



ARE RANGERS ADEQUATELY PROTECTED BY INSURANCE SCHEMES?

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ABSTRACT

Rangers are charged with preventing biodiversity loss and ecosystem degradation. They work under a diversity of environmental conditions spanning the climates, ecosystems and landscapes of our planet. Rangers also work under a range of man-made working conditions – salary, training, healthcare, job stress, etc – that are unique to each context and either promote or inhibit the welfare of these men and women. A ranger's work can be dangerous; disease, injury and even death occur, so we investigated the protections provided by insurance schemes afforded to government rangers in order to assess their adequacy in protecting rangers and their families. A survey of 40 countries was conducted, with data being analysed by continent – Africa, Asia, and Latin America, plus a grouping of countries from North America, Europe, Oceania and the Middle East. Of the countries surveyed, 18 per cent did not provide access to health insurance, 35 per cent to life insurance and 53 per cent to long-term disability insurance. Access to insurances varied geographically, with countries in Africa and Asia providing much lower access than elsewhere. This survey is believed to be the first to examine insurance schemes available to government rangers.

Key words: ranger, working conditions, health insurance, life insurance, long-term disability, cost of insurance

INTRODUCTION

The world is in the midst of the sixth mass extinction (Ceballos et al., 2010; Barnosky et al., 2011; Ceballos et al., 2015), with species showing an average 25 per cent decline in abundance (Dirzo et al., 2014) and the IUCN Red List Index demonstrating that extinction risks are increasing (Hilton-Taylor et al., 2009). This loss of biodiversity harms human wellbeing (Diaz et al., 2006) and degrades the ecosystem (Hooper et al., 2012). Humans are also directly degrading the Earth's ecosystems (Halpern et al., 2008; Haddad et al., 2015), despite the goods and services these ecosystems provide to human society (Daily, 1997; Cardinale et al., 2012).

Rangers are put in charge of preventing this loss of biodiversity and degradation of ecosystems. This is a significant task where success would secure unquantifiable benefits to human society, and failure would be catastrophic for both humans and the Earth that we call home. Given the importance of their job and the enormity of the consequences of success or failure,

logic would dictate that rangers are well-supported by governments and the wider society which they work to protect.

Anecdotal evidence suggests that rangers face difficult and dangerous field conditions. Unfortunately, little empirical research has been performed to substantiate these conditions. Threats to rangers have been demonstrated to come from encounters with wildlife (Warchol & Kapla, 2012; Moreto, 2015; WWF, 2016; WWF & RFA, 2016), poachers (Warchol & Kapla, 2012; Moreto, 2015; WWF, 2016; WWF & RFA, 2016), common criminals (Tynon et al., 2010; Warchol & Kapla, 2012), rebels (Moreto, 2015), community backlash (Moreto, 2015; Moreto et al., 2016; WWF, 2016; WWF & RFA, 2016), harsh environmental conditions (Moreto, 2015) and disease (Ogunjinmi et al., 2008).

Difficult working conditions amongst rangers impact their morale (Leaky & Morrell, 2001). Moreto (2015) identified a range of work stressors that impacted the



Rangers carry a motorbike across a flooded river in Cambodia © Rohit Singh/WWF

morale and wellbeing of rangers in Uganda. In one example from Nigeria, 100 per cent of respondents expressed lack of adequate healthcare support, and this, along with other stressors, meant that 87.5 per cent of rangers interviewed were very dissatisfied with their job (Ogunjinmi et al., 2008). Even simple-to-address issues such as access to equipment and training can have an impact on the profession. Across Asia, 74 per cent of rangers perceived they lacked access to proper equipment, and 48 per cent felt they were inadequately trained. It should be no surprise therefore that 48 per cent of rangers stated they would not want their children to become a ranger (WWF & RFA, 2016). Similarly, in Africa, 59 per cent of rangers perceived they lacked access to proper equipment, and 42 per cent felt they were inadequately trained, with 54 per cent of rangers not wanting their children to become a ranger (WWF, 2016).

