaluating Health Risks in Children Associated with Exposure to Chemicals* (Ginebra, 2011).

¹⁶ OIT, “World Statistic: The enormous burden of poor working conditions” (sin fecha).

¹⁷ Hämäläinen, pág. 17.

desarrolladas¹⁸. Dado que muchos países no tienen una capacidad suficiente para reunir información sobre las causas de la muerte, la información sobre los cuadros de morbilidad y mortalidad debe basarse en estimaciones.

9. Virtualmente todos los sectores intervienen en esta crisis de salud pública, incluidos los sectores público y privado y las industrias con un mayor potencial económico del mundo. Muchas de esas industrias están específicamente diseñadas de tal modo que sus cadenas de suministro, incluidas sus vinculaciones con la economía informal, sean vastas y opacas. Algunas de esas empresas no están implicadas de manera obvia, como sería el caso de una institución financiera dedicada a la compra y venta de oro extraído mediante la utilización de mercurio tóxico, que produce graves efectos en los trabajadores del sector informal y sus hijos. En el anexo del presente informe se presenta una breve selección de casos examinados por el mandato en años recientes.

10. En su informe el Relator Especial presenta un análisis de los derechos humanos de los trabajadores implicados y afectados por su exposición ocupacional a sustancias tóxicas y otras sustancias peligrosas (sustancias tóxicas)¹⁹, seguido por un resumen de las actuales dificultades a que se enfrentan los trabajadores en la economía mundial. El Relator Especial concluye con una propuesta de principios orientados a respetar y proteger los derechos de los trabajadores implicados por la exposición ocupacional a sustancias tóxicas y a proporcionar recursos eficaces por la violación y la transgresión de esos derechos.

11. Para los fines del presente informe, el término “trabajadores” incluye no solo a los trabajadores empleados directamente sino también a los trabajadores del sector informal, así como a los trabajadores por contrata, los subcontratistas, los trabajadores de agencias y todas las demás personas que realizan un trabajo o actividades relacionadas con un trabajo.

12. Durante más de 20 años, los órganos de derechos humanos de las Naciones Unidas han encargado a un Relator Especial la tarea de vigilar y comunicar las consecuencias para los derechos humanos de la exposición a sustancias peligrosas y desechos tóxicos en diversas industrias de todo el mundo, incluso en relación con los trabajadores.

13. El presente informe es parte de una actividad permanente del actual titular del mandato tendente a mejorar la integración de los derechos humanos en los debates sobre seguridad y salud ocupacional a nivel nacional e internacional. El Relator Especial considera que se ha obviado la importancia de la cuestión y que esta no ha recibido la prioridad necesaria en los foros internacionales pertinentes, lo cual ha sido motivo de la falta de progresos a nivel mundial a la hora de afrontar una preocupación que va en aumento.

II. Los derechos humanos de los trabajadores y la exposición a sustancias tóxicas

14. Los derechos de los trabajadores son derechos humanos, y los derechos humanos son derechos de los trabajadores. Esos derechos están interrelacionados y son indivisibles y universales. Comprenden los derechos civiles, políticos, económicos, sociales y culturales. Ninguna persona puede ser privada de esos derechos humanos a causa del trabajo que realiza.

15. Los trabajadores son especialmente vulnerables a violaciones y transgresiones de sus derechos humanos, entre las que destaca el hecho de estar expuestos a sustancias tóxicas en el trabajo. Con frecuencia los daños producidos por la exposición crónica son invisibles, y

¹⁸ *Ibid.*, pág. 7.

¹⁹ De manera congruente con los anteriores informes del actual titular del mandato y de sus predecesores, las sustancias y los desechos peligrosos no se definen de manera estricta; comprenden, entre otros, los productos químicos industriales tóxicos y los plaguicidas, los agentes contaminantes, las sustancias explosivas y radiactivas, ciertos aditivos alimentarios y varias formas de residuos. Para facilitar la referencia, el Relator Especial se refiere a las sustancias y desechos peligrosos como “tóxicos”, pero, tal como se utiliza en el informe, el término incluye también sustancias y desechos no tóxicos pero peligrosos.

pueden pasar años o incluso decenios hasta que se ponen de manifiesto sus efectos nocivos para la salud en los trabajadores o en sus hijos. Prevenir la exposición a la sustancias tóxicas es esencial para proteger los derechos humanos, incluidos los derechos de los trabajadores.

A. El derecho a unas condiciones de trabajo seguras y saludables

16. El derecho a condiciones equitativas y satisfactorias de trabajo, consagrado en la Declaración Universal de Derechos Humanos (art. 23) y también en el Pacto Internacional de Derechos Económicos, Sociales y Culturales (art. 7), incluye el derecho a unas condiciones de trabajo seguras y saludables. Al estipular por separado el derecho de los trabajadores a la seguridad y la higiene en el trabajo, el Pacto reconoce y destaca la vulnerabilidad de los trabajadores ante las violaciones y transgresiones de sus derechos. Esta vulnerabilidad incrementa las obligaciones que tienen los Estados y otras partes de prevenir la explotación institucionalizada de los trabajadores debida al trabajo peligroso.

17. El derecho a un trabajo seguro y saludable es un derecho por sí mismo; no obstante, abarca también muchos otros derechos humanos interrelacionados e interdependientes de los trabajadores, incluidos los que se describen a continuación.

18. Todas las personas, incluidos los trabajadores en entornos formales e informales, tienen un derecho inherente a la vida²⁰ y el derecho al disfrute del más alto nivel posible de salud física y mental²¹. Los Estados tienen una clara obligación de adoptar medidas preventivas para proteger tanto el derecho a la vida²² como el derecho a la salud, incluso disposiciones relativas a “condiciones de trabajo sanas”²³.

19. El Comité de Derechos Económicos, Sociales y Culturales aclara que los Estados tienen el deber de mejorar todos los aspectos de la higiene industrial. Ello entraña “la adopción de medidas preventivas en lo que respecta a los accidentes laborales y enfermedades profesionales... [y] la prevención y reducción de la exposición de la población a sustancias nocivas tales como radiaciones y sustancias químicas nocivas... que afectan directa o indirectamente a la salud de los seres humanos”²⁴.

20. Todas las personas, incluidos los trabajadores, tienen derecho a la integridad física²⁵. Este derecho engloba el derecho de todo ser humano a la autonomía y la libre determinación respecto de su propio cuerpo, incluso en relación con una intrusión no consentida de sustancias tóxicas en él, de origen ocupacional o de otras fuentes. Las intoxicaciones agudas y otros casos de intoxicación extrema representan una violación incuestionable del derecho de los trabajadores a la integridad física, ya que los someten a formas de trato violento, cruel, inhumano y degradante. Sin embargo, este derecho también se extiende a la exposición crónica, de bajo nivel, a sustancias tóxicas, que también puede tener consecuencias violentas, crueles, inhumanas y degradantes (A/HRC/22/53 y A/HRC/33/41).

21. Por otra parte, los trabajadores tienen derecho a no ser sometidos a experimentos científicos sin su consentimiento²⁶. La exposición de los trabajadores a determinadas sustancias sin información suficiente acerca de si estas pueden provocar el cáncer o dañar el feto que se está desarrollando, cuando esa información puede facilitarse y hacerse accesible, plantea preocupaciones por la posibilidad de que los trabajadores hayan sido sometidos a una forma de experimentación humana y lo sigan siendo. Este derecho ilustra

²⁰ Pacto Internacional de Derechos Civiles y Políticos, art. 6.

²¹ Pacto Internacional de Derechos Económicos, Sociales y Culturales, art. 12.

²² Comité de Derechos Humanos, observación general núm. 6 (1982) sobre el derecho a la vida.

²³ Comité de Derechos Económicos, Sociales y Culturales, observación general núm. 14 (2000) sobre el derecho al disfrute del más alto nivel posible de salud.

²⁴ *Ibid.*

²⁵ Estos derechos fundamentales también incluyen el respeto a la integridad física y mental del trabajador en el ejercicio de su empleo. Comité de Derechos Económicos, Sociales y Culturales, observación general núm. 18.

²⁶ Pacto Internacional de Derechos Civiles y Políticos, art. 7.

la importancia del derecho a la información para hacer efectivos los derechos humanos de los trabajadores.

22. En el contexto del derecho a unas condiciones de trabajo seguras y saludables, la exposición de los trabajadores a sustancias tóxicas sin su consentimiento fundamentado previo, con la posibilidad real de negarse a realizar la actividad peligrosa, debe reconocerse como una violación y una transgresión de sus derechos. Esta es una parte esencial del derecho de todos los trabajadores a estar protegidos contra unas condiciones de trabajo inseguras e insalubres. El Relator Especial considera que todos los trabajadores tienen un derecho inherente a no estar expuestos a sustancias tóxicas sin su consentimiento fundamentado previo. A su juicio, este derecho constituye el núcleo del derecho a la integridad física, el derecho a la información y el derecho a no ser sometido a experimentación científica sin consentimiento.

23. El Convenio de la OIT sobre el Marco Promocional para la Seguridad y la Salud en el Trabajo, 2006 (núm. 187) reconoce el derecho de los trabajadores a unas condiciones de trabajo seguras y saludables, aunque no incluye este derecho como un “derecho fundamental en el trabajo”. La OIT reconoce implícitamente el derecho de los trabajadores a no estar expuestos sin su consentimiento fundamentado previo cuando reconoce el derecho de los trabajadores “de apartarse de cualquier peligro derivado de la utilización de productos químicos cuando tengan motivos razonables para creer que existe un riesgo grave e inminente para su seguridad o su salud”²⁷. La OIT ha formulado recomendaciones pertinentes a los Estados, como la de establecer políticas, sistemas y programas nacionales para prevenir “las muertes, lesiones y enfermedades ocasionadas por el trabajo... para la protección de todos los trabajadores, en particular los trabajadores de los sectores de alto riesgo y los trabajadores vulnerables, entre ellos los trabajadores de la economía informal, los trabajadores migrantes y los trabajadores jóvenes”²⁸.

B. Los derechos a la información, la participación y la asociación

24. Toda persona, incluidos los trabajadores, tiene derechos inalienables a la libertad de expresión, reunión y asociación, incluido el derecho a fundar sindicatos y afiliarse a ellos, y el derecho a la información²⁹.

25. El derecho a la información es el fundamento de la realización de todos los derechos de los trabajadores en relación con la exposición a sustancias tóxicas. Como se ha señalado, el derecho a la información es indivisible del derecho de los trabajadores a no estar expuestos a sustancias tóxicas sin su consentimiento fundamentado previo. Los trabajadores tienen derecho a conocer, entre otras cosas, las consecuencias de la exposición, las medidas que se están adoptando para prevenir la exposición y sus derechos en relación con dicha exposición.

26. Se requieren marcos de actuación pública para reunir, medir, supervisar, comunicar y verificar información sobre los peligros y los niveles de exposición, a fin de determinar y analizar las consecuencias para la salud y las responsabilidades correspondientes. Mantener una información desglosada, exacta y completa es necesario para comprender episodios específicos y para tener un conocimiento preciso del efecto de determinadas actividades en diversos trabajadores, así como en otros grupos expuestos, como los niños, las mujeres en edad reproductiva, los trabajadores migratorios y sus familiares, las personas de edad y las personas con discapacidad.

27. La OIT reconoce en sus convenios varios aspectos del derecho a saber de los trabajadores (y sus representantes), así como de las obligaciones de los Estados y las responsabilidades de las empresas empleadoras, incluidos los proveedores de sustancias

²⁷ Convenio sobre los Productos Químicos, 1990 (núm. 170), art. 18.

²⁸ Recomendación sobre el marco promocional para la seguridad y salud en el trabajo, 2006 (núm. 197); véase también la Constitución de la OIT.

²⁹ Declaración Universal de Derechos Humanos, art. 24; Pacto Internacional de Derechos Civiles y Políticos, arts. 19, 22 y 25; Convención Internacional sobre la Protección de los Derechos de Todos los Trabajadores Migratorios y de sus Familiares, art. 26.

químicas³⁰. Por ejemplo, los trabajadores afectados y sus representantes tienen derecho a recibir información sobre “la identificación de los productos químicos utilizados en el trabajo, las propiedades peligrosas de tales productos, las medidas de precaución que deben tomarse, la educación y la formación”³¹. Sin embargo, mientras que el Convenio sobre los Productos Químicos pide clasificar los productos químicos en función de su posible peligrosidad para la salud (art. 6), se limita a requerir que los proveedores evalúen las propiedades de esas sustancias sobre la base de “la búsqueda de información disponible” (art. 9, párr. 3), lo cual significa que el Convenio no les exige que realicen ensayos para generar la información que falta y que es pertinente para dicha clasificación.

28. Toda la información sobre salud y seguridad que se halla en poder de las entidades públicas y las empresas comerciales debe ser objeto de divulgación, sujeta tan solo a una corta serie de limitaciones de interés público como la protección de la confidencialidad o de la salud pública (véase A/HRC/30/40, párrs. 38 y 101 b)). No es legítimo que los Estados o las empresas se nieguen a divulgar información relacionada con la salud y la seguridad alegando que es confidencial, y más concretamente que ello afectaría negativamente los beneficios o la competitividad (*ibid.*, párr. 42). Con este propósito, en los acuerdos internacionales sobre sustancias químicas tóxicas se ha estipulado repetidamente que la información sobre las sustancias tóxicas que guarda relación con la salud y la seguridad no puede considerarse confidencial³².

29. Los trabajadores que defienden su derecho a un trabajo seguro y saludable, entre otros derechos, encuentran su fuerza en la acción colectiva. Una sólida protección del derecho a organizarse, que incluye la constitución de sindicatos, el derecho a la libertad de asociación y el derecho a la negociación colectiva, ha resultado ser eficaz para fortalecer la protección de los trabajadores contra la exposición a sustancias tóxicas y otros peligros. Por ejemplo, gracias a la fuerza de los sindicatos se consiguió eliminar progresivamente el tabaco de los espacios interiores. Los convenios de la OIT contemplan esos derechos, que se consideran derechos fundamentales en el trabajo.

C. Los derechos de los trabajadores que corren un mayor riesgo

30. Los trabajadores, como todos los seres humanos, nacen libres e iguales en dignidad y derechos³³. Con frecuencia son las personas que viven en situaciones de marginación que les hacen vulnerables a las violaciones de sus derechos las que resultan perjudicadas por la exposición a sustancias tóxicas. Sin embargo, todas las personas tienen derecho a estar protegidos contra la discriminación y a la igualdad de trato ante la ley. Ningún trabajador, y ningún hijo de un trabajador, debe soportar la carga de una enfermedad ocupacional o de una discapacidad que puede ser consecuencia de la discriminación por motivos de edad, nivel de ingresos, raza, religión, género, país de origen, inteligencia, opiniones políticas o cualquier otra característica distintiva.

1. Los derechos de los niños y las mujeres

31. Todos los niños tienen derecho a no ser objeto de las peores formas de trabajo infantil. Un trabajo en el cual los niños utilizan plaguicidas, productos químicos industriales tóxicos, metales u otras sustancias peligrosas, o están expuestos a ellos, constituye una de las peores formas de trabajo infantil (A/HRC/33/41). La Convención sobre los Derechos del Niño reconoce el derecho del niño a estar protegido contra el desempeño de cualquier trabajo que pueda ser peligroso o nocivo para su salud o para su desarrollo físico (art. 32).

³⁰ Convenio sobre los Productos Químicos, art. 18; Convenio sobre la Prevención de Accidentes Industriales Mayores, 1993 (núm. 174), art. 20; Convenio sobre Seguridad y Salud en las Minas, 1995 (núm. 176), art. 13, párr. 1 c); y Convenio sobre la Seguridad y la Salud en la Agricultura, 2001 (núm. 184), art. 8, párr. 1 a).

³¹ Convenio sobre los Productos Químicos, art. 18, párr. 3.

³² Convenio de Estocolmo sobre Contaminantes Orgánicos Persistentes, art. 9; Convenio de Minamata sobre el Mercurio, art. 17. Véase también la Declaración de Dubai sobre la Gestión Internacional de Productos Químicos.

³³ Declaración Universal de Derechos Humanos, art. 1.

De conformidad con el Convenio sobre las Peores Formas de Trabajo Infantil, 1999 (núm. 182), las peores formas de trabajo infantil abarcan “el trabajo que, por su naturaleza o por las condiciones en que se lleva a cabo, es probable que dañe la salud, la seguridad o la moralidad de los niños” (art. 3). Exponer a los niños a sustancias tóxicas en el trabajo es inaceptable.

32. Proteger la salud reproductiva frente a condiciones de trabajo peligrosas es una obligación fundamental de los Estados en el contexto de la eliminación de la discriminación contra la mujer en el empleo³⁴. Las trabajadoras tienen derecho a una protección especial durante todos los períodos en que existen riesgos reproductivos³⁵, así como riesgos para sus hijos, lo cual exige una protección contra un trabajo en que ellas o su feto estén expuestas a sustancias químicas tóxicas.

33. Al mismo tiempo, no debe privarse a las mujeres de la igualdad de oportunidades de empleo o de ingresos. Preocupa especialmente que las trabajadoras estén expuestas a sustancias tóxicas en el trabajo antes del embarazo o durante las etapas iniciales de este, incluso antes de saber que están embarazadas. Esta realidad exige que los Estados y las empresas dediquen una atención especial a proteger la salud reproductiva de las mujeres impidiendo la exposición a estas a sustancias tóxicas sin limitar el empleo de una manera discriminatoria. La mejor forma de conseguirlo consiste en eliminar las sustancias tóxicas en el trabajo.

2. Los derechos de los trabajadores migratorios y de los trabajadores con discapacidad

34. La prohibición de la discriminación racial es aplicable en todas sus formas. Del mismo modo, la raza o el origen étnico no deben ser un factor prohibitivo para la efectividad del derecho de los trabajadores a unas condiciones de trabajo seguras y saludables³⁶. Los trabajadores migratorios, documentados o indocumentados, tienen derecho a la igualdad y a gozar del mismo trato que los nacionales por lo que respecta a la seguridad y la salud y otras condiciones de trabajo³⁷. Las personas con discapacidad tienen derecho, en pie de igualdad con los demás, a unas condiciones de trabajo seguras y saludables y a los derechos humanos conexos³⁸.

D. El derecho a un recurso efectivo

35. La rendición de cuentas es un principio fundamental de los derechos humanos. Los Estados y otros garantes de derechos deben rendir cuentas ante los trabajadores, entre otros titulares de derechos, respecto de la observancia de sus obligaciones en materia de derechos humanos. El derecho a un recurso efectivo es inseparable del derecho a la información, ya que los recursos efectivos por la exposición a sustancias tóxicas dependen de la disponibilidad y la accesibilidad de determinada información sobre esas sustancias y sobre las condiciones de trabajo (A/HRC/30/40).

36. Todos los trabajadores que son víctimas de transgresiones o violaciones de sus derechos tienen derecho a acceder a un recurso efectivo³⁹. Los recursos efectivos por violaciones de los derechos de los trabajadores a causa de la exposición a sustancias tóxicas incluyen el derecho de las víctimas a obtener sin demora restitución, indemnización,

³⁴ Convención sobre la Eliminación de Todas las Formas de Discriminación contra la Mujer, art. 11, párr. 1 f).

³⁵ *Ibid.*, art. 11, párr. 2 d).

³⁶ Convención Internacional sobre la Eliminación de Todas las Formas de Discriminación Racial, art. 5, párr. d) i).

³⁷ Convención Internacional sobre la Protección de los Derechos de Todos los Trabajadores Migratorios y de sus Familiares, art. 25, párr. 1 a).

³⁸ Convención sobre los Derechos de las Personas con Discapacidad, art. 27.

³⁹ Pacto Internacional de Derechos Civiles y Políticos, art. 2, párr. 3 a); Comité de Derechos Económicos, Sociales y Culturales, observación general núm. 3 (1990) sobre la índole de las obligaciones de los Estados partes; Principios Rectores sobre las Empresas y los Derechos Humanos: Puesta en Práctica del Marco de las Naciones Unidas para “Proteger, Respetar y Remediar”.

rehabilitación, satisfacción y garantías de no repetición, además de que se haga comparecer ante la justicia a los responsables de las violaciones de derechos⁴⁰. La prevención de toda exposición en el futuro es común en muchos de los elementos de un recurso efectivo a este respecto.

37. Todos los titulares de derechos deben tener la posibilidad de entablar actuaciones para obtener una reparación apropiada ante un tribunal competente u otra instancia judicial de conformidad con las normas y procedimientos contemplados por la ley. Los Estados deben asegurar un acceso oportuno a recursos efectivos para las víctimas de violaciones resultantes de la exposición a productos químicos peligrosos (véase E/CN.4/2006/42, párr. 45). En varias circunstancias, los Estados han trasladado la carga de la prueba al empleador u otro beneficiario de los servicios⁴¹. En otros casos, los mecanismos judiciales y no judiciales han atenuado la carga de la prueba de los trabajadores para contribuir a asegurar el acceso a los recursos⁴².

III. Desafíos para los derechos de los trabajadores afectados por la exposición a sustancias tóxicas

A. Niveles de protección insuficientes

38. Con frecuencia, las leyes y políticas en materia de salud ocupacional no consiguen proteger la salud. Siguen permitiendo que los trabajadores estén expuestos a niveles de sustancias tóxicas cientos o incluso miles de veces superiores a los que experimentan otras personas en la misma jurisdicción⁴³. A menudo las evaluaciones de los riesgos se basan en conocimientos incompletos o en suposiciones erróneas, lo cual tiene como consecuencia unas garantías de seguridad falsas y unos efectos generalizados en la salud de los trabajadores. Los procesos para mejorar los niveles de protección contra la exposición se siguen demorando deliberadamente durante años, o incluso durante decenios, con el resultado de innumerables muertes prematuras.

B. Progresos limitados hacia el objetivo de prevenir la exposición

39. El medio más eficaz de prevenir la exposición de los trabajadores a sustancias tóxicas es eliminarlas del lugar de trabajo. Ello tiene su reflejo en la buena práctica conocida como jerarquía de control de riesgos, o “diseño inherentemente seguro”, alentada por la OIT y los órganos nacionales dedicados a la seguridad y la salud ocupacional⁴⁴. En orden descendente de eficacia por lo que respecta a prevenir la exposición, la eliminación va seguida por opciones de mitigación de riesgos como la sustitución por sustancias y materiales menos peligrosos, los controles de ingeniería, los controles administrativos y la utilización de equipo de protección personal.

40. Aunque existen ejemplos de ello, esta práctica tiene una aplicación muy limitada. Exigir la adopción de la jerarquía de control como norma internacional allanaría el camino para la armonización a un nivel superior. Sin embargo, los agentes del sector empresarial

⁴⁰ Principios y Directrices Básicos sobre el Derecho de las Víctimas de Violaciones Manifiestas de las Normas Internacionales de Derechos Humanos y de Violaciones Graves del Derecho Internacional Humanitario a Interponer Recursos y Obtener Reparaciones, párrs. 11 y 15 a 23; Comité de Derechos Humanos, observación general núm. 31 (2004) sobre la índole de la obligación jurídica general impuesta a los Estados partes en el Pacto, párr. 16; y Convención sobre los Derechos del Niño, art. 39.

