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Occupational safety and health problems in Côte d'Ivoire

A diagnosis and some possible remedies

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1. Introduction

Work accidents are undoubtedly among the most alarming by-products of industrialisation and technological progress. In Côte d'Ivoire the Ministry of Social Affairs' official figures published in 1986 [1] report 16,000 work accidents a year – one every 30 minutes; 300 of these, one for every working day, are fatal. These figures are not in fact complete; they do not include accidents in rural areas – and Côte d'Ivoire is a predominantly agricultural country. Besides, some employers do not report all accidents and many workers refrain from doing so for fear of being discharged or because they do not know their rights. Several reasons for this high accident rate have been suggested. They include:

(1) the difficulty of assimilating technology imported without instructions for its use, or with instructions that are hard to understand, and the lack of any consistent policy for training workers used to other modes of production; in short, a transfer of technology that has been insufficiently thought out and prepared; [2]

(2) poverty and high levels of unemployment;

(3) over-hasty industrialisation pushed through without the necessary precautions, so that workers – mostly from rural areas – are exposed to dangers with which they are unfamiliar;

(4) neglect or inobservance of safety legislation, where it exists.

This short article will be mainly concerned with the last of these reasons. African countries that have shown interest in work accidents began, like the industrialised countries before them, by concentrating on *compensation*.

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[1] *Fraternité-Matin* (Abidjan), 22 May 1986, p. 9.

[2] These aspects are dealt with in A. Wisner: *Quand voyagent les usines* (Paris, Syros, 1985).

More recently tentative efforts at accident *prevention* have also been made in so far as laws and regulations for safety at the workplace have been adopted; such texts, however, are rarely observed.

In 1983, recognising that "a social security policy worthy of the name must give prevention no less important a place than compensation",[3] the National Social Insurance Fund of Côte d'Ivoire (CNPS) set up a department for the prevention of occupational accidents and diseases. To guide its work, this unit commissioned the author of this article to direct a nation-wide study of health, working conditions, occupational safety and hygiene and the observance of current regulations. The study was carried out between June 1984 and November 1985. The task was to diagnose the state of safety and health in enterprises in Côte d'Ivoire, and indirectly to report on the successes and failures of the first measures taken. As far as the author is aware, this was the first systematic inquiry in a developing country into the extent to which occupational safety and health regulations were being observed. The results of that study [4] and of other work by the author form the basis for his proposals for the improvement of the situation in enterprises throughout Côte d'Ivoire and, it is hoped, in other developing countries.

2. Methods followed by the survey

Seventy-two enterprises were chosen at random by quota sampling in order to take into account the geographical concentration of factories (the south of the country being the most industrialised region) and the relative importance of the various industries in the national economy (see table 1).

For the purposes of data collection, forms for recording observations and interviews were drawn up in the light of Ivorian laws and regulations on safety and health [5] and data already in the author's possession. Three forms synthesising over 200 items of information for a single enterprise and totalling 401 variables were used. Each form dealt with a different aspect of the question, as follows:

- the "Safety and health: General precautions" form focused on the extent to which general safety and health measures concerning all workers, and accident and fire-prevention measures, were applied;

[3] P. Mouton and M. Voirin: "Employment injury prevention and compensation in Africa: Problems and gaps", in *International Labour Review*, 1979/4, p. 481.

[4] D. R. Kouabenan, P. Sondoue, B. V. N. Koffi and D. I. Dogou: *Etat sanitaire et social, conditions d'hygiène et de sécurité des travailleurs et applications de la réglementation en vigueur* (Abidjan, Ministry of Social Affairs, National Social Insurance Fund, 1985).

[5] Decree No. 67-321 of 21 July 1967 to consolidate the regulations made under Part VI (Health and Safety; Medical Services) of Act No. 64-290 of 1 August 1964 to establish a Labour Code, in *Journal officiel de la République de Côte d'Ivoire* (Abidjan), No. 33, 9 July 1968, pp. 1129-1208.