The International Ranger Federation and the Thin Green Line Foundation continually track the number of rangers killed in the line of duty. Their statistics show that between 2009 and 2016, at least 595 rangers have been killed in the line of duty (IRF, 2016). This represents only the cases reported to The International Ranger Federation and are likely to be an underestimate. This statistic, which does not include rangers that have been severely injured or incapacitated by injury or disease,

demonstrates the real risks of being a ranger. A massive 72.5 per cent of rangers in studies across Africa and Asia said that they had faced a life-threatening situation (data combined from WWF, 2016 and WWF & RFA, 2016), a fact corroborated by IRF (2016) where nearly 90 per cent of 107 ranger deaths reported between July 2015 and June 2016 were from Asia and Africa. Clearly, being a ranger can be dangerous.

Two important parts of occupational welfare are the ability to afford short-term and long-term healthcare and the ability to ensure that one's family will be taken care of should unfortunate events occur. These benefits – generally provided through health and life insurance – are particularly important for rangers. Additionally, the method of pay-out and the time it takes to make insurance pay-outs can be significant factors in the level of support insurance schemes provide to rangers and their families. This study aimed to provide a broad overview of the insurance schemes offered to frontline rangers around the world. It is believed to be the first study to look at insurance available to rangers and how rangers perceive their coverage.

For the purpose of this survey, a ranger was defined as a government employee entrusted with protecting and preserving parklands, including officers, rangers, wildlife wardens, forest guards, foresters, scouts, watchers and



Figure 1: Map of countries from where data was sourced

other frontline field staff. It should be noted that this study focused only on rangers hired either on permanent or temporary contracts by governments. We fully acknowledge that other types of frontline protection staff, such as indigenous rangers, community game scouts, private landowners and private security, are widespread, numerous and deserve the same sort of analyses.

METHODS

Data collection took place between March and May 2016 using a survey in English, Spanish and Chinese. Surveys were sent via email or delivered in person to sources in each country who would be knowledgeable about the insurance benefits available to rangers. Where possible, data was sourced directly from government sources, but data collection also included ranger associations and conservation organization staff who work closely with rangers and so had access to accurate information. Surveys were also conducted in-person during the World Ranger Congress in May 2016.

Data were collected from 40 countries including Africa (n=10), Asia (n=15), Latin America (n=7), North America (n=2), Oceania (n=2), Europe (n=3) and the Middle East (n=1); see Figure 1. Data were analysed by region: Africa, Asia, Latin America and 'Other', which was an amalgamation of the last four regions above.

Within the survey, quantitative data were collected through closed-ended questions to facilitate measurement and comparison with future surveys. The

survey focused on answering the following research questions:

1. Do rangers receive financial support for healthcare, either through universal healthcare systems, health insurance or a combination of both?
2. Do rangers receive financial support for their families in case of an accident?
3. Do rangers on temporary contracts have equal access to insurance schemes?
4. Who are the main providers of insurance schemes to rangers?
5. How do rangers perceive their insurance coverage?
6. What is the cost of insurance to rangers?
7. How are insurance payments made to rangers?

Insurance is a complex subject and varies significantly from country to country. Creating a broad, simple-to-understand overview of the subject was challenging. The survey made all possible attempts to collect and represent data on this complex subject accurately, balancing complexity with usability. A set of key definitions (Table 1, overleaf) was provided to survey participants to standardize terms.

The survey focused on ranger insurance benefits by country, and on coverage provided to an entry level ranger. No questions specific to any individual's insurance, health or employment status were asked. The survey looked at the availability of insurance support and was not designed to evaluate whether provided insurance support was adequate or not. One limitation was a lack of