⁴¹ “Presumptive legislation for firefighter cancer”, First Responder Center, 2017.

⁴² Junius C. McElveen Jr., “Establishing proof of exposure”, Lexology, 2012.

⁴³ Ted Smith y Chad Raphael, “Health and safety policies for electronics workers”, en *The Routledge Companion to Labor and Media*, Richard Maxwell, ed. (Routledge, 2015), págs. 78 a 89 (citando a Amanda Hawes).

⁴⁴ Instituto Nacional de Seguridad y Salubridad Ocupacionales de los Estados Unidos, “Hierarchy of controls”, Centros para el Control y la Prevención de Enfermedades, 11 de mayo de 2018. **Referencia de hipervínculo no válida.**

siguen impidiendo todo progreso a nivel mundial al insistir en que la aplicación de la jerarquía reducirá la competitividad. Los trabajadores continúan estando expuestos a sustancias tóxicas, como productos químicos industriales tóxicos y plaguicidas altamente peligrosos, cuando existen alternativas que han demostrado presentar un riesgo menor. Otro ejemplo palmario de una industria que sigue externalizando los efectos en los trabajadores y las comunidades pobres de los países en desarrollo por no aplicar la jerarquía es el de la industria naviera, con su práctica de desguace.

41. Las empresas pueden formular y adoptar alternativas que reduzcan los daños para la salud humana y el impacto ambiental de sus operaciones y relaciones comerciales. Algunas lo han hecho. Sin embargo, muchas empresas han externalizado y/u ocultado el problema de la exposición a sustancias tóxicas trasladándolo a niveles inferiores de sus cadenas de suministro mundiales; ello permite continuar actuando como siempre en vez de adoptar medidas para respetar los derechos de los trabajadores afectados por la exposición a sustancias tóxicas, a pesar de las expectativas crecientes de que las empresas impidan la exposición a sustancias tóxicas como parte de sus obligaciones de diligencia debida en materia de derechos humanos.

C. Deficiencias en materia de vigilancia y cumplimiento

42. Para asegurar que no se haga caso omiso de la explotación de los trabajadores, los Estados deben supervisar las condiciones de trabajo, lo cual incluye una vigilancia rutinaria de la exposición y hacer cumplir las leyes relativas a la protección de los derechos de los trabajadores. Sin embargo, la gran mayoría de Estados no cumplen adecuadamente sus obligaciones de vigilancia, supervisión, protección o reparación con respecto a los trabajadores cuyos derechos son violados a causa de la exposición a sustancias tóxicas en su jurisdicción. La disminución sistemática de la financiación para las instituciones encargadas de la vigilancia⁴⁵ presenta dificultades significativas y enormes para los Estados a la hora de supervisar el gran número de lugares de trabajo de su jurisdicción, y sigue habiendo desafíos en relación con la reunión de información estadística, particularmente sobre el sector informal. En la mayoría de países, los mecanismos de registro y notificación de los accidentes laborales y, en particular, de las enfermedades ocupacionales son deficientes, no están armonizados y se comunican muchos menos casos de los que se producen realmente.

D. Explotación de las personas que corren un mayor riesgo

43. Existen múltiples factores, como la condición social, la educación, la edad, el género, el origen nacional o étnico o la discapacidad, que pueden exacerbar los riesgos en la exposición a sustancias tóxicas. Para ser eficaces, las medidas de prevención y de respuesta a la exposición deben tener en cuenta esas vulnerabilidades específicas.

44. Las personas que corren un mayor riesgo de exposición son las más vulnerables a la explotación: los pobres, los niños y las mujeres, los trabajadores migratorios, las personas con discapacidad y las personas de edad. A menudo se exponen a la violación de numerosos derechos humanos, se ven obligados a tomar la decisión odiosa de elegir entre su salud y sus ingresos, y su dramática situación es invisible para la mayoría de consumidores y para los encargados de formular políticas que tienen en su poder facilitar una transición justa.

1. La pobreza

45. La pobreza es común entre la mayoría de trabajadores cuyos derechos son violados por su exposición a sustancias químicas tóxicas. La disparidad en el grado de exposición

⁴⁵ OIT, *Informe de la Comisión de Expertos en Aplicación de Convenios y Recomendaciones*, Informe III (Parte 1B), que contiene el Estudio General sobre determinados instrumentos en materia de seguridad y salud ocupacional (Ginebra, 2017), párr. 436.

entre los trabajadores de ingresos bajos y altos es visible entre los países y en el interior de estos.

46. Con gran frecuencia los trabajadores de ingresos bajos tienen un nivel de educación inferior que los impulsa a aceptar ocupaciones que los exponen a sustancias químicas tóxicas, limitan su acceso a la información y al conocimiento y les impiden defender sus derechos. En el caso de los trabajadores de ingresos bajos es más probable que los efectos de la exposición ocupacional a sustancias tóxicas se atribuyan a otros tipos de exposición, no relacionados con el trabajo, que son más elevados en las comunidades pobres, como la contaminación atmosférica, del agua y de los alimentos, o a decisiones sobre el estilo de vida como dietas poco saludables o el consumo de tabaco y de otras sustancias nocivas.

47. A menudo se explota la inseguridad económica de los trabajadores que suelen estar más expuestos a sustancias tóxicas. Con frecuencia el temor a perder el empleo se utiliza para disuadir a los trabajadores, las entidades reguladoras y los políticos de mejorar la protección de los trabajadores frente a la exposición a sustancias tóxicas.

2. Las mujeres trabajadoras

48. Las mujeres representan una proporción significativa de los trabajadores en determinadas ocupaciones y sectores, como las manufacturas y la agricultura, así como en los servicios y el trabajo informal, que presentan un riesgo más elevado de exposición a sustancias tóxicas (véase, por ejemplo, A/HRC/36/41). Se comunican efectos específicos en función del género. Cada vez hay más indicios de una asociación entre el cáncer de mama y la exposición ocupacional a distintos plaguicidas, productos químicos industriales y metales⁴⁶. Hay múltiples ejemplos de un mayor riesgo de abortos espontáneos en el sector de la fabricación de productos electrónicos⁴⁷. A menudo las mujeres en edad reproductiva deben utilizar metales pesados tóxicos como el mercurio en la extracción artesanal de oro, lo cual las expone a ellas y a sus hijos futuros a un grave riesgo de consecuencias para la salud.

3. El trabajo infantil

49. Los niños continúan dedicándose a una de las peores formas de trabajo infantil cuando utilizan sustancias tóxicas en el trabajo o están expuestos a ellas. Por diversos motivos, los niños tienen muchas más probabilidades de estar expuestos a sustancias tóxicas y son más sensibles a dicha exposición que los adultos, por lo que es mucho más probable que sufran enfermedades ocupacionales como consecuencia de ello⁴⁸.

50. Se estima que 73 millones de niños trabajan en minas, en explotaciones agrícolas y en fábricas, donde la mayoría de ellos probablemente estarán expuestos a distintas sustancias tóxicas⁴⁹. Aproximadamente el 60% de los niños que trabajan lo hacen en la agricultura, incluso en lugares donde se utilizan plaguicidas⁵⁰. También se sabe que hay niños que trabajan con mercurio en minas de oro artesanales y en pequeña escala en aproximadamente 70 países de todo el mundo, y que algunos de ellos presentan síntomas que corresponden al envenenamiento por mercurio⁵¹. La exposición peligrosa de los niños está presente en varias etapas del ciclo de vida de un producto de consumo. En el sector de la electrónica, decenas de miles de niños extraen un ingrediente tóxico de las baterías (el cobalto) que se utiliza en las fases iniciales del ciclo de vida⁵², y también trabajan en las

⁴⁶ Concetta Fenga, "Occupational exposure and risk of breast cancer", Biomedical Reports, 21 de enero de 2016.

⁴⁷ R. H. Gray y otros, *Final Report: The Johns Hopkins University Retrospective and Prospective Studies of Reproductive Health Among IBM Employees in Semiconductor Manufacturing* (Baltimore, Johns Hopkins University, 1993).

⁴⁸ OIT, *Hacia la eliminación urgente del trabajo infantil peligroso* (Ginebra, 2018), pág. 36.

⁴⁹ *Ibid.*, pág. vi.

⁵⁰ OIT, "Hazardous work of children and regulation of hazardous chemicals", 2011.

⁵¹ Human Rights Watch, "Danger, keep out! Children's exposure to toxic substances", 28 de abril de 2016.

⁵² Amnistía Internacional, *"This is what we die for": Human Rights Abuses in the Democratic Republic of the Congo Power the Global Trade in Cobalt*, 2016.

fases finales, en que están expuestos a diversas sustancias tóxicas en la labor de recuperación de desechos electrónicos.

4. Los trabajadores migratorios y temporales

51. Los trabajadores migratorios experimentan un riesgo considerable de padecer consecuencias nocivas para su seguridad y salud ocupacional por diversos motivos, como la falta de capacitación, las barreras lingüísticas, la discriminación y las restricciones de la posibilidad de cambiar de empleador⁵³. Muchos trabajadores migratorios realizan trabajos sucios, peligrosos y exigentes, por lo que corren un riesgo mayor de sufrir accidentes y enfermedades relacionados con el trabajo. Los trabajadores migratorios irregulares o indocumentados corren un riesgo máximo de explotación por parte de empleadores que buscan obtener beneficios mediante una competencia desleal. Los traslados clandestinos, la trata de personas y la esclavitud moderna pueden coincidir con la exposición de los trabajadores migratorios a las sustancias tóxicas.

52. Los trabajadores temporales, incluidos los trabajadores estacionales, no gozan de la misma seguridad y protección de la salud que se concede a los trabajadores permanentes o residentes. Los trabajadores temporales corren un riesgo mucho mayor de sufrir lesiones y enfermedades ocupacionales. Es posible que empiecen a trabajar en un nuevo lugar muchas veces al año, y al ser nuevos en el trabajo generalmente tienen menos información sobre los peligros a que se enfrentan. Con frecuencia los empleadores están menos comprometidos a impartir educación o a efectuar inversiones para proteger a los trabajadores temporales⁵⁴. Es posible que la normativa gubernamental y las inspecciones en materia de salud y seguridad sean limitadas.

5. Los trabajadores con discapacidad

53. Un trabajador con discapacidad puede correr riesgos adicionales o tener una mayor propensión a sufrir las consecuencias de la exposición a sustancias tóxicas. Los trabajadores con discapacidad suelen estar empleados en trabajos poco cualificados, con contratos no estándar como los correspondientes al trabajo a tiempo parcial, o con contratos temporales.

6. Los trabajadores de edad

54. Las personas de edad también están expuestas a sustancias tóxicas en el trabajo. En general, el envejecimiento está asociado a una disminución de las funciones cognitivas, la salud y la capacidad de recuperación, incluida una menor capacidad aeróbica, una tolerancia más baja al calor, una fuerza muscular reducida y una disminución de la agudeza visual y auditiva. Cualquier riesgo que corra un trabajador de edad a causa de su ocupación se añadirá a los problemas de salud existentes o incrementará el deterioro natural de sus capacidades sensoriales y físicas. Lamentablemente, los efectos de la exposición ocupacional para la salud de los trabajadores de más edad suelen atribuirse enteramente al envejecimiento, y no a la propia exposición.

E. La economía informal

55. Las políticas y los programas nacionales orientados a promover unas condiciones de trabajo seguras y saludables deben tener como objetivo no solo la economía formal sino también la economía informal. En muchos países en desarrollo, el número de personas empleadas en la economía formal es pequeño en comparación con quienes trabajan en el sector informal. Normalmente quienes trabajan en el sector informal no constan en las estadísticas relativas a los efectos de las sustancias peligrosas para los trabajadores⁵⁵.

⁵³ Kawon Lee, Connor McGuinness y Tsuyoshi Karaskami, *Research on Occupational Safety and Health for Migrant Workers in Five Asia and the Pacific Countries: Australia, Republic of Korea, Malaysia, Singapore and Thailand* (Bangkok, OIT, 2011), pág. 20.

⁵⁴ Departamento de Trabajo de los Estados Unidos de América, *Adding Inequality to Injury: The Costs of Failing to Protect Workers on the Job* (2015).

⁵⁵ Hämäläinen, pág. 7.

F. Esfuerzos deliberados para demorar u obstaculizar la protección contra la exposición a sustancias tóxicas

56. Para obtener un beneficio económico, las empresas han procurado demorar la aprobación de leyes y normas de protección mediante campañas específicas para distorsionar los conocimientos científicos⁵⁶, además de explotar la inseguridad financiera de los trabajadores con la amenaza de la pérdida del empleo. Esencialmente, esas campañas han tenido como objetivo socavar los derechos de los trabajadores amenazándolos con la pérdida de su empleo y crear desventajas competitivas que explotan y aprovechan los temores económicos de los trabajadores. Los trabajadores continúan temiendo una reducción de su salario o ser despedidos si se apartan de un trabajo que los expone a sustancias tóxicas o se niegan a realizarlo.

57. Por otra parte, las empresas continúan distorsionando las pruebas de peligros intrínsecos, exposición nociva y otros factores de riesgo respecto de diversos tipos de productos químicos tóxicos (como los carcinógenos). Las empresas y sus agentes han emprendido campañas comerciales específicas para generar dudas e incertidumbre sobre los resultados de estudios científicos que ponen de manifiesto los riesgos y los efectos en la salud de los trabajadores.

58. Los esfuerzos de las empresas para obstaculizar la aprobación de leyes de protección de la salud, normas sobre la exposición y prácticas mejoradas ponen de manifiesto el desprecio con que determinadas empresas abordan su responsabilidad de prevenir la exposición de los trabajadores a las sustancias tóxicas. Esto es mucho más que una falta de respeto y tiene por objeto perpetuar la explotación de las desigualdades que existen en las sociedades y entre ellas.

G. Cadenas de suministro opacas y transferencia de trabajos peligrosos

59. Si bien se reconocen los beneficios que puede entrañar para la sociedad la transferencia internacional de tecnologías beneficiosas, la transferencia de trabajos tóxicos de países con sistemas más avanzados a países con normas menos estrictas de protección sigue constituyendo un problema importante. Por ejemplo, las actividades de fabricación y transformación que requieren un uso intensivo de productos químicos, que en tiempos estaban ubicadas principalmente en países altamente industrializados, se están trasladando sistemáticamente a países en desarrollo y países con economías en transición gracias a la globalización de las cadenas de suministro⁵⁷.

60. La transferencia internacional de trabajos peligrosos y sucios, ya se trate de la extracción de recursos naturales, de la utilización de productos químicos tóxicos y plaguicidas o de la eliminación de residuos peligrosos sin medidas apropiadas de protección de los trabajadores contra la exposición a sustancias tóxicas, ha puesto a los trabajadores y sus comunidades en un riesgo considerable de sufrir graves efectos para sus derechos humanos⁵⁸. La falta de transparencia a lo largo de las cadenas de suministro agrava el problema y obstaculiza los esfuerzos que despliegan diversos interesados para mejorar la salud ocupacional.

H. Desconexión de las actividades relativas a la salud ocupacional y a la salud ambiental

61. Un lugar de trabajo tóxico suele generar un medio ambiente tóxico. Por ejemplo, los contaminantes atmosféricos afectan la salud de los trabajadores expuestos directamente,

⁵⁶ David Michaels, ed., *Doubt Is Their Product: How Industry's Assault on Science Threatens Your Health* (Oxford, Oxford University Press, 2008).

⁵⁷ Programa de las Naciones Unidas para el Desarrollo, *Global Chemicals Outlook: Towards Sound Management of Chemicals* (2013).

⁵⁸ *Ibid.*

pero también la salud de sus hijos y del conjunto de sus comunidades. Los trabajadores que se dedican a actividades altamente tóxicas, como la minería artesanal, la eliminación de residuos y una gran variedad de manufacturas (como los productos textiles) y actividades agrícolas, a menudo trabajan muy cerca de sus hogares y de sus comunidades, a veces acompañados o ayudados por sus hijos. Sin embargo, las sinergias potenciales que resultarían de una vinculación más estrecha entre la salud ocupacional y la salud ambiental no suelen realizarse.

I. Falta de efectividad del derecho a la información

62. El déficit de información crea un impedimento fundamental a la hora de respetar, proteger y hacer efectivos varios derechos humanos que por otra parte son infringidos o violados por la exposición de los trabajadores a sustancias químicas tóxicas (véase A/HRC/30/40, párrs. 22, 24 y 25)⁵⁹.

63. En el nivel más fundamental se sigue careciendo de información exhaustiva sobre los peligros intrínsecos para la salud de la gran mayoría de productos químicos industriales, incluso sobre la posibilidad de que estos sean cancerígenos, mutagénicos o tóxicos para el sistema reproductivo (A/HRC/30/40). Además, la forma y el contenido de la información comunicada a los trabajadores acerca de los riesgos para la salud siguen presentando un desafío considerable. La inexistencia de información, o una forma inadecuada de comunicarla, supone un engaño, y el engaño de los trabajadores es una clase de explotación, que puede ser equivalente al trabajo forzado u obligatorio⁶⁰.

64. Aunque las evaluaciones de los riesgos han contribuido a identificar las sustancias que presentan riesgos para los trabajadores y a restringir su uso, existen limitaciones, como la dificultad de predecir los niveles de exposición de los trabajadores; el hecho de que se conocen los peligros para la salud de una minoría de sustancias y de que se carece de información acerca de los peligros de decenas de miles de sustancias; y que se sabe poco sobre los efectos de la exposición a una combinación de sustancias peligrosas, a sustancias intermedias en los procesos de producción y a los productos de la descomposición de las sustancias con el tiempo bajo distintas condiciones.

65. Un desafío persistente para la efectividad del derecho a la información en el contexto de las sustancias químicas tóxicas son las pretensiones de confidencialidad o secreto. Las pretensiones ilegítimas de confidencialidad de la información empresarial o de secreto comercial con respecto a sustancias tóxicas y a la posible exposición a ellas puede privar a los trabajadores de sus derechos humanos, incluido el derecho a unas condiciones de trabajo seguras y saludables, y el acceso a posibles recursos. Las pretensiones ilegítimas de confidencialidad y secreto en relación con la información sobre salud y seguridad pueden ocultar problemas y obstaculizar de este modo una investigación innovadora sobre productos y procesos que mejoren la salud ocupacional, al tiempo que fomentan una sensación de impunidad que puede hacerse contagiosa entre las empresas que continúan explotando a los trabajadores e infringiendo sus derechos al exponerlos a sustancias tóxicas y justificando la obtención de beneficios con este modo de actuar.

66. Es de la máxima importancia que la información relacionada con la salud se reúna, se procese y se utilice en el marco de un sistema bien controlado que proteja la privacidad de los trabajadores y asegure que la vigilancia de la salud no se use con fines discriminatorios ni de ninguna otra forma que perjudique sus intereses⁶¹. Sin embargo, es igualmente importante que los trabajadores tengan acceso a sus propios historiales médicos.

⁵⁹ Véase también Comité de Derechos Humanos, observación general núm. 34 (2011) sobre libertad de opinión y libertad de expresión, párr. 18.

⁶⁰ Véase, por ejemplo, la Ley sobre la Esclavitud Moderna, 2015, del Reino Unido de Gran Bretaña e Irlanda del Norte.

⁶¹ OIT, *Principios directivos técnicos y éticos relativos a la vigilancia de la salud de los trabajadores*, Serie Seguridad y Salud en el Trabajo núm. 72 (Ginebra, 1998).

J. Aplicación limitada de los instrumentos de la Organización Internacional del Trabajo

67. Existe la preocupación de que las normas pertinentes de la OIT para la protección de los derechos humanos de los trabajadores no se estén aplicando adecuadamente, mientras que otras han perdido actualidad. Una evaluación independiente encargada por la OIT en relación con sus propios desafíos organizacionales atribuye este hecho, entre otras cosas, a una colaboración limitada o inexistente entre las dependencias y a los limitados recursos financieros dedicados a actividades relacionadas con la seguridad y la salud ocupacional⁶².

68. Otro factor pueden ser los niveles bajos de ratificación de los instrumentos de la OIT sobre seguridad y salud ocupacional, aunque en algunos casos estos pueden ser modelos útiles para las normas nacionales. Un factor adicional puede ser la lamentable exclusión del derecho a un trabajo seguro y saludable como “derecho fundamental en el trabajo” por parte del Consejo de Administración de la OIT.

K. Limitaciones a la libertad de asociación

69. Sigue habiendo dificultades para hacer efectivos derechos que la OIT considera derechos fundamentales en el trabajo, como los derechos a la libertad de asociación, a la organización y a la negociación colectiva. En algunos países se niega a determinadas categorías de trabajadores el derecho de asociación⁶³. Las organizaciones de trabajadores y empleadores son objeto de suspensiones o injerencias ilícitas, y en algunos casos extremos se producen detenciones o asesinatos de sindicalistas (A/71/385)⁶⁴. La imposibilidad de ejercer esos derechos, junto con las limitaciones de la libertad de expresión, restringen la capacidad de los trabajadores para defender sus derechos frente a transgresiones relacionadas con la exposición, individual o colectiva, a sustancias tóxicas.

L. Falta de acceso a los recursos, la justicia y la rendición de cuentas

70. Hay estudios que indican que tan solo una mínima proporción de los trabajadores que han sufrido daños a causa de la exposición a sustancias peligrosas tienen acceso al recurso correspondiente⁶⁵. Entre los principales obstáculos a la rendición de cuentas figuran unas exigencias poco razonables por lo que respecta la carga de la prueba, los largos períodos de latencia antes de que se manifiesten las consecuencias en algunos casos y la dificultad de demostrar una relación de causa y efecto; un considerable déficit de información en relación con la identificación de los peligros, la medición de la exposición y la especificación de los efectos epidemiológicos; la posible exposición a una gran variedad de sustancias distintas en entornos ocupacionales diversos y a lo largo de la vida laboral; y disposiciones de las relaciones contractuales entre los proveedores y los compradores, que pueden trasladar la responsabilidad en una u otra dirección a lo largo de la cadena de suministro.

71. A menudo los tipos de información que se requiere y la responsabilidad de demostrar la causa de los daños sufridos son denominadores comunes en los casos en que los trabajadores buscan acceder a un recurso efectivo. Es frecuente que los trabajadores no posean los conocimientos ni los recursos necesarios que les permitirían establecer los elementos necesarios para acceder a un recurso. En primer lugar, no es raro que no tengan conocimiento de las sustancias a las que han estado expuestos. En segundo lugar, es posible que la sustancias a las que han estado expuestos no hayan sido estudiadas en relación con su potencial de provocar enfermedades o discapacidad en los seres humanos; se carece de información adecuada, e incluso de un volumen mínimo de datos sobre salud y seguridad,

⁶² OIT, *Independent Evaluation of the ILO's Strategy on Occupational Safety and Health Conditions at Work* (2013), págs. 46 y 47.

⁶³ Véase OIT, Normas Internacionales del Trabajo sobre la Libertad de Asociación.