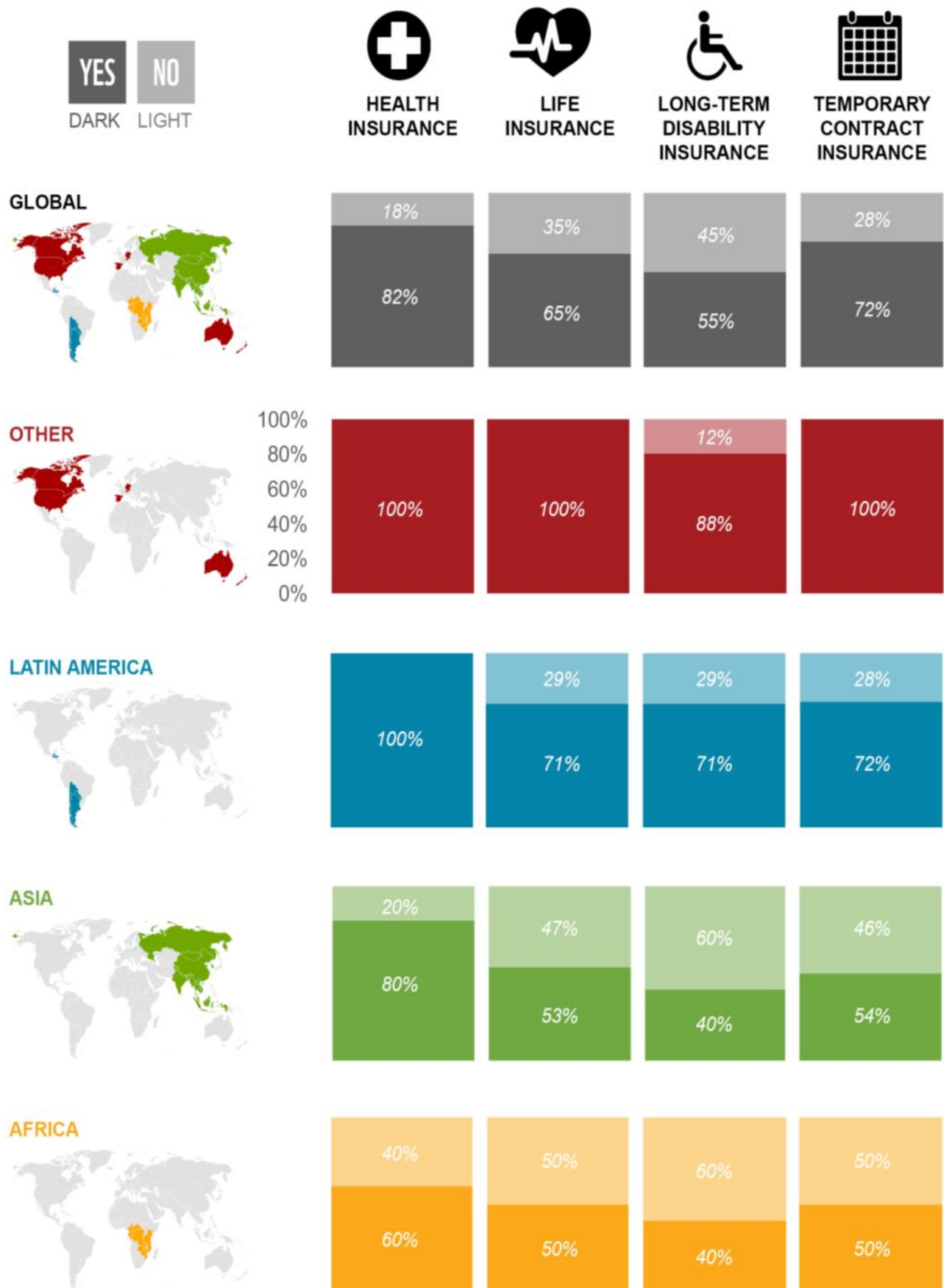


Figure 2: Summary of the percentage of countries where rangers receive health, life and long-term disability insurance coverage by region and contract type