⁶⁴ *Ibid.*

⁶⁵ Andrew Watterson y Rory O'Neill, “Double trouble on relative risk for occupational diseases”, *Hazards Magazine*, marzo de 2015.

para decenas de miles de productos químicos industriales potencialmente peligrosos. En tercer lugar, cuando se presentan reclamaciones relativas a la exposición a sustancias peligrosas, “casi nunca se dispone de pruebas objetivas del alcance, o incluso de la existencia, de la exposición”⁶⁶, aunque el seguimiento y el mantenimiento de esos datos sería responsabilidad del empleador, y su inexistencia se utiliza para justificar una denegación inaceptable de reparaciones a trabajadores enfermos y discapacitados. Por último, es frecuente que los trabajadores cambien de empleadores y de industrias, lo cual puede someterlos a exposiciones peligrosas diversas. Es posible que se invoque la conducta personal de los trabajadores, como el consumo de tabaco o de alcohol, para complicar aún más la determinación de las causas.

IV. Conclusiones y recomendaciones

72. **La exposición de los trabajadores a sustancias tóxicas puede y debe considerarse una forma de explotación y constituye un desafío mundial en cuyo marco países de todos los niveles de desarrollo tienen parte en el problema. Los Estados, las empresas y las organizaciones internacionales pueden eliminar o reducir al mínimo los casos de exposición y deben hacerlo con toda urgencia.**

73. **El Relator Especial presenta 15 principios para ayudar a los Estados, las empresas y otros interesados a proteger, respetar y hacer efectivos los derechos humanos de los trabajadores que han sido infringidos por la exposición ocupacional de esas personas a sustancias tóxicas y otras sustancias peligrosas. Los principios se basan en el derecho internacional de los derechos humanos y tienen como fuente los Principios Rectores sobre las Empresas y los Derechos Humanos, los instrumentos de la OIT y los acuerdos internacionales sobre sustancias químicas y desechos tóxicos, entre otras cosas⁶⁷. Estos principios se derivan de los casos señalados a la atención del mandato desde su inicio en 1995.**

74. **A juicio del Relator Especial, la aplicación de esos principios contribuirá a fortalecer la coherencia entre los derechos humanos y las normas sobre salud y seguridad en relación con la exposición de los trabajadores a sustancias tóxicas. No tienen el propósito de ser definitivos, sino que marcan el comienzo de un proceso para aclarar las obligaciones y responsabilidades de todas las partes.**

75. **En los próximos meses, el Relator Especial recogerá aportaciones de los Estados y otros interesados acerca de la forma en que esos principios se encuentran reflejados en sus leyes, políticas y procedimientos pertinentes sobre la exposición ocupacional. Se propone presentar al Consejo de Derechos Humanos en un período de sesiones futuro un conjunto de principios más elaborados que ofrezca un marco de aplicación para los Estados, las empresas y otros agentes. El Relator Especial alienta a la OIT y a la OMS a proseguir sus actividades, y a la OIT en particular a intentar reflejar esos principios en sus iniciativas de examen y revisión de sus convenios y normas sobre seguridad y salud ocupacional.**

A. Principios sobre las obligaciones y responsabilidades para prevenir la exposición

76. **Los Estados tienen la obligación, y las empresas comerciales la responsabilidad, de respetar, proteger y hacer efectivos los derechos de los trabajadores; los consumidores, los militares, los inversores y otros también tienen responsabilidades que deberán considerarse.**

⁶⁶ McElveen, “Establishing proof of exposure”.

⁶⁷ Por ejemplo, las recomendaciones aprobadas por la Conferencia Internacional sobre la Gestión de los Productos Químicos (SAICM/ICCM.3/15) y las recomendaciones de un curso práctico internacional sobre sustancias peligrosas en el ciclo de vida de los productos eléctricos y electrónicos, celebrado en Viena en 2011 (SAICM/OEWG.1/11).

Principio 1

Los Estados tienen la obligación de proteger los derechos humanos de todos los trabajadores mediante la prevención de la exposición a sustancias tóxicas

77. Los Estados deben hacer todo lo que esté en sus manos para proteger a todos los trabajadores de la exposición ocupacional a sustancias tóxicas en su territorio y/o bajo su jurisdicción. Esta obligación existe independientemente de que el empleador sea una empresa comercial o el Estado. Ello requiere adoptar las medidas apropiadas para prevenir, investigar, castigar y reparar los abusos en casos de exposición ocupacional a sustancias tóxicas u otras sustancias peligrosas mediante políticas adecuadas, medidas legislativas, actividades de reglamentación y cumplimiento y sometimiento a la justicia⁶⁸.

78. Los derechos humanos son universales. Todas las personas tienen el mismo derecho a un trabajo seguro y saludable, independientemente del nivel de ingresos, la edad, el género, el origen étnico, la raza, la religión u otra categoría o condición. Los Estados tienen una mayor obligación por lo que respecta a la protección de los trabajadores que corren riesgos sociales o fisiológicos mayores, incluidos los trabajadores del sector informal en cadenas de suministro mundiales. Los trabajadores migratorios, las minorías y las personas con discapacidad tienen derecho al mismo grado de protección. Los niños y las mujeres embarazadas nunca deben utilizar sustancias tóxicas en el trabajo o estar expuestos a ellas de cualquier otro modo. Deben adoptarse medidas especiales para la protección de los trabajadores contra la exposición a sustancias tóxicas en sectores de riesgo elevado, como la minería, la agricultura, la construcción, la energía, las operaciones militares, el sector de las manufacturas y la eliminación de residuos, entre otras cosas.

Principio 2

Las empresas tienen la responsabilidad de prevenir la exposición ocupacional a sustancias tóxicas

79. Las empresas tienen una responsabilidad, como parte de la debida diligencia que se espera de ellas, de “prevenir [y] mitigar” su impacto sobre los derechos humanos, incluidos los derechos de los trabajadores, a causa de la exposición a sustancias tóxicas⁶⁹. Entre esas entidades se cuentan los empleadores, los compradores de productos y los proveedores de sustancias tóxicas, entre otros. En el caso de la exposición ocupacional, los “efectos” de que son responsables las empresas incluyen la exposición a sustancias tóxicas y las consecuencias nocivas para la salud. Dicha responsabilidad exige un mejoramiento constante de las condiciones de trabajo y abarca los efectos en los derechos humanos en los que están implicados a causa de sus relaciones comerciales y sus cadenas de suministro, tanto en el propio país como en el extranjero, y a lo largo de todo el ciclo de vida de sus productos⁷⁰.

80. La prevención de la violación de los derechos humanos es fundamental y constituye un prelude de la mitigación en los procedimientos de diligencia debida⁷¹. Con objeto de prevenir los efectos en los derechos de los trabajadores, las empresas tienen ante todo la responsabilidad de prevenir la exposición mediante la eliminación de las sustancias tóxicas de sus productos y procesos de producción en la máxima medida posible. Si los peligros no pueden eliminarse, las empresas deben aplicar de manera rigurosa y sistemática la jerarquía de control de riesgos para prevenir la exposición, con un equipo de protección personal como último recurso. En la medida en que la exposición no pueda evitarse una vez aplicada la citada jerarquía, las empresas deben mitigar los efectos de la exposición en la salud.

⁶⁸ Principios Rectores sobre las Empresas y los Derechos Humanos, principios 1, 4 y 15.

⁶⁹ *Ibid.*, principio 15.

⁷⁰ Véase, por ejemplo, Global Sustainability Standards Board, Global Reporting Initiative, *GRI 403: Occupational Health and Safety 2018*.

⁷¹ Principios Rectores sobre las Empresas y los Derechos Humanos.

Principio 3

La eliminación de los peligros tiene una importancia capital para prevenir la exposición ocupacional

81. Los Estados deben incluir la jerarquía de control de riesgos en su legislación a fin de prevenir en la medida de lo posible la exposición de los trabajadores a sustancias tóxicas. Los Estados deben asegurar que esas leyes y políticas tengan en la práctica una función cautelar debido al alto nivel de incertidumbre científica que suele existir. Como parte de su legislación sobre seguridad y salud ocupacional, los Estados deben obligar a las empresas a eliminar los peligros siempre que sea posible y a aplicar la jerarquía cuando el peligro no pueda ser eliminado.

Principio 4

Los trabajadores tienen derecho a no estar expuestos a sustancias tóxicas sin su consentimiento fundamentado previo

82. El derecho a un trabajo seguro y saludable abarca el derecho de los trabajadores a no estar expuestos a sustancias tóxicas sin su consentimiento fundamentado previo. Los trabajadores tienen derecho a apartarse de situaciones en que estén expuestos a sustancias químicas tóxicas y otras sustancias peligrosas cuando exista una justificación razonable para creer que presentan un peligro.

83. Los Estados deben respetar, proteger y hacer efectivo el derecho de los trabajadores a no estar expuestos sin su consentimiento fundamentado previo. Los Estados deben reflejar claramente este derecho en sus leyes, investigar y sancionar, según proceda, cualquier presunta violación y ratificar los convenios de la OIT. Los Estados deben incluir el incumplimiento de este principio por las empresas en su definición de trabajo forzado, esclavitud moderna y/o explotación.

84. Los empleadores tienen la responsabilidad de informar cabalmente a los trabajadores y de obtener su consentimiento antes de exponerlos a sustancias tóxicas. Los empleadores deben respetar este principio y este derecho independientemente de la disposición del Estado a promulgar las leyes necesarias. Los empleadores deben poder demostrar que han informado a todos los empleados, subcontratistas y proveedores de ese derecho y que existen mecanismos o procedimientos para que los trabajadores se aparten del trabajo en condiciones inseguras o insalubres. La ausencia de dichos mecanismos o procedimientos no debe suponer un obstáculo para el ejercicio de ese derecho.

Principio 5

Las obligaciones y responsabilidades de prevenir la exposición de los trabajadores a sustancias tóxicas rigen más allá de las fronteras

85. La transferencia transfronteriza de trabajos peligrosos a países con niveles inferiores de protección debe considerarse una forma de explotación si no se adoptan medidas razonables para proteger a los trabajadores.

86. Los Estados tienen la obligación de adoptar medidas razonables para prevenir la exposición de los trabajadores a sustancias tóxicas que se produzca fuera de sus territorios y que dé lugar a violaciones de los derechos aplicables a causa de actividades de empresas sobre las que pueden ejercer control y que sean razonablemente previsibles⁷². Los Estados deben exigir que esas entidades actúen con la debida diligencia para identificar y prevenir abusos por parte de filiales extranjeras, proveedores y otros socios comerciales.

87. Las empresas son responsables de las consecuencias de situaciones de exposición de los trabajadores a sustancias peligrosas que ellas mismas provoquen, contribuyan a provocar o con las que estén vinculados⁷³. Las empresas tienen una

⁷² Comité de Derechos Económicos, Sociales y Culturales, observación general núm. 24 (2017) sobre las obligaciones de los Estados en virtud del Pacto Internacional de Derechos Económicos, Sociales y Culturales en el contexto de las actividades empresariales, párrs. 30 a 32.

⁷³ Principios Rectores sobre las Empresas y los Derechos Humanos, principio 13.

responsabilidad durante todo el ciclo de vida de sus productos, desde la extracción hasta la eliminación final, a lo largo de las cadenas de suministro en ambos sentidos. Tienen la responsabilidad de asegurar que ellos mismos y sus proveedores, tanto en el propio país como en el extranjero, adopten buenas prácticas, como la jerarquía de control de riesgos, a fin de prevenir la exposición a sustancias tóxicas durante el ciclo de vida de sus productos, en sus operaciones y en sus servicios.

Principio 6

Los Estados deben impedir la actuación de terceros que distorsionen los datos científicos o manipulen los procesos para perpetuar la exposición

88. Los Estados deben impedir, con medidas legislativas o de otro tipo, que las empresas o terceros distorsionen deliberadamente los datos científicos o manipulen los procesos en detrimento de la salud y la seguridad de los trabajadores. La protección de la salud pública es una excepción legítima a la libertad de expresión. Deben contemplarse sanciones penales para este tipo de conductas por parte de las empresas u otros agentes.

Principio 7

La protección de los trabajadores contra la exposición a sustancias tóxicas protege a sus familias, a sus comunidades y al medio ambiente

89. La protección de los trabajadores contra la exposición a sustancias tóxicas tiene beneficios más generales para la sociedad. Los Estados deben reconocer que la protección de los trabajadores contra la exposición ocupacional a sustancias tóxicas y la protección del medio ambiente se refuerzan mutuamente. Las leyes y políticas de protección de la salud humana contra la exposición a sustancias peligrosas deben tener en cuenta tanto la exposición ocupacional como la ambiental, entre otros factores. Los Estados deben asegurar una cooperación eficaz entre las autoridades competentes en los terrenos del trabajo, la salud pública y el medio ambiente.

B. Principios relativos a los derechos a la información, la participación y la reunión

90. Los derechos a la información, a la participación y a la libertad de expresión y de asociación, así como los derechos a afiliarse a un sindicato y a la negociación colectiva, facilitan la prevención de violaciones y transgresiones de los derechos humanos causadas por la exposición de los trabajadores a sustancias tóxicas. Además, la plena realización del derecho a la información es necesaria para la realización del derecho de los trabajadores a un recurso efectivo por los efectos nocivos de dicha exposición.

Principio 8

Todos los trabajadores tienen el derecho de saber, que incluye el derecho de conocer sus derechos

91. Todos los trabajadores tienen derecho a recibir información actualizada acerca de su exposición efectiva y potencial a sustancias tóxicas y otras sustancias peligrosas. La información sobre salud y seguridad ocupacional debe estar a disposición de los trabajadores, que deben tener acceso a ella en una forma que responda efectivamente a sus necesidades, teniendo presentes sus aptitudes y circunstancias, y se debe comunicar mediante actividades de capacitación y otros medios (A/HRC/30/40). Los Estados, los empleadores y las empresas deben comunicar eficientemente la información sobre salud y seguridad, incluidos los resultados de los exámenes médicos, a los trabajadores, a los sindicatos y a otros representantes de los trabajadores.

92. Los Estados tienen la obligación de generar, recopilar, evaluar y actualizar información sobre los peligros y riesgos a que se enfrentan los trabajadores, así como pruebas epidemiológicas sobre enfermedades y discapacidades ocupacionales (*ibid.*).

93. Las empresas tienen la responsabilidad de identificar y evaluar la exposición efectiva y potencial de los trabajadores a sustancias peligrosas en sus cadenas de suministro o resultante de sus propias actividades (*ibid.*). Ello incluye información sobre los tipos de sustancias peligrosas en los entornos ocupacionales, los peligros intrínsecos de esas sustancias y datos relacionados con la exposición. Los proveedores de productos químicos tienen una mayor responsabilidad de identificar y evaluar la información sobre la protección de los trabajadores, así como de comunicarla a los trabajadores, a los empleadores, a otras empresas y a los Estados⁷⁴.

94. Además del derecho a la información acerca de los riesgos ocupacionales para la salud, los trabajadores también tienen derecho a ser informados sobre todos sus derechos y sobre las obligaciones y responsabilidades pertinentes de los Estados y de las empresas en relación con esos derechos, y sobre la forma en que pueden ejercer y defender sus derechos cuando estos son infringidos o violados.

Principio 9

La información sobre salud y seguridad en relación con las sustancias tóxicas nunca debe ser confidencial

95. Los Estados tienen la obligación de asegurar la legitimidad de toda consideración de la información sobre las sustancias tóxicas como información empresarial confidencial o secreto comercial (*ibid.*). Si bien debe asegurarse la confidencialidad de los historiales médicos personales, esto no debe utilizarse para ocultar problemas de salud que se produzcan en el lugar de trabajo. Los Estados deben asegurar que puedan aplicarse sanciones penales a las empresas y otros agentes que no divulguen información relacionada con la salud y la seguridad. Los empleadores y los proveedores de sustancias químicas deben declarar claramente en sus políticas que no mantendrán en secreto esa información.

Principio 10

El derecho a un trabajo seguro y saludable es inseparable del derecho a la libertad de asociación, el derecho a organizarse y el derecho a la negociación colectiva

96. La libertad de asociación y el reconocimiento efectivo del derecho a la negociación colectiva son derechos laborales fundamentales aplicables a todas las personas de todos los Estados, independientemente del nivel de desarrollo económico de estos⁷⁵. Sin libertad de asociación, incluida la libertad de fundar sindicatos, y sin derecho a la negociación colectiva, los trabajadores tienen pocas oportunidades de defender su derecho a un trabajo seguro y saludable y otros derechos humanos. Para que puedan cumplirse las obligaciones en materia de derechos humanos, así como el objetivo del desarrollo sostenible, es necesaria la intervención de los titulares de derechos, y debe promoverse la participación de los trabajadores en todo el sistema⁷⁶.

97. Los Estados tienen la obligación de proteger, promover, respetar y hacer efectivos los derechos a la libertad de asociación, a organizarse y a la negociación colectiva mediante leyes, reglamentos y políticas eficaces. Deben asegurar que todos puedan ejercer el derecho a la libertad de asociación en el lugar de trabajo, sin discriminación alguna⁷⁷.

98. Las empresas deben cumplir sus obligaciones de respetar los derechos de los trabajadores a la libertad de asociación, a organizarse y a la negociación colectiva. Los Estados deben cumplir su función de prevenir o hacer cesar las violaciones de esos derechos por las empresas y otras partes.

⁷⁴ OIT, Convenio sobre los Productos Químicos.

⁷⁵ Declaración de la OIT relativa a los Principios y Derechos Fundamentales en el Trabajo (1998).

⁷⁶ Convenio de la OIT sobre Seguridad y Salud.

⁷⁷ Por ejemplo, por razón del tipo de trabajo o de empleo, las características del lugar de trabajo, la empresa o el sector, o la situación en materia de inmigración u otra situación.

Principio 11

Los trabajadores, los representantes de los trabajadores, los denunciantes de irregularidades y los defensores de derechos deben estar protegidos frente a las represalias y a las amenazas de represalias

99. Empoderar a los titulares de derechos, y en especial a los que corren un mayor riesgo, para que puedan defender sus derechos ayuda a los Estados a cumplir sus obligaciones en virtud del derecho de los derechos humanos y promueve el principio de rendición de cuentas y los derechos a la información y a un recurso efectivo, entre otros.

100. Para que los trabajadores puedan gozar de su derecho a un trabajo seguro y saludable, ellos o sus representantes deben poder plantear sus inquietudes a los empleadores, a sus colegas y a los organismos gubernamentales sin temor a represalias. Los trabajadores, los denunciantes de irregularidades y los defensores de los derechos humanos no deben estar expuestos a intimidaciones, amenazas y otras represalias por ejercer sus derechos y defender los derechos de quienes son o pueden ser víctimas de la exposición ocupacional a sustancias tóxicas y otras sustancias peligrosas.

101. La amenaza de la pérdida del empleo o de ingresos no debe utilizarse en ningún caso para obtener una ventaja a la hora de intentar llegar a un acuerdo sobre la protección de los derechos de los trabajadores a un trabajo seguro y saludable. Esto incluye las amenazas de trasladar los puestos de trabajo al extranjero que puedan formular los empleadores.

102. Los Estados deben contar con programas nacionales de protección de los defensores de los derechos laborales y emprender las actuaciones disciplinarias, civiles y penales apropiadas contra los culpables de actos de represalia, intimidación o amenazas de represalia contra los defensores. Los Estados deben encargar exámenes periódicos independientes de los programas nacionales de protección para mejorar su eficacia a la hora de proteger a los defensores de los derechos laborales, en consulta con los trabajadores, los denunciantes de irregularidades y los defensores de derechos, así como con los sindicatos y las organizaciones de la sociedad civil que los representan.

C. Principios relativos a unos recursos efectivos

103. Asegurando el acceso a la justicia y a recursos efectivos se puede conseguir que las empresas formulen y adopten prácticas más seguras que les hagan cumplir sus responsabilidades, y que pueden abarcar desde utilizar alternativas menos peligrosas hasta adoptar controles de ingeniería que reduzcan la exposición. Por otra parte, la impunidad de determinadas empresas y otros beneficiarios cuyos actos u omisiones hacen que los trabajadores estén expuestos a sustancias tóxicas es un obstáculo para mejorar la situación de innumerables trabajadores de todo el mundo. La permanente falta de acceso a recursos efectivos para los trabajadores que son víctimas de la exposición a sustancias tóxicas actúa como barrera para la transición a un trabajo más seguro y saludable para millones de trabajadores de todo el mundo.

Principio 12

Los Gobiernos deben penalizar la práctica de permitir que los trabajadores estén expuestos a sustancias cuya peligrosidad se conoce o debería conocerse

104. Deberían existir sanciones penales para contribuir a asegurar la rendición de cuentas en relación con las obligaciones de derechos humanos y luchar contra la impunidad.

105. Los Estados deben asegurar que la legislación nacional contemple la responsabilidad penal de los empleadores y otras personas y entidades responsables de exponer a los trabajadores a sustancias cuya peligrosidad se conoce o debería conocerse. Los Estados deben investigar y enjuiciar esos casos y asegurar la rendición

de cuentas por parte de los responsables de las empresas, así como de otros agentes implicados de manera consciente o por negligencia.

Principio 13

Los trabajadores, sus familias y sus comunidades deben tener acceso inmediato a un recurso apropiado y efectivo, que debe estar disponible desde el momento de la exposición

106. Los trabajadores expuestos a sustancias tóxicas sufren un daño y sus derechos son infringidos o violados en el momento de la exposición, y no solo cuando una enfermedad o discapacidad se manifiestan en un trabajador o en el hijo de un trabajador. La latencia de las enfermedades y discapacidades después de la exposición, que puede ser de años o incluso decenios, puede hacer imposible un recurso efectivo para muchos trabajadores y sus familias.

107. Un recurso apropiado y efectivo entraña una pronta reparación por los daños sufridos, la atención de la salud, una indemnización, garantías de no repetición y una capacitación apropiada para la rehabilitación, la reinserción y un alojamiento razonable⁷⁸. Un recurso efectivo incluye también llevar ante la justicia a las personas responsables de la exposición a sustancias tóxicas.

108. Los Estados tienen la obligación primordial de hacer efectivo el derecho de un trabajador a un recurso apropiado y efectivo, incluso en el marco de su legislación. Los Estados tienen la obligación de investigar automáticamente la posible existencia de violaciones generalizadas una vez que se haya alcanzado un umbral mínimo y de recurrir a la cooperación internacional para hacerlo. Esto debe estar separado de cualquier investigación o medida emprendida por la víctima para obtener un recurso efectivo. Los Estados deben asegurar la cesación de las condiciones que dan lugar a la exposición ocupacional, lo que incluye cambios en las leyes y prácticas pertinentes, prohibiciones de la producción y el uso de ciertas sustancias y la difusión de información para impedir la repetición (véase A/HRC/33/41, párr. 40). Las sanciones impuestas deben tener una importancia suficiente para inducir y motivar a las empresas y otros agentes a adoptar medidas cautelares que impidan la exposición de los trabajadores a sustancias tóxicas y para servir de factor disuasorio que asegure la no repetición.

109. Las empresas que causan la exposición ocupacional a sustancias tóxicas, contribuyen a ella o están vinculadas con ella tienen la responsabilidad de establecer procesos robustos que permitan a los trabajadores acceder oportunamente a un recurso apropiado y efectivo.

Principio 14

No debería imponerse a los trabajadores ni a sus familias la carga de probar la causa de su enfermedad o discapacidad para tener acceso a un recurso efectivo

110. Imponer la carga de la prueba a las personas perjudicadas por sustancias tóxicas en el trabajo puede representar un desafío enorme y a veces insuperable. Los Estados deben asegurar que, cuando exista información que indique que un trabajador puede haber estado expuesto a sustancias tóxicas en el trabajo, y en los casos en que se haya demostrado que esa exposición ha causado daños en situaciones similares, recaiga en el empleador la carga de demostrar que no se ha producido ningún daño⁷⁹. Esto puede ser particularmente apropiado cuando los hechos y las situaciones pertinentes para resolver una denuncia están totalmente o en parte bajo el control exclusivo del empleador o de un tercero.

111. La información que indica que un trabajador puede haber estado expuesto a sustancias tóxicas no debe ser necesariamente en forma de niveles de exposición o de

⁷⁸ OIT, *Fomentando la diversidad y la inclusión mediante ajustes en el lugar de trabajo: una guía práctica* (Ginebra, 2016).

⁷⁹ Si no existe un empleador o si no se puede ofrecer otro recurso efectivo al trabajador, debería haber la posibilidad de un recurso alternativo.

identificación de la sustancia química concreta; también se puede indicar que se conoce que se han producido enfermedades ocupacionales en un tipo particular de trabajo o de industria. El empleador u otros beneficiarios de los servicios deben tener la posibilidad de intentar refutar la presunción de responsabilidad, pero la carga de la prueba debe corresponder al empleador.

112. Una dificultad importante para los trabajadores en las cadenas de suministro es que la empresa tal vez no cuente con recursos suficientes para proporcionar un recurso adecuado y efectivo a los trabajadores perjudicados. Los Estados deben asegurar que los beneficiarios de los servicios también sean responsables de proporcionar recursos. Efectivamente, algunos Estados han elaborado leyes que contemplan las circunstancias en que una empresa permite o facilita que otra se beneficie de cualquier forma de la explotación de los trabajadores, que puede incluir la exposición a sustancias tóxicas⁸⁰.

Principio 15

Los Estados deben reclamar su jurisdicción respecto de casos transfronterizos de trabajadores perjudicados por la exposición ocupacional

113. Las personas que han sido víctimas de una violación de sus derechos por empresas transnacionales se topan con obstáculos específicos para acceder a recursos efectivos por la exposición ocupacional a sustancias tóxicas. Entre las dificultades figuran las de probar los daños sufridos y determinar las relaciones de causa y efecto, así como los costos económicos de acceder a un recurso en la mayoría de jurisdicciones y la falta de independencia de ciertos sistemas judiciales. Los Estados tienen la obligación de adoptar las medidas necesarias para afrontar esos desafíos a fin de impedir una denegación de justicia y asegurar el derecho a un recurso efectivo para las víctimas de la exposición ocupacional a sustancias tóxicas⁸¹.

114. Los Estados deben asegurar que sus leyes contemplen la jurisdicción respecto de la exposición de trabajadores a sustancias tóxicas que se haya producido en el extranjero. Los Estados de origen deben reclamar su jurisdicción respecto de esas infracciones de las empresas, que debe incluir sanciones penales en los casos apropiados. Una rendición de cuentas efectiva y el acceso a los recursos en los casos transfronterizos exige una cooperación internacional que incluya medidas en materia de prevención y la divulgación de información.

⁸⁰ Véase, por ejemplo, la Ley sobre la Esclavitud Moderna, 2015, del Reino Unido de Gran Bretaña e Irlanda del Norte, Parte 1, secc. 3, párr. 5).

⁸¹ Comité de Derechos Económicos, Sociales y Culturales, observación general núm. 24.

Anexo

[Inglés únicamente]

Mapping references to the rights of workers in previous reports and selected communications of the Special Rapporteur

For over 20 years, the Commission on Human Rights, and subsequently the Human Rights Council, have mandated a special rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes (formerly the illicit movement and dumping of toxic and dangerous products and wastes) to monitor and report on the issues confronting workers in various industries around the world. These sectors include extractive industries, manufacturing, agriculture and food, the dismantling of end-of-life ships (shipbreaking) and the disposal of electronic waste and other forms of waste disposal, in both the formal and informal sectors. The present annex contains examples of cases brought to the attention of the mandate, selected from reports of and communications to the Special Rapporteur. It is envisaged that a more complete compilation will be submitted to the Council at future sessions.

<i>Report</i>	<i>References to occupational exposures</i>	<i>Challenges faced by workers</i>
<p>“Legal framework related to the release of toxic and dangerous products during armed conflict”</p> <p>(A/HRC/5/5, sect. III) (2007)</p>	<p>The report contained an overview of previous reports that illustrate impacts of workers’ exposure to toxic chemicals on human rights.</p> <p>The former Special Rapporteur’s report in 2004 highlighted the adverse impacts on the human rights of workers and communities involved in hazardous waste disposal or recycling operations of obsolete ships and electronic wastes in developing countries.¹</p> <p>The 2006 report of the former Special Rapporteur focused on chronic, low-level exposure to hazardous chemicals.² Previously the former Special Rapporteur reported on the human rights impact of hazardous chemicals from acute exposures, such as in the context of incidents of pesticide poisoning in developing countries or from catastrophes like the Bhopal disaster.</p> <p>In the 2007 report the former Special Rapporteur drew attention to the adverse effects of toxic and dangerous products in the context of armed conflicts, including on soldiers.</p>	<ul style="list-style-type: none"> • Inadequate standards of protection • Limited progress in prevention of exposure • Disconnected efforts on occupational and environmental health • Opaque supply chains and the transfer of hazardous work • Exploitation of those most at risk

¹ E/CN.4/2004/46 and Corr.1, paras. 29–43.

² E/CN.4/2006/42.

<i>Report</i>	<i>References to occupational exposures</i>	<i>Challenges faced by workers</i>
<p>“Mission to Ukraine” (A/HRC/7/21/Add.2) (2008, mission carried out in 2007)</p>	<p>In relation to workers, the former Special Rapporteur was informed that workers handling toxic material (acid tars) were not informed of the materials toxicity and would unload the acid tars manually. These tars observed to be in partially exposed conditions around the grounds of the Dobrotvir power station, posing threats of exposure to the workers, their families and the communities living around the area.</p>	<ul style="list-style-type: none"> • Monitoring and enforcement gaps • Failures to realize the right to information
<p>“Adverse effects on human rights and right to information and participation” (A/HRC/7/21, sect. III) (2008)</p>	<p>The former Special Rapporteur noted that, because of structural conditions in many developing countries, women and the young are particularly at risk from transfers of toxic and dangerous products and wastes. Women, children and the young are often among the poorest and therefore likely to work in polluting industries and scavenge dumps of waste for reusable materials. They are also most likely to have limited access to information on waste products and to health facilities in the event of contamination. The former Special Rapporteur called for greater global attention to the gender and age dimensions of the illicit movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights.</p>	<ul style="list-style-type: none"> • Exploitation of those most at risk • Failures to realize the right to information • Opaque supply chains and the transfer of hazardous work
<p>“Mission to the United Republic of Tanzania” (A/HRC/9/22/Add.2) (2008)</p>	<p>During a country visit to Tanzania in 2008, the former Special Rapporteur observed that workers did not use safety equipment such as gloves, dust masks, boots and glass retorts in the course of extracting and processing gold. He was particularly concerned because dangerous chemicals, mercury and cyanide, were used in the extraction process. Most of these were artisanal and small-scale miners (ASM) in the informal sector.</p> <p>The former Special Rapporteur was informed that there were instances of miners not receiving adequate information on the impact mercury can have on their health. In other cases, however, local miners were sensitized through efforts made by the Government, non-governmental organizations and through projects such as the Global Mercury Project, launched by UNIDO and the Ministry of Energy and Minerals with the support of other stakeholders. Some workers informed the former Special Rapporteur that they were aware of the dangers of using mercury and other chemicals in the extraction process; however, due to poverty and the lack of a suitable alternative, the miners were forced to continue to use mercury and other dangerous products without supervision, endangering the health of themselves, their children and their community more broadly.</p> <p>The former Special Rapporteur was concerned about the number of women and children he saw during his visits to the artisanal and small-scale mining areas. Many of the women and children were unaware of the health and safety hazards that are associated with artisanal and small-scale mining, such as mercury poisoning in the long term, amongst others. It was the case that during the processing of gold, ore is moved to the milling centres by women and children. In addition to working in harsh environments, often exposed to direct sunlight and not able to afford safety equipment, the women were sometimes subjected to threats and intimidation by other members of</p>	<ul style="list-style-type: none"> • Inadequate standards of protection • Limited progress in prevention of exposure • Exploitation of those most at risk • Failures to realize the right to information • Opaque supply chains and the transfer of hazardous work • Monitoring and enforcement gaps • Informal economy

Report	References to occupational exposures	Challenges faced by workers
	<p>the community, especially if they were migrants.</p> <p>The presence of child labour in mining was attributed to poverty. Children were documented working in artisanal and small-scale mines in order to help the family and supplement total household income in order to buy basic goods and food. In Tanzania, child labour in the mining sites was described as common from the age of 10. The former Special Rapporteur saw children working and playing with their bare hands with toxic mercury, a particularly dangerous state of affairs as they are vulnerable to physical and chemical hazards. Mercury can cause severe damage to the developing brain, especially for developing children. The former Special Rapporteur was particularly concerned that children as young as 10 were being exposed to such highly toxic substances.</p> <p>The former Special Rapporteur regretted the lack of statistics on occupational diseases related to mining. The former Special Rapporteur was informed by the authorities, non-governmental organizations and mining associations that there was no system of recording mining-related incidents, such as accidents that occur during the processing of gold amongst others. This was particularly worrying given the fact that artisanal and small-scale miners are often some of the poorest people and are therefore unlikely to have access to health-care. The former Special Rapporteur was further informed that while many miners were aware of the toxicity and dangers of mercury poisoning as well as other chemicals that may be harmful to their health, the miners and communities do not know when deaths and illnesses are related to their work, or to other illnesses.</p>	
<p>Communications sent to and replies received from Governments (see A/HRC/7/21/Add.1, Germany, Malaysia) (2006)</p>	<p>On 17 July 2006, the former Special Rapporteur sent an urgent appeal regarding allegations relating to the SS Blue Lady (ex-Norway) bearing tonnes of toxic wastes such as asbestos, polychlorinated biphenyls (PCBs) and other contaminants in its structure, and which was reportedly waiting to be dismantled in Alang, state of Gujarat, India. The ship was reportedly denied entry to ship breaking yards in Bangladesh in February 2006 based on its toxic waste content. It was alleged that the ship-breaking yards in Alang lacked the possibility of protection of workers from exposure to toxic chemicals and environmentally sound management of toxic wastes. According to reports from experts, as much as 1,200 tonnes of asbestos remained in the SS Blue Lady, posing grave risks to workers and the community. The former Special Rapporteur expressed concern with the potential human rights violations that could occur if the allegations mentioned in this communication were correct and the dismantling of the ship did indeed take place.</p>	<ul style="list-style-type: none"> • Monitoring and enforcement gaps • Exploitation of those most at risk • Informal economy • Opaque supply chains and the transfer of hazardous work • Failures to realize the right to information
<p>“Shipbreaking” (A/HRC/12/26) (2009)</p>	<p>Shipbreaking represents an important source of raw material supply and provides jobs to tens of thousands of persons. Over 95 per cent of a ship can be recycled. In principle the recycling of end-of-life vessels constitutes the best option for ships that have reached the end of their operating life, and proper facilities are available to recycle ships. However, the abhorrent working</p>	<ul style="list-style-type: none"> • Inadequate standards of protection • Monitoring and

Report	References to occupational exposures	Challenges faced by workers
	<p>conditions and abysmal environmental protections prevailing at many shipbreaking yards in the world, and in particular in South Asian countries where ships are dismantled directly on tidal beaches, are noted to risk adversely affecting the enjoyment of several human rights, including the right to life, the right to the highest attainable standard of physical and mental health, and the right to safe and healthy working conditions, among others.</p>	<p>enforcement gaps</p>
	<p>The report notes with concern the ongoing use of these substandard shipping yards, and their unsustainable “beaching” practice, by major shipping companies around the world despite the availability of safer methods and the prohibition on such substandard practices in their home states.</p>	<ul style="list-style-type: none"> • Opaque supply chains and the transfer of hazardous work • Inaccessible remedies, justice and accountability
	<p>In shipbreaking yards, workers often are exposed to toxic chemicals including asbestos dusts and fibres, highly toxic industrial chemicals which have been banned for decades but are still present in ships, as well as lead, mercury, arsenic or cadmium in paints, coatings and electrical equipment. Workers are often without protective equipment to reduce exposure. Prolonged exposure to these chemicals increases the risk of developing slow-progressing but fatal diseases, which may not become apparent until many years after exposure.</p>	<ul style="list-style-type: none"> • Disconnected efforts on occupational and environmental health
	<p>Shipbreaking activities expose workers to a wide range of workplace activities or conditions which may cause death, permanent or temporary disabilities, injuries, ill-health and occupational diseases. Long-term exposure to hazardous substances and wastes protection may also lead to serious or irreversible work-related diseases, including lung diseases, several forms of cancer and asbestos-related illnesses. Most workers are illiterate, very poor and are not aware of the health and safety risks associated with long-term exposure to these substances. Persons living in residential areas close to the yards also risk developing diseases related to the exposure to toxic and dangerous substances produced during shipbreaking activities.</p>	<ul style="list-style-type: none"> • Failures to realize the right to information • Limited progress in prevention of exposure
	<p>Furthermore, a great number of workers die or are seriously injured because of work-related accidents or occupational diseases related to long-term exposure to hazardous materials present on end-of-life ships. Workers do not usually receive any information or safety training. They live in makeshift facilities which often lack basic minimum requirements such as sanitation, electricity and even safe drinking water, compounding health risks of toxic exposures at work. There is a general lack of medical facilities and social protection, and injured workers or their relatives hardly receive any compensation for work-related accidents resulting in fatal injuries or permanent disabilities. In spite of an increased international awareness on the issue in past years, shipbreaking continues to be one of the most hazardous occupations in the world due to the extremely poor working practices and environmental conditions prevailing in many shipbreaking yards.</p>	<ul style="list-style-type: none"> • Exploitation of those most at risk • Restrained freedom of association • Deliberate efforts to delay or obstruct protection from toxic exposure
	<p>Health and safety legislation is often not applicable to shipbreaking activities, due to the fact that it is not recognized as an industry in some countries, and this leaves workers in shipbreaking yards in a particularly vulnerable situation. Furthermore, when national labour standards are applicable, they are rarely enforced due to corruption of law enforcement officials and the lack</p>	<ul style="list-style-type: none"> • Informal economy

of effective inspection mechanisms. In many shipbreaking yards, workers are not provided with personal protective equipment (PPE), such as skin, eye or lung protection, aimed at ensuring the safe handling of hazardous materials or preventing the inhalation of toxic substances. Appropriate PPE for working in specialized areas, such as respiratory protective equipment for work in conditions where there is a risk of oxygen deficiency, is also generally not available. There is usually no equipment for machine safety, fire safety, chemical safety and water safety, and when such equipment exists, it is poorly maintained. With a few exceptions, the vast majority of workers do not receive any information on the hazards or risks to health and safety, nor do they receive any training on how to minimize risks to health and safety at work.

Due to the informal nature of working arrangements, workers are not covered by social protection schemes, and do not receive any benefit in case of injury, sickness, temporary or permanent disability in the case of occupational accidents or diseases. Injured workers or relatives of deceased workers receive hardly any compensation for work-related accidents resulting in fatal injuries or permanent disabilities. When compensation is paid, the amount received is generally much lower than the amount stipulated by the law. In case of accidents, employers usually pay for first treatment and immediate medical expenses, but not for long-term medical treatment or for expenses linked to chronic work-related diseases. If a worker is affected by an occupational disease, he is often unable to retain or find further employment opportunities in any of the yards.

There is no written contract of employment for semi-skilled and unskilled workers. They can be fired at any time with no prior notice, and without the need to indicate any reasonable ground. The absence of job security, due to the lack of formal work contracts, and the climate of intimidation prevailing in the yards de facto prevent workers in shipbreaking yards from exercising their right to form trade unions for the promotion and protection of their economic and social interests and their right to collective bargaining.

Semi-skilled and unskilled workers usually live in makeshift facilities built by yard owners on, or just outside, the yards. The shacks are often congested, and lack basic sanitation facilities, electricity and even drinking water. Workers are too often not provided with proper cooking or eating facilities in the yards, and are compelled to go to nearby shops and tea stalls for their food. Due to their proximity to the yard, workers continue to be exposed to toxic and dangerous substances like asbestos and hazardous fumes at their sleeping quarters.

There are no comprehensive statistical data on persons who died or developed disabilities as a result of occupational accidents in the shipbreaking industry. The authorities rarely keep records on accidents occurring at shipbreaking facilities. In Bangladesh, for example, neither the yard owners nor public authorities appear to collect statistical data about deaths and disabilities caused by accidents at shipbreaking yards. According to media reports, more than 400 workers were killed and 6,000 seriously injured between 1985 and 2005 in Bangladesh, but NGOs estimate that at least 1,000 people have died in Chittagong due to accidents over the last decades. When official figures exist, they appear to be largely underestimated. According to official figures, for example, there were 434 incidents at the Alang yards between 1996 and 2003, killing 209 workers;

however, NGOs feared that the number of workers who died or developed disabilities as a result of work accidents may be much higher.

Through the adoption of various unfair practices, employers often conceal information about work-related accidents. Many major cases are not reported and settlements are reached with the workers secretly. In case of fatal accidents, families of the victims are usually not informed, as contractors do not use proper names or addresses of the workers and there is no monitoring or inspection of the yards.

Official and estimated figures do not include workers who died of occupational diseases related to long-term exposure to toxic and hazardous wastes and materials: the “hidden” deaths. It is virtually impossible to get any data about the number of affected workers, since the symptoms of many of these occupational diseases only appear several years after exposure, but it is estimated that a significant number of individuals died, and many others will die in the future, because of occupational diseases related to shipbreaking activities. For example, a medical study submitted to the Indian Supreme Court in September 2006 concluded that 16 per cent of the workforce handling asbestos in Alang showed symptoms of asbestosis, and was therefore at serious risk of developing mesothelioma in the future.

In relation to workers’ rights, the former Special Rapporteur encouraged States to take steps to improve their regulatory and enforcement capacities in the field of labour law and worker safety, health and welfare, so as to strengthen the protection afforded to persons employed in the shipbreaking industry. States were also encouraged to eliminate obstacles which de facto prevent workers in shipbreaking yards from exercising their freedom of association and right to collective bargaining, and set up an effective and reliable system of labour inspections, with the participation of workers’ representatives. Shipbreaking States should also take immediate steps, to the maximum of their available resources, with a view to realizing fully the right of workers to social security in the event of accidents and occupational diseases. Yard owners should take all appropriate measures, when needed through State support and international assistance and cooperation, to improve health and safety at work (inter alia by providing adequate personal protective equipment and safety training), promote better health care, housing and sanitation facilities for workers, and develop appropriate mandatory insurance schemes to protect workers in the event of accidents and occupational diseases.

In relation to data collection, the former Special Rapporteur urged ship-recycling States and yard owners to collect disaggregated statistical data on an annual comparative basis on workers who die or develop disabilities as a result of work-related accidents or occupational diseases, and make these data publicly available.

“Review of the Work and Activities”

(A/HRC/15/22) (2010)

The former Special Rapporteur reminded the Council of the extremely poor working practices and environmental conditions prevailing in most shipbreaking yards would continue to require the attention of the mandate holder. The former Special Rapporteur was of the view that the Convention alone is not sufficient to bring about significant improvements in the working practices prevailing in shipbreaking yards or in the elimination of the serious environmental

- Inadequate standards of protection
- Monitoring and

Report	References to occupational exposures	Challenges faced by workers
	<p data-bbox="607 209 965 236">pollution that the yards generate.</p> <p data-bbox="607 252 1653 576">Electronic and electrical appliances contain hundreds of different substances, many of which are highly toxic and pose significant risks to human health and the environment if they are not managed and disposed of in an environmentally sound manner. In developing countries, the vast majority of obsolete electrical and electronic equipment is dismantled in small-scale, informal workshops that separate their various components (i.e. plastic, ferrous metals, non-ferrous metals, glass) for recycling or reuse. During the process of breaking down old computers and other high-tech devices, workers are exposed to hazardous substances, including toxic heavy metals such as lead, cadmium, beryllium and mercury, hazardous chemicals, such as brominated flame retardants, and other toxic plastic additives. Furthermore, unusable parts are usually disposed of in landfills or burned, causing widespread and long-lasting contamination of soil, air and surface and groundwater resources.</p> <p data-bbox="607 592 1653 799">The report notes with concern the problems posed by pesticides in developing countries, due to the large number of persons employed in the agricultural sector, weak or non-existent regulatory regimes and little public awareness of the potential health and environmental harm caused by pesticide exposure. It is reported that as many as 25 million agricultural workers suffer serious or irreversible work-related diseases, including several forms of cancer, endocrine system disruption and reproductive and neurological disorders, linked to long-term exposure to hazardous pesticides.</p> <p data-bbox="607 815 1653 991">Lead in paint was noted as a major source of lead exposure of workers and others. Inhalation of lead-contaminated house dust is the most common exposure pathway to lead-based paint for children and adults alike. However, residential renovation and paint removal can be significant sources of lead exposure for construction workers as well as residents. Dry sanding, abrasive blasting, and burning, welding, or heating surfaces covered with lead paint typically generate highly dangerous airborne lead levels.</p>	<p data-bbox="1675 209 1933 236">enforcement gaps</p> <ul data-bbox="1675 252 1933 496" style="list-style-type: none"> <li data-bbox="1675 252 1933 311">• Exploitation of those most at risk <li data-bbox="1675 327 1933 354">• Informal economy <li data-bbox="1675 370 1933 496">• Opaque supply chains and the transfer of hazardous work
<p data-bbox="300 1007 584 1118">“Mission to Kyrgyzstan” (A/HRC/15/22/Add.2) (2010)</p>	<p data-bbox="607 1007 1653 1150">High unemployment rates, decreases in living standards and lack of social protection force a large number of individuals to leave their villages to search for employment opportunities and a better standard of living abroad. About 400,000 citizens leave the country every year. Most choose to migrate, both legally and illegally, to Kazakhstan and the Russian Federation, where they are at risk of occupations.</p> <p data-bbox="607 1166 1653 1374">Risks to agricultural workers from obsolete, prohibited or poor quality pesticides, such as DDT manufactured in China, were noted with concern. Such highly hazardous pesticides reportedly continued to be illegally imported into, and exported out of, the country due to the lack of adequate controls at the borders with China and Tajikistan. Such highly hazardous pesticides were noted as being frequently unlabelled, or are labelled with information that farmers or agricultural workers cannot read either because they are not in the worker’s local language or because of insufficient literacy.</p> <p data-bbox="607 1390 1653 1426">Studies showed accumulation of highly toxic mercury in various tissues and parts of the body</p>	<ul data-bbox="1675 1007 1933 1358" style="list-style-type: none"> <li data-bbox="1675 1007 1933 1066">• Exploitation of those most at risk <li data-bbox="1675 1082 1933 1177">• Inadequate standards of protection <li data-bbox="1675 1193 1933 1252">• Monitoring and enforcement gaps <li data-bbox="1675 1268 1933 1358">• Failures to realize the right to information