Table 1: Key definitions used throughout the study

Term	Definition
Ranger	A government employee entrusted with protecting and preserving parklands, including range officers, wildlife wardens, forest guards, foresters, scouts, watchers and other frontline field staff
Permanent	Working under a contract without a fixed end date
Temporary	Working under a contract with a fixed end date
Universal Healthcare	A system used by some countries in which the government provides healthcare to all citizens of that country
Life Insurance	A contractual agreement that pays out a sum of money either on the death of the insured person or after a set period
Health Insurance	A contractual agreement that pays for medical and surgical expenses that are incurred by a person covered by health insurance. Health insurance can either reimburse the insured person for expenses incurred from illness or injury or pay the healthcare provider directly
Long-term Disability Insurance	A contractual agreement that pays the insured person in the event that he or she is unable to work due to illness, injury, or accident for a long period of time
Deductible	A specified amount of money that a person covered by insurance must pay before an insurance company will pay a claim

local third-party experts in all countries with whom to substantiate survey responses. The survey, therefore, relied on national government representatives, conservation experts and rangers themselves, who could have introduced potential bias to the data or reporting. Survey respondents were guaranteed anonymity and the analysis was conducted by region so as not to highlight the strengths or weaknesses of any specific country.

When comparing insurance pay-outs or costs, amounts were converted into US Dollars (USD) (based on exchange rates on 1 August 2016), and the pay-out or cost was divided by a ranger's starting salary in that country to provide a figure presented in number of month's salary as a crude measure of purchasing power parity.

RESULTS

Do rangers receive financial support for healthcare?

A total of 17 countries (Africa n=2; Asia n=5; Latin America n=4; Other n=6) have a system of universal healthcare. Rangers on a permanent contract in 16 countries (Africa n=4; Asia n=7; Latin America n=3; Other n=2) receive some sort of health insurance specifically as a benefit of their employment as a ranger. Rangers in five countries receive insurance from a non-government organization (NGO) or purchase it themselves in addition to universal healthcare or a government provided insurance scheme through their employment contract. Consequently, rangers from seven (18 per cent) of the countries surveyed (Africa 40 per

cent; Asia 20 per cent; Latin America 0 per cent; Other 0 per cent) have no access to health insurance (Figure 2).

In countries where rangers receive health insurance coverage either through universal healthcare or as a benefit of employment, the government provides this benefit in 58 per cent (n=19) of countries (Africa 50 per cent; Asia 84 per cent; Latin America 43 per cent; Other 38 per cent). Private companies on behalf of the government provide this benefit in 30 per cent (n=10) of countries (Africa 33 per cent; Asia 8 per cent; Latin America 43 per cent; Other 50 per cent), and NGOs provide it in 6 per cent (n=2) of countries (Africa 17 per cent; Asia 8 per cent; Latin America 0 per cent; Other 0 per cent). Health insurance is purchased directly by the ranger in 6 per cent (n=2) of countries (Africa 0 per cent; Asia 0 per cent; Latin America 14 per cent; Other 12 per cent). In three countries, rangers are provided additional insurance through NGOs, and in four countries rangers purchase additional insurance on top of government provided insurance.

Do rangers receive financial support for their families in case of an accident?

Rangers on a permanent contract were found to receive life insurance as a benefit of their employment in 65 per cent (n=26) of countries (Africa 50 per cent; Asia 53 per cent; Latin America 71 per cent; Other 100 per cent). Consequently, rangers from 35 per cent of countries surveyed (Africa 50 per cent; Asia 47 per cent; Latin America 29 per cent; Other 0 per cent) have no access to life insurance (Figure 2).

Table 2: Provider of insurance by percentage of countries surveyed

	Government insurance	Private company on behalf of government	Nonprofit / NGO insurance	Insurance purchased by ranger
Health insurance	58	30	6	6
Life insurance	58	31	4	7
Long-term disability insurance	64	32	5	0
Average	60	31	5	4