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	<p>(hair, blood, urine) of workers and other persons analysed. Maximum levels were registered among workers employed in the mercury plant. High concentrations of mercury were also observed in children's blood and in the milk of nursing mothers. Although no comprehensive study was then carried out to assess the extent of mercury contamination, elevated mercury concentration, often exceeding maximum allowable concentration norms, have been recorded in air and water resources in areas surrounding large enterprises that are currently producing or had produced mercury in the Batken and Osh oblasts.</p> <p>Information on chemical products sold in the country should be available, accessible, user-friendly, adequate and appropriate to the needs of all stakeholders. People handling hazardous chemicals, such as farmers and employees in the chemical or energy sector, should receive appropriate information and training on such chemicals and their intrinsic properties, and on how to use them in ways that minimize adverse health consequences.</p>	
<p>“Mission to India” (A/HRC/15/22/Add.3) (2010)</p>	<p>The purpose of the visit was to examine the progress made, and the difficulties encountered, by the country in implementing its obligations under human rights and environmental law to ensure the sound management and disposal of hazardous products and wastes. In particular, the aim of the mission was to gather first-hand information on the adverse effects that hazardous activities, such as shipbreaking and the recycling of electrical and electronic waste (e-waste), have on the enjoyment of human rights of the countless individuals working in these sectors or living close to the places where these activities take place.</p> <p>Despite some progress noted, the former Special Rapporteur identified a number of key challenges. National legislation on waste management and health and safety at work was not effectively implemented, and the current institutional framework appeared inadequate to respond to the challenges posed to worker and others by the generation, management, handling, transport and disposal of toxic and dangerous products and wastes. The health and safety situation prevailing at the shipbreaking yards continued to remain critical, especially in Mumbai, where the working conditions and the quality of facilities remain highly inadequate for guaranteeing health and safety at work and an adequate standard of living for those employed in the shipbreaking sector.</p> <p>Shipbreaking was noted to be of grave concern, noting that during the dismantling process, workers are exposed to a wide range of hazardous workplace activities, such as entry into confined, enclosed or other dangerous atmospheres, paint removal, oil/fuel removal and tank cleaning, which may cause death, permanent or temporary disabilities, and injuries. Furthermore, long-term exposure to toxic and hazardous substances and materials which may be present on ships sent for dismantling, such as asbestos, polychlorinated biphenyls (PCBs), heavy metals in paints, oils and oil sludge, may lead to serious or irreversible work-related illnesses and diseases, including lung diseases, several forms of cancer and asbestos-related illnesses.</p> <p>At the time of the former Special Rapporteur's visit, the 128 yards that were operational provided employment to about 30,000 workers. In addition, over 500,000 workers were employed in associated downstream industries, such as re-rolling mills, foundries, scrap-handling yards, local</p>	<ul style="list-style-type: none"> • Inadequate standards of protection • Monitoring and enforcement gaps • Opaque supply chains and the transfer of hazardous work • Exploitation of those most at risk • Failures to realize the right to information • Limited progress in prevention of exposure • Informal economy • Restrained freedom of association • Inaccessible remedies, justice

Report	References to occupational exposures	Challenges faced by workers
	<p>goods stores and other small businesses.</p> <p>Most of the shipbreaking workers at Alang/Sosiya and Mumbai were migrant workers coming from poorer, less industrialized states of the Union, such as Uttar Pradesh, Orissa and Bihar. Many workers would go back to their villages for three to four months a year, usually during the monsoon season, to work in agriculture, likely exposed to a different type of occupational toxic substances. It was a largely uneducated workforce, relatively young (19-45 years old) and mostly male. Most of the workers are either illiterate or have attended primary levels of schooling. A large percentage of workers are married, but only 20 per cent of them live with their families.</p> <p>The former Special Rapporteur noted the development of training opportunities for some workers. The Safety Training and Labour Welfare Institute, established in 2003 in Alang, provided a number of training programmes, seminars and workshop aimed at raising awareness on the risks associated with ship-dismantling activities and on the measures to adopt to minimize such risks. From 2003 to 2009, some 49,000 workers participated in training activities at the Institute. The “basic safety for all” programme was compulsory for all workers in the yards. The former Special Rapporteur also noted the progressive introduction and use of basic PPEs, such as helmets, gloves and goggles, reportedly contributing to the reduction in the number of serious accidents resulting in death or disabilities. The Special Rapporteur welcomed the efforts made by the local authorities and the shipbreaking industry to improve the health and quality of life of workers and their families in Alang/Sosiya.</p> <p>Notwithstanding these positive developments, the health and safety situation prevailing at the shipbreaking yards continued to remain critical, as witnessed by the 12 fatal accidents that occurred in Alang/Sosiya during the course of 2009, and there are a number of identifiable shortcomings which need to be addressed. The former Special Rapporteur was particularly concerned about the quality of infrastructure facilities in Mumbai, which continue to be highly inadequate for guaranteeing health and safety at work and an adequate standard of living for those employed in the shipbreaking sector.</p> <p>The informal nature of shipbreaking activities hampers the effective implementation of national labour standards aimed at guaranteeing job security and just and favourable conditions of work. There is no written contract of employment. Workers were hired either on a monthly basis or for a specific task on a vessel. They regularly change plots, depending on the arrival of ships and workload. Workers were paid monthly, usually at the daily rate. The average daily rate is 250 rupees a day (about US\$ 5). Working hours are from 8 a.m. to 5 p.m., but reportedly there is a two-hour compulsory overtime every day until 7 p.m. in most yards. Workers can be fired at any time with no prior notice and with no reasonable ground.</p> <p>The former Special Rapporteur considered that the absence of a written contract of employment, and the possibility of dismissal overnight, are at the core of the vulnerability of shipbreaking workers, and de facto prevent the full and effective enjoyment of the core labour rights enshrined in articles 6, 7 and 8 of the Covenant.</p>	and accountability

With a few exceptions, the vast majority of the workforce in Mumbai do not receive any information on the hazards or risks to health and safety, nor do they receive any training on how to avoid or minimize them. With regard to safety training, the former Special Rapporteur was of the view that existing training opportunities in Alang/Sosiya should be improved, considering the magnitude of the risks associated with shipbreaking activities and the hazardous substances workers are potentially exposed to. In Mumbai, workers do not receive any formal training from their employers, which makes them more prone to serious accidents and injuries. As far as PPEs are concerned, the former Special Rapporteur regrets that not all the workers in Mumbai receive helmets, gloves and goggles, and that only a fraction of them actually use them during work.

Due to the informal nature of working arrangements, workers are not covered by social protection schemes, and do not receive any benefit in case of work-related injuries or diseases. The compulsory insurance that the industry is required to have covers only death and permanent disabilities. In cases of minor accidents, employers usually pay for first aid and immediate medical expenses, but not for long-term medical treatment or for expenses linked to chronic work-related illnesses. Workers do not usually receive any wages or benefits when absent from work on medical grounds.

Health facilities in Alang/Sosiya do not possess sufficient human, technical and financial resources to provide any treatment other than first aid for minor injuries. The nearest hospital equipped to deal with life-threatening conditions is in Bhavnagar, more than 50 kilometres away. The Red Cross hospital in Alang, which the former Special Rapporteur visited, can count on only four medical doctors and nine beds to provide health care not only to some 30,000 workers in the yards, but also to the neighbouring villages of Alang (which has a population of about 18,000 people) and Sosiya (4,000 people). In Mumbai the situation is even worse, with no permanent facilities except first aid and ambulance services.

The former Special Rapporteur notes with concern that most workers, but reportedly also a number of yard owners, are not aware of the serious life-threatening work-related diseases which may result from long-term exposure to toxic and hazardous substances and materials present on end-of-life ships. In particular, it appears that the majority of the workforce and the local population do not know the adverse consequences of prolonged exposure to asbestos dusts and fibres and are not familiar with the precautions that need to be taken to handle asbestos-containing materials.

The former Special Rapporteur also reported on the situation of workers handling electronic waste (e-waste). The term “e-waste” is generally used to describe obsolete, broken or discarded appliances using electricity, such as computers, mobile phones and household appliances. E-waste may contain a number of hazardous substances, which can be released in the workplace and in the surrounding environment during the separation and recovery process.

At the time, it appeared that only 3 to 5 per cent of e-waste is recycled in authorized recycling facilities. The vast majority of electrical and electronic equipment (EEE) was collected, dismantled and processed in the informal sector by some 80,000 workers, including women and

- Inadequate standards of protection
- Limited progress in prevention of exposure
- Monitoring and

Report	References to occupational exposures	Challenges faced by workers
	<p>children, who earn their livelihood by breaking down old computers and other high-tech devices to recover precious metals such as gold, copper and silver. The work is done largely by hand, using rudimentary techniques. Workers recovering glass by hammering cathode ray tubes or heating PCBs to remove capacitors are a common sight in most workshops dismantling e-waste. Workers did not use any protective gear to guard against hazardous substances released during the breaking of obsolete EEE. The Delhi area is the main hub for informal recycling of e-waste in India, with about 25,000 workers engaged in the various stages of the process. The recycling business is based on a network of collectors, traders and recyclers. Each phase of the process adds value to the materials and creates job opportunities for a great number of people. The e-waste market was not centred in one main area, but spread around different zones, each handling a specific stage of the process (for example storage, component separation, plastic shredding, acid processing/leaching, open burning and residue dumping).</p> <p>At the time, legislation on waste management has not proved effective in informal sectors, and was regarded as not providing sufficient protection for the estimated 80,000 persons working in the informal e-waste recycling sector and their families. The failure to incorporate the informal sector into Government strategies on the sound management and disposal of e-waste constitutes, in the former Special Rapporteur's view, a violation of the obligations undertaken by the State under articles 6, 7 and 11 of the International Covenant on Economic, Social and Cultural Rights. The former Special Rapporteur is concerned about the extremely dangerous recovery processes and techniques used in the informal e-waste recycling sector and their adverse effects on the right to health of those employed in small-scale informal workshops. Such health-threatening practices include the physical breaking of hazardous components, open-air incineration and acid leaching to extract gold and copper, and the melting of lead. Most of these activities involve physical dismantling by bare hands and basic tools. Workers were observed to not use any protective gear to prevent exposure to the hazardous substances contained in EEE; indeed, most of them possessed very little or no knowledge of the risks associated with the handling of these hazardous substances or the precautions to use to minimize their adverse health effects.</p>	<p>enforcement gaps</p> <ul style="list-style-type: none"> • Exploitation of those most at risk • Opaque supply chains and the transfer of hazardous work • Disconnected efforts on occupational and environmental health • Informal economy • Failures to realize the right to information
<p>“Medical Waste” (A/HRC/18/31) (2011)</p>	<p>Each type of hazardous medical waste presents hazards that jeopardise the enjoyment of human rights by workers and others. The 2011 thematic report contained several examples of the adverse impact that the improper management and disposal of medical waste continue to have on the enjoyment of human rights in many countries.</p> <p>All individuals exposed to health-care waste are potentially at risk of being injured or infected, including medical staff: doctors, nurses, sanitary staff and hospital maintenance personnel; workers in support services linked to health-care facilities such as laundries, waste-handling and transportation services; and workers in waste-disposal facilities, including scavengers.</p> <p>While all persons exposed to hazardous medical waste are at risk of health impacts, the main occupational groups at risk include hospital personnel, workers handling and transporting waste, persons working at waste disposal facilities, and scavengers. In many developing countries, nurses and (to a lesser extent) doctors do not receive adequate information on the hazards</p>	<ul style="list-style-type: none"> • Inadequate standards of protection • Exploitation of those most at risk • Failures to realize the right to information • Limited progress in prevention of exposure

Report	References to occupational exposures	Challenges faced by workers
	<p>associated with the unsafe handling of hazardous medical waste, nor do they receive any training on how to eliminate, or reduce to a minimum, such hazards. Medical personnel often receive limited instructions on the use of personal protective equipment, and are not aware of safety emergency procedures for dealing with spillages (for example, when mercury-containing equipment breaks) and accidents. In some health-care establishments, staff members are not vaccinated against common infectious diseases, such as tetanus and hepatitis. Hospital cleaners and waste handlers are in an even more vulnerable position than the medical staff that produce the waste. An increasing number of them are employed by external contractors rather than being directly employed by the hospital, and may not receive any information on the occupational risks to which they are exposed and on the correct procedures for handling, loading and unloading waste bags and containers. They are often poorly educated, and often do not receive any vaccinations or proper personal protective equipment. Disposable latex gloves may be provided, but they are usually thin and offer little protection. In many health-care establishments, it is not uncommon to see medical waste being transported by hand in bin bags, risking spills of toxic or infectious liquids, or staff injuries from protruding needles or other sharp objects.</p> <p>Like hospital cleaners and waste handlers, operators of small-scale medical waste incinerators, garbage collectors and people working in municipal waste facilities, where large amounts of medical waste are mixed and disposed of with general household waste, are unlikely to receive proper training on the risks associated with the handling of hazardous medical waste or protective clothing, including gloves against needle-stick injuries. They do not usually receive any vaccinations against common infectious diseases.</p> <p>Untreated medical waste can reach the recycling industry by a number of routes. In many developing countries, where hospitals have no recycling programmes, staff at healthcare facilities often sell medical waste to waste recyclers in order to supplement their incomes. This practice allows for the reuse and recycling of a large amount of non-hazardous hospital materials, such as empty bottles and containers or aluminium from vial caps. Other materials, such as syringes, blood bags or laboratory waste, are, however, extremely hazardous, and the practice puts whoever processes these products at risk. Waste recyclers usually have no formal education and possess very little or no knowledge of the risks associated with the handling of hazardous substances or the precautions to adopt to minimize their adverse health effects. They usually use no protective gear to prevent them from exposure to the hazardous substances contained in medical waste.</p> <p>Medical waste is also sought out by scavengers, who put themselves at great risk by collecting it. In some countries, scavengers are often seen in hospital grounds, while others collect waste from municipal dumps or at illegal landfills. In December 2007, for instance, a large number of scavengers, mainly children, were suspected to have contracted hepatitis C as a result of needle-stick injuries during the collection of used syringes and other clinical waste for recycling. Even in countries where there is less of a recycling industry, the practice of mixing medical waste with ordinary garbage exposes scavengers to a number of infectious diseases, such as hepatitis and tetanus, and to physical risks associated with the handling of infected needles and broken glass.</p>	<ul style="list-style-type: none"> • Monitoring and enforcement gaps • Informal economy • Disconnected efforts on occupational and environmental health • Inaccessible remedies, justice and accountability

Information on the hazards associated with the handling of hazardous medical waste, access to training opportunities on the safety procedures to minimize hazards, and proper personal protective equipment were noted to constitute essential preconditions for the enjoyment of the right to safe and healthy conditions of work. In many health-care establishments around the world, the lack of adequate waste management plans to ensure the safe and environmentally sound segregation, collection, transport, treatment and disposal of medical waste continue to expose a significant number of people from a wide range of occupations to the risk of injury and illness.

The report notes that WHO has elaborated a number of policy, management and advocacy tools to minimize the risks that the improper management of health-care waste pose to health-care workers, patients, waste handlers, the community at large and the environment, and to facilitate the establishment and sustained maintenance of a sound system of health-care waste management.

In most developing countries and economies in transition, the lack of adequate technical resources for the safe and sound management of health-care waste, the limited funding for health-care waste management and the inadequate awareness of the direct and indirect risks posed by health-care waste constitute the main obstacles to the development of a comprehensive regulatory framework on health-care waste management and to its effective implementation.

The former Special Rapporteur recommended that States strengthen their legal framework on hospital hygiene and occupational health and safety, and provide adequate human, technical and financial resources to national authorities responsible for its enforcement. He also recommends that health authorities organize educational programmes and training opportunities to raise awareness about health, safety and environmental protection issues relating to medical waste management.

In view of the fact that persons working within and outside health-care establishments often receive limited information and training opportunities on the occupational risks to which they are exposed and on the correct procedures for handling waste in a safe manner, the former Special Rapporteur urged relevant national health authorities to include waste management in the curricula of future medical practitioners and nurses, to provide appropriate information on the occupational risks to which medical and paramedical staff may be exposed, and to organize training opportunities on safe health-care waste management for staff handling medical waste.

The former Special Rapporteur called on health-care establishments to take all appropriate measures to improve health and safety conditions for those handling medical waste in and outside health-care establishments. Such measures should include: (a) Access to information on the specific occupational risks to which different categories of workers are exposed, and the safety measures to minimize such risks; (b) The provision of appropriate personal protective equipment for persons handling hazardous health-care waste; (c) Access, on a voluntary basis, to vaccination against such common infectious diseases as tetanus and hepatitis; (d) The organization of training opportunities and safety workshops designed for and targeting different categories of hospital personnel (such as medical doctors, nurses, hospital cleaners and waste handlers); (e) Regular

drills in emergency prevention, preparedness and response procedures.

The former Special Rapporteur recommended a number of principles be taken into account while drafting and implementing such health-care waste management plans, some of which relate to the protection of workers in the healthcare sector from exposure to hazardous substances and wastes:

Prevention/minimization of hazards — The former Special Rapporteur called on States, healthcare facilities and the private sector to take all appropriate measures, including educational programmes and improved production processes, to ensure that the generation of hazardous medical waste is reduced to a minimum. Hospitals should, whenever feasible, replace hazardous chemicals/products (for example, mercury-containing devices) or disposable instruments (such as scissors and kidney dishes) with alternative products or reusable products. Prescription practices should also be changed so that unnecessary injections in cases where effective oral medical is available may be avoided.

Packaging and labelling — The use of internationally recognized symbols and signs is essential to ensure the safe handling of hazardous waste. A common system of labelling and coding of packaging should be used in all health-care establishments and be part of the waste management instructions for hospital workers who handle hazardous waste. Medical waste should be packaged in resistant and sealed bags or containers to prevent spilling during handling and transportation. If shipped abroad for treatment, medical waste should be labelled in accordance with international agreements (such as the Basel Convention).

Handling, transportation and storage — Medical waste should be handled and transported in such a way as to prevent unnecessary exposure to staff and others. Handling and transportation should be minimized to reduce the likelihood of exposure to the waste. Medical waste should be held in storage areas that are identified as containing infectious waste. Such areas should always be fitted with a lock in order to prevent access by unauthorized persons.

**“Mission to Poland”
(A/HRC/18/31/Add.2)
(2011)**

The former Special Rapporteur noted with concern that national authorities responsible for monitoring compliance with national legislation including in relation to health and safety at work frequently lacked adequate human, technical and financial resources to carry out their monitoring functions adequately. Small and medium enterprises were inspected only once every four years, and only big industrial and agricultural enterprises were subject to more regular controls. The former Special Rapporteur recommended that Poland allocate adequate human, technical and financial resources to the various agencies responsible for enforcing and monitoring compliance with national legislation on environmental protection, waste and chemicals management, and health and safety at work.

The former Special Rapporteur shared the concerns expressed by the Committee on Economic, Social and Cultural Rights that Poland had not at the time taken the necessary measures to ensure that the Covenant is given full effect in its domestic legal order. In this regard, the Special Rapporteur noted that some of the economic and social rights enshrined in the Constitution, including the right to safe and healthy working conditions and the right to a healthy environment,

- Inadequate standards of protection
- Monitoring and enforcement gaps
- Failures to realize the right to information
- Limited implementation of ILO instruments

Report	References to occupational exposures	Challenges faced by workers
<p>“Human rights and Extractive Industries” (A/HRC/21/48) (2012)</p>	<p>could not be directly invoked before national courts and tribunals.</p>	<ul style="list-style-type: none"> • Inadequate standards of protection • Limited progress in prevention of exposure • Monitoring and enforcement gaps • Exploitation of those most at risk • Informal economy
	<p>The former Special Rapporteur noted that Poland was not a party to a number of ILO conventions on health and safety at work, and called on the Government to consider ratifying these conventions, in particular the Convention concerning Occupational Safety and Health and the Working Environment, 1981 (No. 155) and the Convention concerning the Prevention of Major Industrial Accidents, 1993 (No. 174).</p>	
	<p>The report surveys the human rights impacts to workers engaged in mining from exposure to hazardous substances. Mining is considered one of the world’s most dangerous occupations. Workers are exposed to intense heat, toxic substances and fumes, unstable geological structures and intense sounds. Inadequate safety protocols in the handling, storing and disposal of toxic substances are contrary to international human rights treaties protecting the right to safe and healthy working conditions. For example, more significant health effects have been found among uranium miners who are exposed to high levels of radon. A well-known and potentially fatal respiratory disease affecting extractive industry workers is coal worker’s pneumoconiosis, or black lung disease, which causes the lungs to inflame and stiffen from scarring. Another potentially debilitating and fatal outcome of exposure to coal dust is silicosis. Disturbingly, up to 12 per cent of coal miners develop these two deadly diseases.</p>	
	<p>Despite increasing global consensus of the dangers of mercury, the former Special Rapporteur expressed concern that miners and their families are still exposed to this hazardous substance and neurotoxin; miners in Brazil, Colombia, Guyana, Indonesia, the Philippines, United Republic of Tanzania and Zimbabwe were recorded with mercury levels of up to 50 times above the limits set by the World Health Organization (WHO).</p>	
<p>A study by the National Institute for Occupational Safety and Health (NIOSH) and the National Cancer Institute of the United States of America showed a direct relationship between diesel exhaust and lung cancer. Underground miners are exposed to over 100 times the background concentrations of diesel exhaust, and the use of diesel-fuelled equipment is growing in the mining community. Not surprisingly, the study found that underground miners, who have the greatest exposure to diesel exhaust, have a higher lung cancer mortality rate than surface miners, as well as elevated oesophageal cancer and pneumoconiosis.</p>		
<p>In most cases, children working in extractive industries constitutes one of the worst forms of child labour. The 2012 report notes ILO estimates that one million children worldwide are involved in mining and quarrying, and often with little or no pay; UNEP estimates put that number at between one million and two million. Children as young as 3 years work in dangerous conditions which expose them to hazardous substances, including mercury, lead and cyanide. The mines are often too remote to have regular labour inspections, and they do not have unionized workers, resulting in the so-called “frontier communities” where traditional social structures of society and ethical value systems have broken down.</p>		
<p>Mercury intoxication has been called an epidemic among children working in gold mines. The</p>		

report notes that one-fifth of the children covered by an International Labour Organization (ILO) survey reported having a health problem since they took up gold mining, primarily aches in limbs and backbone, kidney and urinary tract diseases and exhaustion. In one country, over 400 children under the age of five reportedly died due to lead poisoning associated with gold miners grinding lead-containing rock at home in order to extract the gold, and leaving lead dust on the floors where children crawl. Health risks related to exposure to hazardous substances is exacerbated by children's inclinations to more hand-to-mouth behaviour as well as the fact that personal protective equipment (PPE) is invariably made in adult sizes.

Impacts on maternal health from exposure to hazardous substances, especially during the already immune-challenged gestation period, was also noted. The former Special Rapporteur expressed alarm at the discovery of elevated mercury levels in the breast milk of mothers in several countries. He expressed concern that this may diminish the rights of infant children, reduce the practice of breastfeeding and increase the likelihood for women of diseases associated with exposure to these substances.