In countries where rangers receive life insurance coverage as a benefit of employment, the government provides this benefit in 58 per cent (n=15) of countries (Africa 80 per cent; Asia 88 per cent; Latin America 20 per cent; Other 38 per cent). Private companies on behalf of the government provide this benefit in 31 per cent (n=8) of countries (Africa 0 per cent; Asia 13 per cent; Latin America 80 per cent; Other 38 per cent), and NGOs provide it in 4 per cent (n=1) of countries (Africa 20 per cent; Asia 0 per cent; Latin America 0 per cent; Other 0 per cent). Life insurance is purchased directly by the ranger in 7 per cent (n=2) of countries (Africa 0 per cent; Asia 0 per cent; Latin America 0 per cent; Other 25 per cent). In one country, additional life insurance was provided through an NGO, and in four countries rangers purchased additional life insurance in addition to the insurance provided by the government through their employment contract. The average life insurance pay-out was equivalent to 22 months salary (Africa 13 months; Asia 23 months; Latin America 29 months). It was not possible to calculate an average for the 'Other' category due to the wide variation and incompatibility in the way a pay-out was calculated across the countries.

Rangers on a permanent contract receive long-term disability insurance as a benefit of their employment in 53 per cent (n=21) of countries (Africa 40 per cent; Asia 40 per cent; Latin America 71 per cent; Other 88 per cent). Consequently, rangers from 45 per cent of countries surveyed (Africa 60 per cent; Asia 60 per cent; Latin America 29 per cent; Other 0 per cent) have no access to long-term disability insurance (Figure 2).

In countries where rangers receive long-term disability insurance coverage as a benefit of employment, the

government provides this benefit in 64 per cent (n=14) of countries (Africa 75 per cent; Asia 100 per cent; Latin America 40 per cent; Other 43 per cent). Private companies on behalf of the government provide this benefit in 32 per cent (n=7) of countries (Africa 0 per cent; Asia 0 per cent; Latin America 60 per cent; Other 57 per cent), and NGOs provide it in 5 per cent (n=1) of countries (Africa 25 per cent; Asia 0 per cent; Latin America 0 per cent; Other 0 per cent). Additional long-term disability insurance was provided through an NGO in one country, and in two countries additional long-term disability insurance was purchased by rangers in addition to the insurance provided by the government through their employment contract.

Do rangers on temporary contracts have equal access to insurance schemes?

Of the 40 countries surveyed, 32 employ some rangers on temporary contracts of which 41 per cent (n=13) provide health insurance coverage as part of a temporary contract and a further ten countries (31 per cent) provide universal healthcare coverage. Rangers on temporary contracts therefore receive health insurance in 72 per cent of countries (Africa 50 per cent; Asia 54 per cent; Latin America 72 per cent; Other 100 per cent). However, four countries indicated that temporary workers receive less insurance benefits than rangers on permanent contract. Therefore, 28 per cent of countries that provide temporary contracts to rangers do not provide health insurance (Figure 2) and 13 per cent provide lower levels of insurance coverage than permanent staff.

Who are the main providers of insurance schemes to rangers?

Insurance provision was heavily weighted towards government provision with the government providing insurance in an average of 60 per cent of countries and companies on behalf of the government in an average of 31 per cent of countries (Table 2). Note that this is 91 per cent of countries where rangers receive insurance and does not capture the seven countries (18 per cent) where rangers do not have any access to insurance support.

How do rangers perceive their insurance coverage?

Representatives from 37 countries responded to questions on perceptions of coverage. Fifty-nine per cent of respondents (Africa 63 per cent; Asia 60 per cent; Latin America 67 per cent; Other 50 per cent) perceived that insurance coverage, of all types, for rangers in their country was less than that available to those with similar jobs such as police, military, coast guard and fire brigade.



Figure 3: Average monthly premium paid for insurance in a) US Dollars, and b) as a percentage of monthly salary, and average deductible in c) US Dollars, and d) as a percentage of monthly salary

What is the cost of insurance to rangers?

The average cost of entire insurance packages per ranger per month globally was \$117 (Figure 3a), which as a percentage of a ranger's salary equates to 9 per cent globally (Figure 3b). The average deductible globally was \$84 (Figure 3c), which as a percentage of a ranger's salary equates to 10 per cent globally (Figure 3d).

How are insurance payments made to rangers?

Representatives from 36 countries responded to questions on insurance payment options. Three countries indicated multiple payment options occurred within their country (cash, cheque or wire transfer). Globally, it was found that countries provided payments by cash (17 per cent), cheque (39 per cent), direct deposit (42 per cent)

and direct payment to service provider (8 per cent). The percentages varied by region: Africa (cash 33 per cent; cheque 33 per cent; direct deposit 22 per cent; and others 22 per cent), Asia (cash 25 per cent; cheque 50 per cent; direct deposit 25 per cent; and direct payment to service provider 13 per cent), Latin America (cash 0 per cent; cheque 57 per cent; direct deposit 43 per cent; and direct payment to service provider 0 per cent), and Other (cash 0 per cent; cheque 12 per cent; direct deposit 88 per cent; and direct payment to service provider 0 per cent). The average time estimated to process insurance payments was 3.25 months, with wide variation between regions: Africa (5 months), Asia (4 months), Latin America (3 months) and Other (1 month).



A ranger and soldiers collaborate to collect patrol data in Nepal © Barney Long / WWF US (left) and rangers survey deep in a Bhutanese park © Rohit Singh / WWF (right)

DISCUSSION

Of the countries surveyed, 18 per cent did not provide access to health insurance, 35 per cent to life insurance, and 53 per cent to long-term disability insurance. Access to insurances varied geographically, with countries in Africa and Asia providing much lower access than elsewhere.

Despite the inherent dangers of the job, rangers in 18 per cent of countries surveyed (40 per cent in Africa, and 20 per cent in Asia) do not receive access to any health insurance. Responses on the maximum amount paid by health insurance to cover illness, injury, or inability to work was impossible to collate into global or regional averages due to the variation and complexity of insurance schemes.

With at least 595 rangers having been killed in the line of duty between 2009 and 2016 (IRF, 2016), the risks of being a ranger are clear. Despite these risks, this study showed that rangers in 35 per cent of countries surveyed had no access to life insurance. The imbalance is greater at the regional level, where 52 per cent of known ranger deaths occurred in Asia, and 32 per cent in Africa, yet within these regions, rangers in only 53 per cent of

countries in Asia and 50 per cent of countries in Africa had access to life insurance. Where life insurance is provided, the families of a fallen ranger receive, on average, less than two years' salary.

The situation with long-term disability insurance is even worse than basic health and life insurances, with rangers in only 53 per cent of countries having access. Similarly, for rangers on short-term contracts, 72 per cent of countries provide insurance coverage with some of these providing reduced coverage. Anecdotal observations from across Asia by the first and last authors suggest that contract rangers are often given the most dangerous tasks, further highlighting the lack of equity within this situation.

The various work stressors facing rangers challenge their motivation and performance on a daily basis. It has been shown in other high-stress professions such as police (Richardson et al., 2006), ambulance personnel (van der Ploeg & Kleber, 2003), and nurses (Van Yperen & Hagedoorn, 2003), that a high level of institutional support is the main driver of intrinsic motivation and the key factor for avoiding health issues derived from work-related stressors. Due to the risk and high-stress nature

of the profession, rangers should be provided the highest levels of institutional support. The most critical components of institutional support should be providing a safe working environment to prevent injury or death, and securing the health and livelihood options of a ranger's family in the case of death. This study found weak levels of institutional support in terms of health, life and long-term disability insurance provided to rangers on a global scale, and especially so in Africa and Asia.

At this point, very little can be deduced from the perceived disparity between the level of insurance provided to rangers and those of other high-risk, high-stress government occupations. Further studies are needed to quantify whether these perceptions are grounded in reality or not.

The majority of countries dispersed insurance payments using cheques or direct deposit, however six countries (Africa $n=3$; Asia $n=3$) used cash payments. The use of cash payments provides a corruption pathway and so should be replaced to ensure rangers are fully protected. The length of time prior to payment is a critical factor in the day-to-day management of a family's finances. An average wait time of four months could put families of rangers in debt with long-lasting livelihood impacts.