The report notes how women experience the impacts of artisanal and small-scale mining (ASM) differently, either because of their sex — their biological characteristics as a female —, but more often because of their gender — their sociocultural definition as women. The former Special Rapporteur emphasizes that due to the harmful effects of mercury on the female reproduction function, international human rights law requires States parties to put in place preventive measures and programmes to protect women of childbearing age from mercury exposure.

The former Special Rapporteur expressed concern about the extent of child slavery and child labour in the mining and quarrying industries and the impact on children as they face the same risks as adults, but lack the strength and judgment to protect themselves from sexual, moral, social and physical harm, including death and injuries resulting in disabilities. Poverty, lack of access to education, insufficient or non-existent legal frameworks, trafficking and debt bondage have been identified as root causes, manifestations and aggravating factors that lead to child slavery in the mining and quarrying sector. The former Special Rapporteur observed that unaccompanied minors are more likely to be exposed to harmful substances for want of parental protection in already exploitative environments.

Report	References to occupational exposures	Challenges faced by workers
	<p>The report notes several International Labour Organization (ILO) conventions concern the occupational hazards facing workers in extractive industries.³</p> <p>Despite the robust and varied protection offered by the ILO conventions, the former Special Rapporteur stressed what he considered their three primary shortcomings. First of all, the lack of widespread ratification (ranging from 6 to 57 countries) of these conventions means that global commitment to the full extent of the standards articulated is difficult.</p> <p>Secondly, implementation remains a substantial problem in States that have ratified some or all of these conventions. Indeed, several States parties to Convention No. 169 fail to adequately consult indigenous peoples prior to development and promotion of an extractive undertaking, despite the requirement under the Convention to establish or maintain procedures for consultation with affected indigenous communities, “with a view to ascertaining whether and to what degree their interests would be prejudiced, before undertaking or permitting any programmes for the exploration or exploitation of such resources pertaining to their lands” (art. 15, para. 2). With regard to asbestos extraction, Convention No. 162 has been somewhat successful in reducing asbestos extraction and consumption around the world from an estimated 4.73 metric tons in 1980 to about 2.11 metric tons in 2003. However, despite the adoption of the resolution concerning asbestos in 2006, which endorsed the “elimination of future use of asbestos,” extraction and use of asbestos remains alarmingly high (in some cases, production has increased), including in countries that have ratified the Convention.</p> <p>Thirdly, the obligations contained in the conventions are often inadequate to address the problems related to hazardous wastes. For example, Convention No. 169 only requires consultation with affected indigenous and tribal peoples in decision-making on the extraction of natural resources</p>	<ul style="list-style-type: none"> • Limited implementation of ILO instruments

³ Convention No. 148 concerning the Protection of Workers against Occupational Hazards in the Working Environment Due to Air Pollution, Noise and Vibration states that, “as far as possible, the working environment shall be kept free from any hazards due to air pollution, noise or vibration.”³³ • Convention No. 155 concerning Occupational Safety and Health and the Working Environment requires parties to establish a coherent national policy on occupational safety and health in order to improve working conditions. • Convention No. 162 concerning Safety in the Use of Asbestos obligates States parties to prescribe measures to protect workers from exposure to asbestos, including partial or total bans on future asbestos use, and thus its extraction; proper asbestos waste disposal; inspection and monitoring procedures of working conditions; and providing information on the hazards of asbestos to workers. • Convention No. 170 concerning Safety in the Use of Chemicals at Work compels States parties to protect workers from exposure to hazardous chemicals. Employers in States parties to the Convention are obligated to classify and identify hazardous chemicals so as to ensure that workers are not exposed to hazardous chemicals in excess of exposure limits, and to minimize risk. • Convention No. 174 concerning the Prevention of Major Industrial Accidents obligates States parties to “formulate, implement and periodically review a coherent national policy concerning the protection of workers, the public and the environment against the risk of major accidents” (art. 4) and “establish a comprehensive siting policy arranging for the appropriate separation of proposed major hazard installations from working and residential areas and public facilities” (art. 17). • Convention No. 176 concerning Safety and Health in Mines establishes standards for all mining operations, excluding oil and gas extraction. Parties to the convention must consult with representatives of employers and workers to formulate a policy on safety and health in mines consistent with the minimum standards set out in the Convention. 34 • Convention No. 169 concerning Indigenous and Tribal Peoples in Independent Countries recognizes the need for special safeguards of the rights of indigenous peoples to the natural resources, including mineral or sub-surface resources, pertaining to their lands, including the right to participate in the use, management and conservation of these resources and in the benefits of their extraction. 62.

Report	References to occupational exposures	Challenges faced by workers
<p>“Preliminary and scoping report” (A/HRC/24/39) (2013)</p>	<p>and only provides for compensation for damage from harms caused by such extraction rather than mitigation, which could be accomplished through a robust free, prior and informed consent procedure. Likewise, the other conventions mentioned above contain critical qualifiers to obligations based on “national conditions and practice” which can result in reduced standards in some countries on the grounds that they lack the resources to meet obligations under one or more conventions.</p> <p>The report notes that, unlike most other areas of international environmental law, there is neither a framework Convention nor a comprehensive global regime on the regulation of toxic chemicals and wastes. Fewer than 30 of thousands of toxic substances are regulated through their lifecycle under international conventions.</p> <p>The report notes that the impact of substances on human health and the environment can be reduced by limiting or prohibiting the use of these substances in certain industrial processes, where substitutes or alternative processes exist. These restrictions were first designed to protect the health of workers. For example, the ILO adopted a Convention prohibiting the use of certain pigments of lead in industrial paint to prevent the exposure of workers to the risk of lead poisoning. In 1971, another Convention was adopted by the ILO to restrict the use of benzene or products of benzene in certain industrial activities, while demanding the replacement of these carcinogens produced by less harmful substitutes.</p>	<ul style="list-style-type: none"> • Inadequate standards of protection • Disconnected efforts on occupational and environmental health • Limited implementation of ILO instruments
<p>“Mission to Hungary” (A/HRC/24/39/Add.1) (2013)</p>	<p>In Hungary, when a reservoir containing red sludge collapsed, the most serious immediate effects were caused by the high alkalinity (pH 13+) of the sludge. The people of Devecser and Kolontár experienced serious first- and second-degree chemical burns to the skin; respiratory problems were also documented. In addition, the health of some 4,000 volunteers and rescue workers were similarly affected. The former Special Rapporteur attached great importance to the issue of occupational health during rescue operations, and reiterated the recommendation of WHO that personal protective equipment should be selected on the basis of the hazards identified, the protective qualities of the equipment and its suitability for the tasks performed. The former Special Rapporteur was concerned by information he received indicating that there are no special protocols for the rescue of children, the elderly, persons with disabilities or other persons in need of protection in the training programme developed for disaster management forces in Hungary.</p> <p>The former Special Rapporteur recommended that the Government of Hungary: (a) Consider accession to the Protocol on Liability and Compensation for Damage resulting from Transboundary Movements of Hazardous Wastes and their Disposal and to contribute to its entry into force; (b) Consider ratifying the ILO Chemicals Convention, 1990 (No. 170) and the Prevention of Major Industrial Convention, 1993 (No. 174) to strengthen the framework for occupational safety. The former Special Rapporteur also recommended among other measures that the Government of Hungary in the mining law place emphasis on provisions that provide for meaningful engagement with affected communities and for the safety of workers, especially those dealing with harmful substances; and ensure that impact assessments use reliable baseline studies for both environmental contaminants and human health conditions, and are carried out by</p>	<ul style="list-style-type: none"> • Inadequate standards of protection • Monitoring and enforcement gaps • Exploitation of those most at risk • Disconnected efforts on occupational and environmental health • Failures to realize the right to information • Limited implementation of ILO instruments

<i>Report</i>	<i>References to occupational exposures</i>	<i>Challenges faced by workers</i>
<p>“Right to information on hazardous substances and waste” (A/HRC/30/40) (2015)</p>	<p>competent authorities to ensure an environmentally sound reflection of the impact of contaminants on the environment and human health of proposed developments.</p> <p>The Special Rapporteur’s report describes the rights of workers and others in relation to right to information. The report contains obligations of States and responsibilities of business enterprises in relation to the right to information. It clarifies that information on hazardous substances should be available, accessible and functional for everyone, consistent with the principle of non-discrimination, in order for States to meet their human rights obligations and businesses their corresponding responsibilities.</p> <p>The Special Rapporteur noted with concern that workers are exposed to above-average levels of hazardous substances, with regular reports of inadequate training and adverse health impacts from preventable accidents and occupational exposure. The Special Rapporteur also noted the right of workers to remove themselves from situations they believe are hazardous, which is contingent on information about the known and unknown risks of the substances to which they are exposed.</p> <p>The reports notes that in order to protect those most at risk, States must ensure that disaggregated information is available and accessible regarding the risks of hazardous substances to various population groups, such as workers, children or pregnant women. Similarly, the information should be monitored and disaggregated by sex and population group, such as workers in industries with exposure to hazardous substances, low-income communities, indigenous peoples or minorities, or other groups who are at high risk of adverse impacts. In addition, States must ensure information flows effectively to communities at risk to enable them to be aware of risks and options to prevent harm.</p> <p>Disaggregated information on adverse effects linked to hazardous substances, such as cancer, can help to identify those at risk of disproportionate impacts, and help to provide an effective remedy. In addition, bio-monitoring initiatives can also help to provide disaggregated information, for example on hazardous substances in mother’s breast milk passed onto children.</p> <p>To help overcome the challenge of making information accessible to workers and others at risk, a long-standing tool nationally and internationally is classification and labelling. These laws help to ensure businesses, workers and the public have access to information about the risks associated with hazardous substances in the workplace. To this end, States have pledged to implement “hazard communication mechanisms”,⁴ such as the Globally Harmonized System of Classification and Labelling of Chemicals, and to use safety data sheets. Training of workers is required for these tools to work effectively.</p>	<ul style="list-style-type: none"> • Failures to realize the right to information

⁴ SAICM, Overarching Policy Strategy (see footnote 13 above), para. 15 (b) (ii).

<i>Report</i>	<i>References to occupational exposures</i>	<i>Challenges faced by workers</i>
<p>“Impact of Toxics and Pollution on Children’s Rights” (A/HRC/33/41) (2016)</p>	<p>The illegal use of banned pesticides and toxic chemicals, as well as of counterfeit products, continues to be a major problem globally, a serious threat to children of the workers affected, to communities and to consumers. Tens of millions of children are engaged in hazardous work, where they are often exposed to toxic chemicals. For example, children around the world continue to work in artisanal and small-scale mines, where they are exposed to mercury and other toxic chemicals. The United Nations Children’s Fund (UNICEF) has estimated that 40,000 children toil in mines, extracting a known carcinogen (cobalt) to be used in cell phones, laptop computers and cars by companies that undoubtedly have resources for human rights due diligence. Children working in agriculture continue to use hazardous pesticides despite the bans on such products in several countries, raising questions of double standards and discrimination.</p> <p>Childhood exposure to toxics occurs without the child’s (or parent’s) consent. Even if a parent were somehow able to identify every product and possible source of exposure to toxics that might harm their child, they are often powerless to do anything about it, particularly when it involves food, water or air pollution. Young children lack the physical and/or mental ability to vocalize opinions and understand the dangers and potential consequences of toxics until long after harm has been inflicted. This, for example, is why children are not allowed to buy cigarettes or alcohol until a certain age in many countries and are prohibited from working in hazardous conditions.</p> <p>As parents’ exposure to toxic chemicals can affect the development of the child, this is inextricably linked to the realization of several rights of the child. Cases of children born with disabilities because their mothers worked with toxic chemicals before or during pregnancy, or harmed by toxic residues brought into the home from work (“take-home exposures”) by their parents or others illustrate the importance of protecting not only women and girls of reproductive age, but the population at large.</p> <p>Examples of addressing certain sources of exposure to toxics by young children include the European Union directive on the safety of toys, which prohibits the presence of substances in toys that are classified as carcinogenic, mutagenic or toxic for reproduction, and United States legislation to protect children working on tobacco farms from toxic pesticides.¹⁰¹ Globally, a new treaty on mercury pollution holds promise, but only addresses one element of a much larger problem. States and businesses still have a long way to go.</p> <p>The importance of upstream prevention is illustrated by the case of children working in cobalt mines in the Democratic Republic of the Congo. Reports describe children in Indonesia and Peru poisoned by mercury and suffering from birth defects due to small-scale gold mining. Companies that purchase or invest in such commodities have a responsibility to ensure that child rights are not violated as a result of their demand.</p> <p>At the tail end of industrial activity, children are far too often found working at toxic waste dumps, burning plastics and cables to recover and recycle precious metals. Electronic waste (e-waste) is of particular concern. Children, sometimes as young as five, are involved in manual dismantling and burning of electronic products at e-waste sites in Africa, Latin America and Asia. Some are described as being among the most polluted places on earth. Infants living near waste</p>	<ul style="list-style-type: none"> • Inadequate standards of protection • Limited progress in prevention of exposure • Monitoring and enforcement gaps • Exploitation of those most at risk • Deliberate efforts to delay or obstruct protection from toxic exposure • Opaque supply chains and the transfer of hazardous work • Disconnected efforts on occupational and environmental health • Failures to realize the right to information • Inaccessible remedies, justice and accountability • Informal economy

Report	References to occupational exposures	Challenges faced by workers
<p>“Mission to Republic of Korea” (A/HRC/33/41/Add.1) (2016, mission carried out in 2015)</p>	<p>disposal sites, due to their hand-to-mouth behaviour, are among the most vulnerable groups, as soils and dusts are generally contaminated with lead and other toxics. In Latin America, many of these recycling and recovery operations take place in communities, not in clearly defined waste dumps. Children are found with record levels of toxic chemicals in their bodies at such waste sites. Young girls, still developing and approaching the age of reproduction, work as collectors or vendors in highly toxic environments. At La Chureca in Managua, Nicaragua, approximately half of all waste pickers were less than 18 years old. 134 In Guiyu, China, about 80 per cent of children suffer from respiratory diseases, and there has been a surge in cases of leukaemia and concentrations of lead in blood are high.</p> <p>The Special Rapporteur offered various recommendations to stakeholders to protect the rights of the child from toxic chemicals, including that:</p> <p>States should eliminate work by children where they are exposed to toxics and ensure safer alternative employment, and monitoring of children affected. States should ensure that children affected receive the necessary treatment and compensation. States should also ensure that women and girls of reproductive age are guaranteed protection from occupational exposure to toxics and the substitution of toxics with safer alternatives as the primary means of prevention;</p> <p>International organizations should integrate the problem of toxic chemicals, pollution and waste into the work of their organization, based on their respective competencies, and monitor and report on the issue; and increase efforts to reduce the exposure of children and women of reproductive age to toxic chemicals, particularly of child workers and those living in high-risk situations.</p> <p>During the mission, the Special Rapporteur examined the rights of workers who may develop diseases or other injuries on account of their exposure to hazardous substances. Workers in the Republic of Korea have the right to a healthy workplace.</p> <p>The report notes a long history of illness among workers in the electronics sector as a result of exposure to toxic chemicals. For example, a study of nearly 32,000 workers at IBM between 1969 and 2001 showed that “male manufacturing workers were around 60-80 per cent more likely to have died from cancers of the kidney, skin, brain and central nervous system”. Given the prominent role of electronics in the Republic of Korea in recent decades, the Special Rapporteur paid close attention to how the Government and businesses were protecting and respecting the human rights of workers in the electronics sector to a safe and healthy workplace.</p> <p>In the electronics industry, chemical substances are used in the manufacture of devices, including in displays, semiconductor chips, casings and batteries and other component materials. There is a significant likelihood that workers may be exposed to hazardous substances, which can lead to serious health impacts such as cancer, infertility, birth defects, respiratory illness and disruption of hormone (endocrine) systems. Former workers in the electronics industry in the Republic of Korea began to be diagnosed with leukaemia around 2005. Yumi Hwang, a former Samsung Electronics employee, died of acute myeloid leukaemia in March 2008. She was diagnosed 20</p>	<ul style="list-style-type: none"> • Inadequate standards of protection • Exploitation of those most at risk • Inaccessible remedies, justice and accountability • Failures to realize the right to information • Opaque supply chains and the transfer of hazardous work

months after she began working, at the age of 19, as an operator in production line No. 3 at the Samsung Electronics Giheung Plant.

As of January 2015, more than 350 former workers in the electronics industry, of which approximately 130 have died, had alleged that they had developed various diseases. Victims had suffered from cancer, including lymphoma, malignant brain tumours, myelogenous leukaemia and non-Hodgkin's lymphomas, as well as aplastic anaemia, reproductive abnormalities and other health impacts. All former workers described to the Special Rapporteur were young females, including several in their early twenties. With many female workers of childbearing age, the alleged victims extend to the children of former workers. For example, the Special Rapporteur heard from a mother who had been pregnant during her employment and subsequently given birth to a child with birth defects. The Special Rapporteur heard testimony from former Samsung workers (all women) and their family members about tasks performed in the manufacture of semiconductor chips, such as dipping semiconductors into a chemical solution by hand to remove unnecessary parts and manually sorting and testing chips under high temperatures or voltages, releasing fumes. Former workers explained that they would still smell fumes from the workplace long after returning home. Neither the former workers nor the family members of the deceased could name the substances they had used in the workplace.

The former workers of Samsung Electronics also described the pressure that they worked under at the time to meet production targets. They explained that they were often in a state of chronic fatigue and stress due to their 12-hour rotating shifts, working six days a week in addition to preparing for regular mandatory exams outside of working hours (unpaid). They described the constant pressure placed on them to train and to pass tests to perfect their workmanship, along with pressures not to unionize and insufficient training on chemical safety.

Samsung would not disclose which substances were used during the time of employment of the alleged victims, claiming that it was confidential business information. Samsung explained that it does require suppliers to submit a letter of warranty that chemical formulas purchased do not contain hazardous substances. The Special Rapporteur reiterates that, under international laws, global policy frameworks and national law, health and safety information on hazardous substances should not be confidential.

Samsung Electronics claims no hazardous substances are used in its production processes. Information was not provided by the company to justify this claim, clarify the categorization of "hazardous" or to explain if and when changes to chemicals used in production processes were implemented.

There is strong evidence that hazardous substances are used in electronics manufacturing. Apple Inc. has stated that it has eliminated or plans to eliminate the use of certain hazardous substances in the production of its electronics. Of note, many of these substances were used in Apple's electronics supply chain during the period of employment of the alleged victims at Samsung Electronics. Also, Apple has stated that it has yet to phase out certain hazardous substances in power cords in the Republic of Korea due to an inability to obtain Government approval. The

Special Rapporteur is deeply concerned about the withholding of or failure to generate information about toxic chemicals in order to shield corporate liability.

In addition to the lack of transparency about hazardous substances used or released in the workplace, critical information about alleged victims was not disclosed by the Government, businesses or civil society to the Special Rapporteur. However, the Special Rapporteur had the opportunity to meet with several victims and victims' family members, Samsung Electronics, the Mediation Committee, and members of the Government. As of May 2016, Samsung Electronics claimed it had compensated 110 former workers affected with the specified diseases and had physically presented apology letters from the chief executive officer to those subject to compensation. The Special Rapporteur understands there are concerns regarding how the compensation process adhered to the recommendations of the Mediation Committee and encourages all parties to increase transparency and participation in this regard.

Also in January 2016, Samsung Electronics reversed its previous position on "prevention". It agreed with other parties to establish a three-member Ombudsman Committee to conduct an audit of the efforts of Samsung Electronics relating to prevention and propose recommendations for improvement. The Special Rapporteur welcomes the establishment of the Ombudsman Committee, and looks forward to its implementation with both transparency and meaningful public participation by all stakeholders. The Special Rapporteur also welcomes the acceptance by SK Hynix of including miscarriage and infertility in the scope of the agreement of what would be considered for compensation, in line with safety in working conditions, including the safeguarding of the function of reproduction. As of January 2016, SK Hynix had identified and compensated 39 former workers.

The long path to resolving cases illustrates the considerable difficulty workers face in demonstrating a sufficient causal relationship to realize their right to an effective remedy for the impacts of toxic chemicals. For a disease to be recognized as an occupational disease under article 5 (1) of Industrial Accident Compensation Insurance Act by the Korea Workers' Compensation and Welfare Service, there must be a "proximate causal relationship" between the worker's duties and disease. Article 34 of the Enforcement Decree of the Industrial Accident Compensation Insurance Act stipulates the specific conditions, in particular, that "causal relationship between the work-related injury and the disease should be medically recognized".

In contrast to the strict standard applied by the Korea Workers' Compensation and Welfare Service pursuant to article 34 of the Enforcement Decree of the Industrial Accident Compensation Insurance Act, courts in the Republic of Korea take a more lenient approach to the issue of causation. The Supreme Court has ruled that the claimant has the burden of proving the causal relationship; however, the causal relationship need not be proven medically or scientifically but can be inferred from the consideration of various situational factors.

Consideration of all the circumstances, such as the health of the worker at the time of employment, possible explanations for the disease, whether any hazardous substances existed in the workplace and the amount of time the worker spent in the workplace, makes possible the

- Inaccessible remedies, justice and accountability

conclusion that there is a proximate causal relationship between the worker's duties and the disease.

In 2014, the Seoul Administrative Court held that the deduction can be made that there is a proximate causal relationship between the former workers' diseases and their duties. The Supreme Court also said that the question of whether a proximate causal relationship exists should be judged on the basis of the health and physical conditions of the worker concerned and not an average person. Most recently, the Seoul Administrative Court reversed the decision of the Korea Workers' Compensation and Welfare Service and acknowledged ovarian cancer to be an occupational disease. It further stressed that, for rare diseases such as ovarian cancer, a more relaxed standard for assessing causality should be applied.

Noting the disparity among the Korea Workers' Compensation and Welfare Service industrial accident compensation scheme, decisions by courts in the Republic of Korea, and the dispute resolution committees established by Samsung Electronics and SK Hynix, the Special Rapporteur is concerned about the difficulty in accessing compensation under that scheme due to the high burden of proof imposed on the claimants. The Government's criteria for work-related diseases were revised in 2013. The Special Rapporteur emphasizes that States are obligated to refrain from interfering with the enjoyment of the right to social security. The burden upon the claimant to prove causation between the health impacts from which workers suffer and the hazardous substances in the workplace can be a significant inconvenience and obstacle, often because of difficulty in using or accessing information.

The Special Rapporteur sincerely commended Samsung Electronics for its spirit of cooperation, openness and continuing dialogue with him. He acknowledged internal changes by Samsung Electronics and steps taken to realize the right of former workers to an effective remedy, and recommended that Samsung Electronics and other implicated businesses, among other steps ensure that all former workers and contractors harmed by toxic chemicals in the manufacture of their products are indeed compensated, at a minimum according to recommendations of the Mediation Committee.

One major chemical accident affecting workers in the Republic of Korea was the hydrofluoric acid leak in Gumi, which occurred on 27 September 2012 at the Hube Global chemical plant, killing 5 workers and injuring 18 others, including plant employees and emergency personnel. The damage on property, including restoration costs, amounted to 55.4 billion won. Another accident took place at the Samsung Electronics plant in Hwaseong City, where hydrofluoric acid first leaked on 27 January 2013. As a result, one person died and four were injured. Subsequently, on 2 May 2013, three external contract workers were partially exposed to diluted hydrofluoric acid at Samsung's semiconductor manufacturing facility in Hwaseong City. The workers received immediate first aid attention on site and were admitted to hospital for further examination.

The Special Rapporteur welcomed the recent enactment of the Liability Act to help ensure that victims have access to an effective remedy, as well as legislative changes to prevent accidents. He also notes the studies and measures implemented by Samsung Electronics to prevent the

- Exploitation of those most at risk
- Inaccessible remedies, justice and accountability

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	<p>recurrence of similar accidents. He encouraged the State and businesses to ensure that protections apply to both employees and contractors.</p> <p>With regard to legislation, the Special Rapporteur recommended that the Government of the Republic of Korea, among other steps:</p> <p>Ensure that all laws and policies concerning hazardous substances and wastes provide the greatest protection to those who are at the greatest risk of harm, including children, women, the elderly, communities near sources of pollution or contamination, workers and others who are at elevated risk of harm;</p> <p>Undertake a robust study on the existing recourse of victims, including workers and consumers, to an effective remedy for harm that may be due to hazardous substances and wastes, paying particular attention to the burden placed on victims to establish causation, and develop and implement solutions to address challenges facing victims in accessing an effective remedy, in consideration of the recommendations contained in the findings of that study and those of the national human rights institution, as recommended below;</p> <p>Ensure that information is available to prevent exposure to hazardous substances, protect human rights and ensure that victims have the information necessary to realize their right to an effective remedy in administrative and judicial systems. The Special Rapporteur underlines that States have a duty, and businesses a responsibility, to ensure that information about hazardous substances is available and accessible, and that it functions to protect the rights of everyone;</p> <p>Increase efforts to ensure that health and safety information about hazardous substances is never confidential, and for this purpose ensure the enforcement of existing legislation or the strengthening of said legislation where necessary;</p> <p>Establish a centralized mechanism to monitor all human rights impacts of hazardous substances and wastes, paying particular attention to children, women, workers in all sectors and older persons, and guarantee that adequate and comprehensive prevention measures are taken as a result;</p> <p>The Special Rapporteur also recommended that the national human rights institution: (a) Examine the challenges faced by victims of chronic exposure to hazardous substances, including workers and children, who may develop diseases many years after exposure, in establishing causation and accessing an effective remedy, and make recommendations to relevant ministries; (b) Closely examine challenges presented by victims of hazardous substances, including workers, in meeting their burden of proof in order to access an effective remedy under administrative and judicial proceedings.</p>	<ul style="list-style-type: none"> • Inadequate standards of protection • Limited progress in prevention of exposure • Monitoring and enforcement gaps • Exploitation of those most at risk • Failures to realize the right to information • Inaccessible remedies, justice and accountability • Inaccessible remedies, justice and accountability

<i>Report</i>	<i>References to occupational exposures</i>	<i>Challenges faced by workers</i>
<p>“Mission to Germany” (A/HRC/33/41/Add.2) (2016, mission carried out in 2015)</p>	<p>The Special Rapporteur noted how, in realizing the workers’ right to information, the EU’s Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation has a number of noteworthy features. First, it contains tiered health and safety requirements for all industrial substances produced or imported at or above one ton per year. This pragmatic requirement, known as “no-data, no-market”, shifts the burden of proof away from public authorities and onto relevant businesses. Second, it requires industry to share information on the use of hazardous industrial chemicals up and down the supply chain to help ensure that substances are being used safely and information is current. In this way, the right to information also contributes to workers’ and consumers’ rights. Third, health and safety summaries are made available to Governments around the world, enabling those with fewer resources to avoid duplication of efforts and enhance cooperation. Fourth, consumers have the right to contact businesses to inquire whether a chemical linked to cancer, hormone disruption or other health and environmental hazards are found in certain products if they are on the “candidate list”. Finally, the information generated is enabling businesses to transition to safer chemicals and safer products. These are good practices for the realization of the right to information about industrial chemicals, and implementation of the Guiding Principles on Business and Human Rights.</p> <p>One of the most innovative features of recent changes to European Union pesticides laws is the prohibition on the use of certain pesticides linked with cancer, reproductive effects, hormone (endocrine) disruption and other adverse health effects, and certain physical properties. The approach of European Union pesticides legislation is risk-based, in that the exposure levels and corresponding risks to worker health, as well as human health and the environment more broadly, cannot be adequately assured for certain pesticides with such properties. This approach to pesticides is grounded in the principle of precaution, provided in the Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community.</p> <p>The Special Rapporteur considers this approach of using hazard-based criteria to be in line with the universality of human rights and the uncontrollable risks that certain hazardous substances pose to those rights. It is a commendable step by the European Union to protect the human rights of everyone, including agricultural workers and children.</p> <p>During meetings with Bayer, the business enterprise informed the Special Rapporteur that they had a human rights policy in compliance with the FAO International Code of Conduct on the Distribution and Use of Pesticides, and a stewardship policy that they say reflects the whole life cycle of a product. For each life cycle step, Bayer says it works on best management practices with the objective of human safety, worker/operator safety, residues in food, consumer safety and environmental aspects. It also claims to work as an industry on training materials to ensure the safe use of pesticides. The Special Rapporteur was pleased to learn of Bayer’s phase-out policy to remove all highly hazardous pesticides considered to be carcinogenic from their portfolio by 2012, and of its process of “portfolio screening” (covering insecticides and fungicides in 2011 and herbicides in 2015). However, he was concerned to learn that highly hazardous pesticides remain in the Bayer portfolio with no target date for phase-out.</p>	<ul style="list-style-type: none"> • Inadequate standards of protection • Limited progress in prevention of exposure • Opaque supply chains and the transfer of hazardous work • Failures to realize the right to information <ul style="list-style-type: none"> • Inadequate standards of protection • Limited progress in prevention of exposure • Opaque supply chains and the transfer of hazardous work • Failures to realize the right to information

The Special Rapporteur is concerned that, rather than substituting hazardous pesticides with safer alternatives, it would seem that Bayer prefers mitigation strategies that carry greater risks for workers and communities, such as wearing protective personal clothing and improvements on labelling. The Special Rapporteur considers that typically the only effective mitigation strategy for hazardous pesticides is a concerted effort to develop and adopt safer alternatives.

The Special Rapporteur also addressed the role of the German shipping industry in the abuses of human rights of workers in substandard shipbreaking facilities, particularly those in South Asia. German ship owners operate the world's fourth largest merchant fleet in terms of vessels and have been linked to widespread contamination of the food, water and air of local communities, in addition to fatalities and toxic chemical exposure among workers, including child and migrant workers, who dismantle ships in hazardous and deadly conditions. According to assessments by civil society, but disputed by the Government, in 2014, German ship owners sold a record high of 95 per cent of their end-of-life tonnage for substandard breaking on the beaches of South Asia. Despite recent progress, the extremely poor working practices and environmental conditions prevailing in many ship-breaking yards continue to be the source of widespread concern in the international community.

A major source of exposure to hazardous chemicals in Germany is in the workplace, and it is estimated that about 74,000 work-related deaths may be linked to workplace exposure to hazardous substances each year in the European Union – about 10 times more than workplace accidents.

While identification and controls for carcinogens are well developed with a specific Directive for Carcinogens and Mutagens at work, there is a need to extend protection against reproductive hazards. The European Union regulation protecting pregnant women in the workplace includes a list of chemicals that is very old and not updated, which means that many chemicals of concern, like endocrine disrupting chemicals or nano-materials, are missing. According to a study by the European Agency for Health and Safety at Work, around 15 per cent of European workers report handling chemical products for a quarter of their working time and 19 per cent report breathing in dust, fumes and smoke at their workplaces. This study highlighted nanoparticles, ultrafine particles, man-made fibres, carcinogenic, mutagenic and reprotoxic substances, dermal exposures, exposures in waste management and the increasing use of allergenic and sensitizing substances as emerging risks.

Specific occupations of emerging concerns include the growing waste management industry, construction and service activities such as cleaning or home nursing. In addition, there are a growing number of workers in small and medium-sized enterprises and subcontracted jobs, where

- Monitoring and enforcement gaps
- Exploitation of those most at risk
- Informal economy
- Deliberate efforts to delay or obstruct protection from toxic exposure
- Opaque supply chains and the transfer of hazardous work
- Inadequate standards of protection
- Limited progress in prevention of exposure
- Monitoring and enforcement gaps
- Deliberate efforts to delay or obstruct protection from toxic exposure
- Disconnected efforts on occupational and environmental

<i>Report</i>	<i>References to occupational exposures</i>	<i>Challenges faced by workers</i>
	<p>the management of chemical risks is generally poorer. The report also expresses concern about multiple exposures on emerging biological, physical and psychosocial emerging risks.</p> <p>REACH may not adequately protect workers, because the risks of daily exposure are primarily assessed for industrial chemicals at higher tonnage thresholds, whereas the majority of chemicals to which workers are exposed are at the lower thresholds. Since the level of hazardous substance exposure for workers is at much higher levels than the permissible exposure levels for consumers, information about adverse effects of chronic exposure is critical.</p> <p>In Germany, 16,165 suspected cases of occupational skin disease were recorded in 2004, representing a quarter of all registered occupational diseases. Other skin diseases include chemical burns ranging from rashes to full thickness skin damage requiring grafts. Chromate is the most dominant allergen, followed by epoxy resins and cobalt in the German construction industry. The German trade union IG Bergbau, Chemie, Energie says that information needs to feature more prominently on the European Chemicals Agency database, so workers can better access health and safety information.</p> <p>Although asbestos is prohibited in Germany, it is still found in buildings and ships. Specialized training and qualifications are required to dispose of asbestos safely, for instance, in demolition or renovation, particularly for informal workers.</p> <p>It was brought to the Special Rapporteur's attention that Germany has not put in place any specific measures to protect informal workers from the risks of hazardous substances. Currently the trade union IG Bauen-Agrar-Umwelt is campaigning for informal and migrant workers to receive basic health and safety instructions prior to working.</p> <p>BASF informed the Special Rapporteur of its global standards for workers' safety. BASF assured the Special Rapporteur that all plants were built according to the same standards and safety levels for workers. The company's goal is to reduce work-related accidents by 80 per cent by 2020.</p> <p>In both areas of private liability — the Environmental Liability Act and Law on Pharmaceuticals — a shift in the burden of proof to reflect a victims-based approach is welcomed. However, in the area of occupational health and safety, the Special Rapporteur heard of the immense challenges still faced by workers who fall ill from toxic chemicals to access any remedy.</p> <p>The Special Rapporteur is particularly concerned that European Union business enterprises, beyond Germany businesses, are exporting their manufacturing activities — and the risks to workers of toxic chemicals — to developing countries. Post-production, European Union businesses can import a product that claims to be “free of hazardous substances” even though hazardous substances were used in the supply chain outside the European Union.</p> <p>This practice is comparable to the supply chain of clothing that originates, for example, from a garment factory in Bangladesh that fails to respect workers' rights, including against sexual violence, and unlawfully targets labour leaders with intimidation, threats and violence. It is also similar to the global trade and supply chain in cobalt, a key component in rechargeable lithium-</p>	<p>health</p> <ul style="list-style-type: none"> • Failures to realize the right to information • Inaccessible remedies, justice and accountability • Opaque supply chains and the transfer of hazardous work • Restrained freedom of association <ul style="list-style-type: none"> • Inaccessible remedies, justice and accountability • Limited progress in prevention of exposure • Exploitation of those most at risk • Opaque supply chains and the transfer of

<i>Report</i>	<i>References to occupational exposures</i>	<i>Challenges faced by workers</i>
<p>“Pesticides and the right to food” (A/HRC/34/48) (2017) (Report written in collaboration with the Special Rapporteur on the right to food)</p>	<p>ion batteries, which may originate from artisanal miners in the Democratic Republic of the Congo, including child labourers who suffer health consequences from prolonged exposure to cobalt without even the most basic protective equipment.</p> <p>These two examples also highlight one of the major problems of REACH where business enterprises are seriously challenged in tracing the use of industrial chemicals throughout the supply chain, despite the reporting requirements of the Regulation.</p> <p>Among the recommendations of the Special Rapporteur was one to increase information for marginalized persons and those in vulnerable situations, especially pregnant women and those who work or live with children, about protection measures, especially endocrine disrupting chemicals.</p> <p>Human rights standards require States to protect vulnerable groups, such as farm workers and agricultural communities, children and women from the impacts of pesticides.</p> <p>Agricultural workers are routinely exposed to toxic pesticides via spray, drift or direct contact with treated crops or soil, from accidental spills or inadequate personal protective equipment. Even when following recommended safety precautions, those applying pesticides are subject to higher exposure levels. Families of agricultural workers are also vulnerable, as workers bring home pesticide residues on their skin, clothing and shoes.</p> <p>Studies in developed countries show that annual acute pesticide poisoning affects nearly 1 in every 5,000 agricultural workers. Globally, however, it is unknown what percentage of farmworkers experience acute pesticide poisoning owing to a lack of standardized reporting. Poor enforcement of labour regulations and lack of health and safety training can elevate exposure risks, while many Governments lack the infrastructure and resources to regulate and monitor pesticides.</p> <p>The exposure risk of children engaged in agricultural work is particularly alarming. Although little data are available, the International Labour Organization estimates that about 60 per cent of child labourers worldwide work in agriculture, and children often make up a substantial portion of the agricultural workforce in developing countries. Their increased sensitivity to the hazards of pesticides, the inadequacy of protective equipment and their lack of experience may leave them particularly exposed.</p> <p>Seasonal and migrant workers are also more vulnerable, as they may work temporarily at various agricultural sites, multiplying their exposure risk to pesticides. Language barriers may further prevent these workers from understanding labels and safety warnings, they may experience poor working conditions without access to adequate safety equipment and they may have difficulty accessing medical care and compensation for pesticide-related diseases. Workers may also have little control over the types of pesticides used.</p>	<p>hazardous work</p> <ul style="list-style-type: none"> • Exploitation of those most at risk • Failures to realize the right to information • Inadequate standards of protection • Limited progress in prevention of exposure • Monitoring and enforcement gaps • Failures to realize the right to information • Inaccessible remedies, justice and accountability • Opaque supply chains and the transfer of hazardous work

Report	References to occupational exposures	Challenges faced by workers
<p>“Guidelines for good practices in relation to the human rights obligations related to the environmentally sound management and disposal of hazardous substances and wastes”</p> <p>(A/HRC/36/41) (2017)</p>	<p>The Special Rapporteur articulates a human rights-based approach to hazardous substances and wastes, including pollutants, toxic industrial chemicals and pesticides, which requires a specific focus on the protection of those most vulnerable or at risk: children, the poor, workers, persons with disabilities, older persons, indigenous peoples, migrants and minorities, while taking into account gender-specific risks. Designing laws and policies to protect those most at risk has been shown to have a ripple effect for the broader community. States must ensure that laws, policies and institutions aimed at assessing and mitigating the potential impacts of toxics are based on the needs of the most vulnerable.</p> <p>In 2013, the International Labour Organization (ILO) estimated that nearly 2 million workers per year — between 3 and 4 workers per minute — die prematurely from occupational diseases linked to toxic chemicals.⁵ Laws in most countries permit workers to be exposed to levels of toxic chemicals hundreds of times higher than the exposure allowed among the general public and often do not take into account real-world exposure scenarios or gender-specific and other sensitivities. Workers are frequently unable to exercise their right to freedom of association and collective bargaining, which is necessary to secure a healthy workplace.</p> <p>The report notes how information on toxics is essential in order to prevent adverse impacts, to ensure the realization of freedom of expression and to enable individuals and communities to participate in decision-making processes and to seek and obtain remedy. Health and safety information about toxic chemicals must never be confidential. Information must be available, accessible, functional and consistent with the principle of non-discrimination in order for human rights to be respected, protected, enjoyed and fulfilled. Despite notable improvements in many countries over recent decades, the right to information remains insufficiently realized in the area of hazardous substances and wastes, particularly with respect to protecting the most vulnerable from adverse impacts of exposure, whether from consumer products, at the workplace or via food, water, air or other sources.</p> <p>Workers should have the right to remove themselves from conditions they believe are unsafe, and the right to information regarding occupational health and safety. However, necessary information on safety precautions or health risks linked to toxic chemicals is often unavailable or inaccessible to workers. Information may be in a foreign language, and labelled pictures may be indecipherable or too small to be legible. States continue to allow the use of industrial chemicals and pesticides under the presumption that personal protective equipment will be used, and that it will be used as effectively as expected. However, workers often do not have access to necessary protective equipment of reasonable quality, and the conditions under which they are expected to use the equipment are often completely unreasonable; thus, risk assessments are inaccurate. Workers are exposed to substances whose health effects have not been studied adequately. Adverse health impacts from chronic occupational exposure to toxic chemicals may not manifest</p>	<ul style="list-style-type: none"> • Inadequate standards of protection • Exploitation of those most at risk • Restrained freedom of association • Failures to realize the right to information • Limited progress in prevention of exposure • Inaccessible remedies, justice and accountability

⁵ Updated figures are available in the present report at para. 3.

<i>Report</i>	<i>References to occupational exposures</i>	<i>Challenges faced by workers</i>
	<p>as a disease for several years. Due to these and other factors, only a small percentage of workers have access to an effective remedy for violations of their rights.</p> <p>Child labourers, female workers, migrant workers and residents of low-income communities are significantly more vulnerable to toxic impacts due to unique sensitivities, cumulative impacts or unequal protections under the law. One of the worst forms of child labour is that in which children work with, or are exposed to any level of, hazardous substances. The World Health Organization (WHO) has published studies showing that children who work with hazardous substances have shorter average lifespans. Children are also at risk through the transmission of their parents' occupational exposures, in particular from their mother while they are in the womb or through breast milk. States must ensure that workers are able to enjoy the right to safe and healthy working conditions. States must protect the right of workers to just, decent and favourable conditions of work by preventing occupational exposure to toxic chemicals, a right that is indivisible from the right to the highest attainable level of physical and mental health and the right to physical integrity. States must ensure that workers have access to information and effective remedy for violations; they must also ensure that migrant workers enjoy the same rights as nationals of the State of employment regarding protection from toxic exposure.</p> <p>The report recommends States uphold human rights through legislation to protecting against infringements resulting from toxic exposures at work. Many States have established constitutional rights and legislation of direct relevance to toxics in the workplace. Legislation in place covers particular life-cycle stages, different types of substances, different product categories, information requirements and other aspects relevant to the State's duty to protect.</p> <p>The report recommends States translate evidence of potential impacts on the enjoyment of human rights into timely and effective measures to respect, protect and fulfil each right implicated. The ability to protect the human rights to life and to health and to realize the right to access to the benefits of scientific progress and its applications hinges upon the ability to translate evidence into protective laws and policies. As discussed above, States must make expeditious progress in the realization of the rights to life and to health, taking all possible measures to protect those rights. However, despite evidence of risks and impacts, there have been instances where the procedures of some States have enabled private interests to use scientific uncertainties as a basis for delaying action to reduce risks. This has led to extreme delays, some lasting decades, in translating evidence of hazard and risk into measures necessary to protect workers, children and others most at risk. This is an unfortunate exploitation of scientific uncertainty by private interests. Scientific uncertainty will always exist. Several States have adopted the principle of precaution to help ensure that action is taken despite those uncertainties. The principle of precaution is essential to the progressive realization of numerous human rights implicated by hazardous substances and wastes.</p> <p>The report notes that businesses should identify and assess the actual and potential adverse human rights impacts in which they may be involved either through their own activities or as a result of their business relationships. They should identify actual and potential impacts throughout the life</p>	<ul style="list-style-type: none"> • Exploitation of those most at risk • Inadequate standards of protection • Limited progress in prevention of exposure • Deliberate efforts to delay or obstruct protection from toxic exposure • Limited progress in prevention of

Report	References to occupational exposures	Challenges faced by workers
	<p>cycle of their products, including supply and value chains. Traceability of supply chains and the life cycle of products is essential to identifying human rights abuses linked to the exposure of workers and communities to toxics.</p>	<p>exposure</p> <ul style="list-style-type: none"> • Monitoring and enforcement gaps
	<p>The importance of the supply and value chain and a lifecycle approach is emphasized in terms of the protection of human rights from toxic exposures. In addition to the pesticide manufacturers, downstream businesses are implicated in the value chain of food and agricultural production in which such hazardous substances are used. For example, according to UNICEF, “exposure to toxic chemicals is likely to be the single greatest health risk to pregnant and nursing workers in the palm oil sector”. Approximately 50 per cent of all consumer products around the world use palm oil, implicating large numbers of consumer product companies.</p>	<ul style="list-style-type: none"> • Opaque supply chains and the transfer of hazardous work
	<p>Air pollution is also of grave concern to child, women and older workers as well as local communities. Illnesses related to haze resulting from the clearing of forests and peat lands for palm plantations not only affect workers and communities near plantations, but can have transboundary impacts. Although the burning of forests and the use of certain pesticides are illegal, compliance and enforcement is poor and such practices continue. Other food and agriculture sectors noted as facing challenges in preventing human rights abuses include coffee, cocoa, cotton and tobacco production.</p>	
	<p>The Special Rapporteur notes that hazardous substances continue to be used in the manufacturing sector and as components of a variety of consumer products, implicating the rights of workers, local communities and consumers, as well as the rights of those who may be exposed to postconsumer waste. Concerns about human rights abuses linked to toxic chemicals have been raised in the context of the electronics sector and the textile, leather and other garment industries. Researchers have also identified a myriad of adverse health impacts linked to toxic chemicals in cosmetics, personal care products, cleaning products, detergents and other household consumer products.</p>	<ul style="list-style-type: none"> • Inadequate standards of protection
	<p>Retailers are able to demand compliance with human rights from their suppliers upstream to ensure that no community, consumer or worker suffers abuses due to hazardous substances linked to products they sell. Indeed, in response to consumer demands for products free of toxic chemicals and for ethical conduct by businesses, certain retailers are exceeding the standards provided by national and international laws. For example, retailers have prohibited the inclusion of certain chemicals of concern in their products.</p>	<ul style="list-style-type: none"> • Opaque supply chains and the transfer of hazardous work
	<p>The guidelines for good practices are intended to assist States in ensuring that their laws and other practices are in line with their human rights obligations. In this vein, the Special Rapporteur recommended that States and other stakeholders apply a number of principles, including that: States must ensure that their practices relating to hazardous substances and wastes ensure equality, do not discriminate against any vulnerable group, including children, the poor, workers, persons with disabilities, older persons, indigenous peoples, migrants and minorities, and take into account gender-specific risks.</p>	<ul style="list-style-type: none"> • Inadequate standards of protection • Exploitation of those most at risk

<i>Report</i>	<i>References to occupational exposures</i>	<i>Challenges faced by workers</i>
<p>“Mission to the United Kingdom of Great Britain and Northern Ireland” (A/HRC/36/41/Add.1) (2017)</p>	<p>The mission of the Special Rapporteur to the U.K. examined several worker rights-related issues. For workers who develop diseases from exposures to toxic chemicals at work, compensation, health care and other aspects of their right to an effective remedy can very often be unattainable. It is calculated that less than 1 per cent of sick workers receive compensation in the United Kingdom for non-asbestos-related occupational diseases.</p> <p>While the Health and Safety Executive has conservatively estimated that approximately 13,000 new cases of occupational disease arise each year, including cancers related to chemical exposure, alarming shortcomings in the United Kingdom compensatory system exclude many claimants due to disability thresholds, minimum exposure times and lack of recognition of elevated risks due to multiple exposures. The United Kingdom Industrial Injuries Advisory Council generally imposes a non-legal, non-scientific “relative risk” test, which requires that the condition be twice as common in the affected group as in the general population. Considering that this threshold is very difficult to meet, fewer occupational diseases are officially recognized in the United Kingdom compared with other countries that apply different criteria.</p> <p>In an example dating back to the 1980s, farmers and agricultural workers who believe they were affected by the use of organophosphate-based or “OP” pesticides in sheep dipping activities have faced severe difficulties in accessing an effective remedy. At the time, the United Kingdom Government ran a mandatory programme requiring farmers to chemically treat their sheep with pesticides to combat sheep scab. Most farmers used organophosphate-based dips to comply, as they were the only licensed products available initially. Organophosphate compounds were initially developed as neurotoxic chemical warfare agents due to their ability to inhibit blood cholinesterase activity.</p> <p>Over the next two decades, farmers reported a range of debilitating health problems, which they believed to be the result of poisoning from the organophosphate-based products, with symptoms including nausea, anxiety, pulmonary oedema and long-term neurological damage. Victim support groups compiled a list of more than 500 farmers believed to have suffered from ill health as a result of their exposure, although campaigners claim the real number to run in the thousands. Victims struggled to access appropriate treatment under the public health regime, as organophosphate poisoning was not considered to be a medical condition. Some were allegedly wrongly diagnosed as suffering from psychological issues and given medications that exacerbated their suffering. A number of individuals who were medically tested by the Government claim they experienced serious difficulties in obtaining the release of their medical records. The difficulty in establishing causation between chronic ill health and the use of organophosphate-based pesticides has seen many legal claims fail.</p> <p>In 2015, an internal report of the Health and Safety Executive of May 1991 was released under a freedom of information request, which established that government officials had warned of the dangers of exposure to organophosphate-based pesticides. Yet in the same month, the Minister of Farming demanded that local authorities clamp down on farmers who refused to use the chemical. The release of the internal report triggered calls by more than a dozen Members of Parliament for</p>	<ul style="list-style-type: none"> • Inaccessible remedies, justice and accountability • Deliberate efforts to delay or obstruct protection from toxic exposure • Failures to realize the right to information • Limited progress in prevention of exposure

an inquiry and public debate into whether farmers were misled over the use of organophosphate-based pesticides.