This initial study has highlighted many weaknesses in the insurance schemes provided to government rangers across the world. It is hoped that this initial study will precipitate further studies on all other types of rangers that defend, manage and educate us about the world's natural environments.

While the situation for rangers in Africa and Asia is worse than in other regions of the world, improvements in coverage and quality of insurance appear to be required everywhere. It is the responsibility of governments to adequately protect and support their employees and this study showed that governments do provide insurance coverage either directly or through companies in 91 per cent of countries. However, all governments must ensure that their rangers have access to suitable and equitable insurance coverage, in accordance with the level of risk rangers face in their country. This should include rangers on temporary contracts.

This study was limited in its scope, and focused primarily on the provision of insurance and not the quality of the insurance provided. Comparisons of the insurance coverage provided to rangers were not able to be made with that of other professions and the nuances of

insurance coverage and other benefits were not able to be gathered. The study was, however, designed as an initial investigation to understand the global picture of insurance schemes provided to rangers and subsequent and deeper studies are required to better understand the situation, both at the global, regional and national levels.

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An armed ranger on patrol at sunset © WWF UK

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RESUMEN

Los guardabosques tienen la responsabilidad de evitar la pérdida de biodiversidad y la degradación de los ecosistemas. Trabajan bajo una diversidad de condiciones ambientales que abarcan los climas, los ecosistemas y los paisajes de nuestro planeta. También trabajan bajo una serie de condiciones laborales provocadas por el hombre –salario, formación, atención médica, estrés laboral, etc.– que son propias de cada contexto y que promueven o impiden el bienestar de estos hombres y mujeres. El trabajo de un guardabosques puede ser peligroso; están expuestos a enfermedades, lesiones e incluso la muerte, por lo que investigamos las protecciones previstas en los planes de seguro que se ofrecen a los guardabosques estatales, con el fin de examinar si su protección y la de sus familias era apropiada. Se realizó un estudio en 40 países y se analizaron los datos por continente –África, Asia y América Latina, además de un grupo de países de América del Norte, Europa, Oceanía y Oriente Medio. De los países examinados, el 18 por ciento no proporcionaba acceso a seguro médico, el 35 por ciento a seguro de vida, y el 53 por ciento a seguro contra incapacidad a largo plazo. El acceso a los seguros varía geográficamente, siendo el acceso que proporcionan los países de África y Asia mucho más limitado que en otros lugares. Se cree que este estudio es el primero en examinar los planes de seguro disponibles para los guardabosques estatales.

RÉSUMÉ

Les rangers sont chargés de prévenir la perte de la biodiversité et la dégradation des écosystèmes. Ils travaillent dans des conditions environnementales variées recoupant tous les climats, les écosystèmes et les paysages de notre planète. Les rangers connaissent également un large éventail de conditions de travail – que ce soit salaire, formation, protection de la santé, ou stress au travail, etc. – qui sont propres à chaque situation et peuvent promouvoir ou inhiber leur bien-être. Le travail d'un ranger peut être dangereux; il arrive en effet que la maladie, des blessures et même la mort surviennent, et nous avons donc examiné si les mesures de protection des régimes d'assurance qui leur sont accordés par le gouvernement sont adaptées à leur besoins de protection et à celui de leurs familles. Nous avons mené une enquête dans 40 pays, et analysé les données par continent - l'Afrique, l'Asie, et l'Amérique latine, plus un groupe de pays en Amérique du Nord, en Europe, en Océanie et au Moyen-Orient. Parmi les pays étudiés, 18 pour-cent ne proposent pas d'assurance maladie, 35 pour-cent ne proposent pas d'assurance-vie et 53 pour-cent ne proposent pas d'assurance-invalidité à long terme. L'accès aux assurances est variable géographiquement, les pays d'Afrique et d'Asie offrant une couverture beaucoup plus faible qu'ailleurs. Cette enquête est la première à examiner les régimes d'assurance disponibles pour les rangers gouvernementaux.