Officials of the Department for Environment, Food and Rural Affairs explained that no precaution could ever offer 100 per cent protection from any exposure to organophosphate-based pesticides, and explained the difficulty in predicting exposure levels. In the May 1991 report, manufacturers of the sheep-dipping chemicals were criticized for providing inadequate protective measures and instructions for the use of the product. At the time, legislation and guidance to ensure the protection of agricultural workers using the organophosphate-based pesticides placed the burden on farmers to protect themselves. Since 1995, the sale and supply of organophosphate-based pesticides have been restricted to appropriately trained and certified users. The Veterinary Medicines Regulations 2006 introduced a requirement for sheep dipping to be supervised by a holder of a certificate of competence.

The United Kingdom Government stated that it has invested a considerable amount of time and public money to understand all the risks relating to those compounds and determine how they could be minimized, and that it has been unable to identify any causal link between exposure to organophosphate-based pesticides and the symptoms reported. The Special Rapporteur was also referred to a statement on organophosphates issued by the Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment in 2014, which concluded that exposures to cholinesterase-inhibiting organophosphates that are insufficient to cause overt acute poisoning do not cause important long-term neurological toxicity in adults. However, a number of medical experts have spoken out about the use of organophosphate-based sheep dips and the high number of incidents of chronic ill health within the farming community. One independent study, which reviewed the available evidence concerning the neurotoxicity of low-level occupational exposure to organophosphate-based pesticides, found that 13 out of 16 studies showed evidence of neurological problems following long-term, low-level exposure. The United Kingdom Government stated that the Committee had reviewed this study, reaching its conclusion in 2014.

While the United Kingdom has certain specific laws and common law rules to protect human rights in the context of business activities, for example the Health and Safety at Work Act 1974 and the Gangmasters (Licensing) Act 2004, comprehensive legislation to hold businesses to account for human rights abuses is lacking. While legislation provides for the criminal prosecution of a business enterprise, it is very difficult to prove the intent of a business, and the criminal justice system tends to focus on individual criminal liability, which can be difficult to attribute to a company. The Parliamentary Joint Committee on Human Rights, mandated to examine human rights matters within the United Kingdom, has recommended that the Government bring forward legislation to impose a duty on all companies, including parent companies, to prevent human rights abuses, with failure to do so becoming an offence, as under the Bribery Act 2010. The United Kingdom also appears to suffer from insufficient expertise and resources to efficiently combat corporate crime.

The Special Rapporteur made a number of recommendations to the Government, including one

- Inadequate standards of protection
- Limited progress in prevention of exposure
- Inaccessible remedies, justice and accountability

Report	References to occupational exposures	Challenges faced by workers
<p>“Mission to Sierra Leone” (Mission carried out in 2017)</p>	<p>that the Government examine the obstacles to the right to effective remedy by workers and other victims suffering from toxic exposure, including causation, and ensure that victims of United Kingdom companies operating abroad are able to access justice and remedy in the United Kingdom.</p> <p>During his country visit to Sierra Leone, the Special Rapporteur met local residents and workers, paying particular attention on the impact of the agriculture, mining and waste sectors on workers and their communities. The Special Rapporteur noted with concern issues regarding workers in agriculture and mining sectors.</p> <p>The agriculture sector is linked with challenges including in relation to the monitoring and use of agro chemicals and their potential impact on agriculture workers communities living around areas where chemicals are used and the potential contamination of food and water sources. A study on the use of pesticides in Sierra Leone rice crops provided very concerning results.⁶ In his visit to rural communities, the Special Rapporteur heard complaints of contamination potentially related to the activities of business enterprises engaged in large-scale oil palm farming.</p>	<ul style="list-style-type: none"> • Inadequate standards of protection • Limited progress in prevention of exposure • Monitoring and enforcement gaps • Exploitation of those most at risk • Informal economy • Disconnected efforts on occupational and environmental health • Failures to realize the right to information
<p>“Mission to Denmark” (Mission carried out in 2017)</p>	<p>During his country visit to Denmark, the Special Rapporteur was informed on concerns regarding potential health impacts of antibiotic use in livestock. These antibiotics increase the potential of spreading of Associated Methycillin Resistant Streptococcus Aureus (LA-MRSA or MRSA) CC398, an antibiotic resistant ‘superbug’, in the food chain, and among workers exposed to the raw pork.⁷ The Special Rapporteur remains seriously concerned by the vast human health consequences of antimicrobial resistance on workers and more broadly.⁸</p> <p>The Special Rapporteur acknowledges the efforts of Denmark in promoting occupational safety and health through cooperation with other governments, to which he attaches great importance</p>	<ul style="list-style-type: none"> • Inadequate standards of protection • Limited progress in prevention of exposure • Exploitation of

⁶ http://eprints.lancs.ac.uk/80079/1/ENVINT_D_16_00107.pdf.

⁷ See <https://countercurrents.org/2017/03/13/the-pig-industry-and-the-usage-of-antibiotics-in-denmark/>.

⁸ <http://www.who.int/drugresistance/documents/surveillancereport/en/>.

Report	References to occupational exposures	Challenges faced by workers
	<p>given the transnational production and disposal chains of Danish businesses. Among other activities, a 2016 project in Bangladesh established an expert group on Occupational Safety and Health (OSH Unit), in the Department for Inspection of Factories and Establishments (DIFE) of the Government of Bangladesh. The Special Rapporteur welcomes this cooperation and. However, the Special Rapporteur was disappointed to note that cooperation efforts on the protection of workers did not include support to the shipbreaking industry in Bangladesh or elsewhere, despite the substantial impacts of Danish businesses in this sector on the rights of foreign workers. The Special Rapporteur encourages further efforts to ensure all Danish businesses ensure all workers are protected from exposure to toxic substances in their supply chains, among other concerns for workers' rights.</p> <p>The Special Rapporteur was disturbed by the lack of attention to the continued exportation of hazardous pesticides banned by Denmark to countries that have lower levels of protection against the adverse impacts of such pesticides on the human right to health, among others. In some cases, products produced with such banned pesticides and other toxic chemicals can be imported back into Denmark.</p> <p>The Danish company Cheminova is one of the main producers of one such pesticide, Malathion, an insecticide to be used against chewing and sucking insect pests in crops. Evidence is publicly available on the serious risks posed by Malathion to the environment, especially water sources and biodiversity and to human health.⁹ An analysis conducted in 2016 by the World Health Organization International Agency for Research on Cancer (IARC)¹⁰ concluded that Malathion is probably carcinogenic to humans while identifying strong evidence that exposure to malathion-based pesticides is genotoxic. For these reasons Malathion is not commercialized in the EU, including Denmark. Yet, only in 2017, Cheminova A/S, a multinational pesticide producer based in Denmark exported Malathion to over 40 countries outside the EU.¹¹ In 2015, the Special Rapporteur expressed his concerns on the extreme impacts on the rights to food and water, and livelihoods of communities in Guatemala, when 500 to 1000 kg of fish were killed in Peten River, Guatemala, reportedly due to the heavy contamination of local waters by Malathion.¹² The practices of Cheminova in countries with weaker normative frameworks have been criticized in the past.¹³</p>	<p>those most at risk</p> <ul style="list-style-type: none"> • Opaque supply chains and the transfer of hazardous work • Failures to realize the right to information • Limited progress in prevention of exposure • Exploitation of those most at risk • Opaque supply chains and the transfer of hazardous work

⁹ http://www.pesticideinfo.org/Detail_Chemical.jsp?Rec_Id=PC32924.

¹⁰ <https://monographs.iarc.fr/ENG/Monographs/vol112/mono112-07.pdf>.

¹¹ See Export Notifications, European Chemical Agency.

¹² See GTM 4/2015.

¹³ Pesticide export to institutionally vulnerable countries, who is responsible? An assessment of the practices and strategies of a Danish company in Brazil.

Report	References to occupational exposures	Challenges faced by workers
	<p>The exposure of communities and workers in States with weaker regulations to chemicals banned in Europe is an unacceptable demonstration of double standards.¹⁴ As previously addressed, additional legal instruments should be considered in Denmark in order to ensure companies respect human rights throughout their operations and conduct human rights due diligence in relation to their domestic and international operations and supply chains, always using the highest levels or protection when operating in different jurisdictions.</p> <p>In Greenland, controversy marked the implementation of military activities especially due to the difficulties in accessing information on the full nature of operations implemented by the US forces. Concerns existed, for example, on the impact of the contamination generated by the crash near of a US B-52 bomber loaded with nuclear weapons near the Thule Aribase. The local workers involved in the clean-up operation claimed long-term health problems resulted from their exposure to the radiation and legally challenged the Danish Government for allegedly failing to monitor the health consequences of their exposure to toxics. \</p> <p>The Special Rapporteur also noted the potential adverse health risks for workers who may be employed in the developing mining industry of Greenland.</p>	<ul style="list-style-type: none"> • Inadequate standards of protection • Limited progress in prevention of exposure • Monitoring and enforcement gaps • Exploitation of those most at risk • Failures to realize the right to information • Inaccessible remedies, justice and accountability
<p>“Shipbreaking”: Government of the United Kingdom, Government of Denmark, the Government of Brazil, and the Government of Bangladesh, and 2 companies (North Sea Production Company, A.P. Moeller Maersk, and</p>	<p>In January 2018, the Special Rapporteur and the Working Group on Business and Human Rights brought to the attention of the Government of the United Kingdom, Government of Denmark, the Government of Brazil, and the Government of Bangladesh information received concerning the alleged transboundary movement of The North Sea Producer, an end-of-life ship owned by the UK registered North Sea Production Company, a single-ship joint venture between the A.P. Moeller Maersk (headquartered in Denmark) and Odebrecht (headquartered in Brazil) The ship, containing hazardous substances and wastes, arrived in August 2016 in Chittagong, Bangladesh for dismantling (shipbreaking). A similar letter was also addressed to the companies involved.</p> <p>At the yard where the North Sea Producer was supposed to be dismantled, shipbreaking work is carried out without workers having access to necessary safety equipment as well as use of proper safety and procedures. Work reportedly is carried out manually by workers with torch cutters.</p>	<ul style="list-style-type: none"> • Inadequate standards of protection • Limited progress in prevention of exposure • Monitoring and enforcement gaps • Exploitation of

¹⁴ A/HRC/33/41/Add.2 — include UK mission, pesticides report by SR food.

Report	References to occupational exposures	Challenges faced by workers
Odebrecht (2018)	<p>Oxygen and gas are pumped through a device that creates a 1500°C flame that can cut through steel coated with paints that contain hazardous substances such as heavy metals. Reports also indicate that workers do not use necessary protective clothing, some moving with bare feet and sandals in the tidal mudflat used as the dismantling area. Most workers live in unhealthy conditions in wood and sheet metal shacks right next to the walls of the shipyard. Coughs, headache and breathing problems are reported among workers in dismantling yards in the same area in Bangladesh.</p> <p>Apart from highlighting the poor working conditions of the workers, this issue also exhibited the challenges in realizing the right to decent work, including transfer of hazardous work to developing countries, exploitation of those most at risk (migrant workers), capitalizing on the informal sector to skirt international obligations, as well as what may amount to deliberate efforts by business enterprises to delay or obstruct protection from toxic exposure of workers.</p>	<p>those most at risk</p> <ul style="list-style-type: none"> • Informal economy • Deliberate efforts to delay or obstruct protection from toxic exposure • Opaque supply chains and the transfer of hazardous work
<p>“Electronics Industry”: Government of the People’s Republic of China, Government of the United States of America, and 2 companies (Catcher Technology Co. Ltd. and Apple Inc.) (2018)</p>	<p>In May 2018, the Special Rapporteur and others brought to the attention of the Government of the People’s Republic of China information received concerning the alleged unsafe working conditions at Catcher Technology’s factory in Suqian, northern Jiangsu Province, People’s Republic of China, and the implications for the human rights of the affected workers. A similar communication was also addressed to the Government of the USA and two companies: Catcher Technology Co Ltd and Apple Inc. At the time of drafting this report, there were no responses received from the Governments regarding the allegations.</p> <p>Catcher Technology Co Ltd. (Catcher), headquartered in Taiwan, Province of China, is a world leader in the light metal industry, specializing in notebook computers, digital cameras, and disc drives. Catcher manufactures products for many well-known consumer electronics companies including Apple Inc. (Apple), an American technology company headquartered in Cupertino, California, United States of America. This communication highlighted various challenges faced by workers in relation to their health and exposure to hazardous substances and wastes including:</p> <p>The exposure of workers to hazardous substances and polluted indoor air: On 25 May 2017, an incident of toxic gas poisoning at the A6 workshop of the factory resulted in the hospitalization of 90 workers, with five workers admitted to intensive care. An investigation conducted by the Administrative Committee of the Suzhou-Suqian Industrial Park confirmed that poisonous gas permeated throughout the workshop, triggering adverse reactions among operator personnel. In addition, there is severe indoor air pollution at the factory, with some workers suffering from respiratory illnesses as a result.</p> <p>Workers are at risk of other health and safety hazards: The surface of the factory floor is often covered in oil, resulting in instances of workers slipping and falling. In addition, workers at the Computer Numerical Control (CNC) machining workshop of the factory are exposed to excessive loud noise, placing them at risk of irreversible hearing loss. In addition, the main door of the CNC machining workshop only opens 30 cm wide, posing a safety hazard, particularly in case of emergencies.</p>	<ul style="list-style-type: none"> • Inadequate standards of protection • Opaque supply chains and the transfer of hazardous work • Limited progress in prevention of exposure • Failures to realize the right to information • Inaccessible remedies, justice and accountability

Workers' right to information is not protected: The workers have insufficient information regarding the toxic substances they handle or could be exposed to and their potential hazards. For instance, workers are inadequately informed of the hazards of exposure to cutting fluid and of any relevant protection methods. While factory regulations require providing a 24-hour training to workers prior to starting work, the training offered is neither adequate nor effective. Training sessions are frequently less than an hour long and workers are handed questionnaires, the answers to which are read out by the staff. Such a practice restricts workers from fully understanding the nature and potential hazards of the toxic substance they handle or could be exposed to. Furthermore, information is not available regarding the exposure levels of workers to various toxic chemicals that are commonly used in electronics production and relevant information about the use of toxic chemicals at the factory.

Workers are not provided with adequate Personal Protective Equipment (PPE): Excluding some workers who wear glasses, all other workers in the workshop operate machinery with no eye protection. The CNC machining workshop provides workers with a pair each of rubber and cotton gloves every day. However, the cotton gloves appear to be have been previously used as they would be given to the workers while they were already damp and water-stained. The cutting fluid which CNC machine operators come into contact with is absorbed quickly by the cotton gloves along with other chemicals, oils, and fluids, thus eroding the rubber gloves worn inside. This results in the workers' hands making direct contact with the cotton gloves soaked in cutting fluid. The inadequate equipment has resulted in irritation and peeling off of skin on the hands of many workers. In addition, for workers who use pressure guns in the production process, the cutting oil splashes onto their heads. Single-use paper face masks provided by the factory only protect the workers' mouths and faces and the cutting fluid often splashes into the workers' eyes resulting in complications like eye pain, blurred vision and bloodshot eyes for prolonged periods.

Workers face inadequate access to health and sanitation facilities: Workers at the factory are responsible for paying for their physical examinations. Workers do not undergo physical examinations after they resign making it difficult to determine if they have contracted an occupational disease as a result of working at the factory. Workers applying through labour dispatch companies are not given social insurance during their probationary work period. Workers do not have access to healthcare services and have to pay for any occupational treatment out of pocket for the first three months of work, as Catcher only distributes social insurance cards three months after the contract commences. While there is legal provision for access to treatment for occupational illnesses, many workers remain vulnerable due to inadequate access to contractual documents from the employer, insufficient or lack of regular health checks for workers, and unsatisfactory or lack of workplace evaluations which would be evidence for the worker to prove the link between exposure and the illness.

The bathrooms in the factory's housing area do not have adequate hot water facilities even during the winter. Workers have on occasion fallen ill due to inadequate heating and insufficient shelter from the wind in the shower areas. There are also no emergency hallways or exits in the workers'

Report	References to occupational exposures	Challenges faced by workers
	dormitories.	
	The food provided to workers is unsanitary: For instance, there have been many occasions where workers have suffered from diarrhoea after eating at the factory cafeteria. The factory does not permit workers to leave the factory area during lunchtime and workers therefore cannot purchase their own food.	
<p>“Tobacco industry”: Government of Zimbabwe, 10 companies and the Governments of their countries of domicile</p>	<p>In May 2018, the Special Rapporteur and others brought to the attention of the Government of Zimbabwe information received concerning alleged human rights violations resulting from exposure of workers including children, to toxic chemicals while working in tobacco farming farms in Zimbabwe, specifically in Mashonaland West, Mashonaland Central, Mashonaland East, and Manicaland. A similar communication was also addressed to 10 companies and to the Governments of their countries of domicile. At the time of drafting this report, there were no responses received from the Governments regarding the allegations.</p>	<ul style="list-style-type: none"> • Opaque supply chains and the transfer of hazardous work • Exploitation of those most at risk
<p>Companies:</p> <p>Alliance Once International Inc.</p> <p>British American Tobacco (BAT) PLC</p> <p>Chidziva Tobacco Processors (Private) Limited</p> <p>China National Tobacco Corporation & Tian Ze Tobacco Company</p> <p>Contraf Nicotex Tobacco GmbH (CNT)</p> <p>Imperial Brands PLC</p> <p>Japan Tobacco Inc & Japan International SA</p> <p>Northern Tobacco (Private) Limited</p> <p>Premium Tobacco International DMCC</p> <p>Universal Corporation</p>	<p>In 2018, there are approximately 100,000 registered tobacco farmers, comprising both large-scale and small-scale farmers. It is alleged that workers involved in tobacco production in Zimbabwe face serious health and safety risks. Workers allegedly have insufficient information, training, and equipment to protect themselves from exposure to pesticides and other toxic chemicals. Reports of workers hired on large-scale farms suggest that many workers, including some children, are coerced into working hours that are in excess of agreed time without overtime compensation. Some workers allege that they are denied their wages and forced to go weeks or months without pay. Workers who have refused to work overtime without additional pay have allegedly been dismissed or have been threatened with dismissal.</p> <p>Workers reportedly suffer from nausea, vomiting, loss of appetite, stomach pain, headaches, dizziness, skin irritation (particularly of the face), chest pain, blurred vision, eye irritation, respiratory irritation, and other symptoms of Green Tobacco Sickness (GTS), a type of nicotine poisoning that occurs while handling tobacco plants. Some of these adverse health impacts are reportedly developed from the application of pesticides on the tobacco farms. Long-term and chronic health effects of pesticide exposure include respiratory problems, cancer, depression, neurologic deficits, and reproductive health problems.</p> <p>It is reported that neither government officials nor company representatives have provided workers with adequate information about nicotine poisoning and pesticide exposure, or with sufficient training or comprehensive education to protect themselves. Some workers reportedly are not provided with, and often lack the means to procure equipment necessary to protect themselves, despite legal provision requiring employers to ensure that workers handling hazardous substances, including pesticides, are informed about the risks of the work, and provided with proper protective equipment.</p> <p>It is alleged that in the tobacco industry in Zimbabwe children are involved in work on farms and other parts of the production process and do so in hazardous conditions, often performing tasks that threaten their health and safety or interfere with their education. It is reported that during the</p>	<ul style="list-style-type: none"> • Informal economy • Inadequate standards of protection • Limited progress in prevention of exposure • Failures to realize the right to information

<i>Report</i>	<i>References to occupational exposures</i>	<i>Challenges faced by workers</i>
Countries of domicile:	labour-intensive planting and harvesting seasons, high rates of absenteeism are recorded in schools near tobacco farms as children are engaged in work either as individuals or as part of their families.	
Germany		
Japan	Children are allegedly exposed to pesticides while working on tobacco farms in Zimbabwe. Some children mix, handle, or apply pesticides directly. Others are exposed when pesticides are applied to areas close to where they were working, or by re-entering fields that had been very recently sprayed. Many children report immediate illness after having contact with pesticides. It is further reported that children work long hours handling green or dried tobacco leaves and as a result suffer specific symptoms associated with acute nicotine poisoning and pesticide exposure.	
People's Republic of China	Allegedly, the symptoms of GTS are clearly visible in child labourers, and monitoring systems are inadequate to detect health impacts of chronic exposure to pesticides and other toxic chemicals.	
Switzerland		
United Arab Emirates		
United Kingdom		
United States of America (2018)		