Table 1. Breakdown by industry of the enterprises surveyed

Industry	No. of enterprises	% of total
Metal industries	8	11.1
Construction and public works	8	11.1
Wood	12	16.7
Chemicals	6	8.3
Firestone and fireclay	1	1.4
Rubber, paper, cardboard	4	5.6
Textiles and clothing	4	5.6
Leather and skins	1	1.4
Food manufacturing	11	15.3
Transport and handling	8	11.1
Trade other than in foodstuffs	4	5.6
Inter-industry [1]	1	1.4
Sales and repairs	4	5.6
Total	72	100.0

[1] According to the nomenclature of France's National Institute for Research and Safety, the inter-industry group includes enterprises belonging to the tertiary sector – services, banks, insurance companies, etc.

- the "Medical and health service" form indicated what measures enterprises had actually taken to protect their staff, the procedures followed, and how they were applied;
- the "Safety and health: Miscellaneous remarks" form covered other points not necessarily contained in Ivorian laws and regulations but appearing in those of other countries. It also served to bring out the difficulties of applying the provisions covering these matters in Côte d'Ivoire.

These forms were tried out during a preliminary survey of some 20 enterprises in various industries, mainly in Abidjan and Bouaké. Two investigators paid each enterprise a visit lasting at least half a day and filled in a form recording their observations. They also interviewed the employees, physicians, managers and directors of the enterprises.

3. Results of the survey

Hygiene and working conditions

Clean and tidy workplaces make not only for hygiene but also for safety at work. The Côte d'Ivoire's laws and regulations recognise this, for section 4 D 10 of the above-mentioned decree contains a provision underlining the fact. According to the author's observations, however, employers seemed

little concerned with the state of cleanliness of the premises and of the various amenities used by the workers, which often left much to be desired. Nearly half of all workplaces (46 per cent of the enterprises visited) were not cleaned "at least once a day" as the regulations require, or were not cleaned at all. The same applied to the lavatories and wash-basins, if any, provided for the staff.

Dirty workplaces were mainly (71 per cent) to be found in medium-sized enterprises; most small enterprises (61 per cent) and most large enterprises (64 per cent) were kept clean (table 2 defines small, medium-sized and large enterprises). The state of the ceilings in textile factories and woodworking shops was alarming; the ceilings in 75 per cent of textile factories were covered with cotton fibres [6] and in 71 per cent of woodworking shops with sawdust.[7]

It was also noted that in 42 per cent of all enterprises the free movement of workers and vehicles was hindered by obstructions.

Generally speaking, the atmosphere and physical environment and lighting and ventilation were satisfactory, although 44 per cent of all enterprises did nothing to eliminate disagreeable, unhealthy or toxic dust or gas. The most alarming examples of this were noted in the construction industry and public works, quarries, woodworking, rubber and paper factories, and in the metal industries. In all of these very harmful substances, such as cement, bitumen, oils of various kinds, etc., are used and dust and gases of all kinds generated – exhaust gas, wood, sand or gravel dust, metal particles, smoke, and so on.

The noise level was acceptable in most enterprises but almost unbearable in 20 per cent of them. Workers were exposed to intense vibration in 12 per cent, and extreme heat in 21 per cent, of all enterprises.

In short, more than half of the enterprises offered their employees only mediocre, and sometimes unhealthy or dangerous, standards of hygiene and working conditions. The present author's observations on this point coincide with those made by other writers in other developing countries.[8]

An effort is therefore needed from both workers and employers to see that workplaces are kept clean and tidy. Their health and safety, and their output, will be all the better for this.

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[6] Côte d'Ivoire has an important textile industry which produces large quantities of cotton prints. Cotton is grown throughout the northern half of the country and is the most important crop in the savannah area; more than 200,000 tonnes were harvested in 1985.

[7] Côte d'Ivoire is an important timber exporter. Timber accounted for 17 per cent of total exports in 1980 and the potential production of standing timber was estimated at 127.2 million cubic metres in 1984. Production has, however, declined over the past few years.

[8] F. M. Rivero-Plaz: "L'organisation de la prévention dans l'entreprise: problèmes propres aux pays en voie de développement", in *Travail et sécurité* (Paris), 1980/10, pp. 571-572; D. C. E. Chew: "Effective occupational safety activities: Findings in three Asian developing countries", in *International Labour Review*, 1988/1, pp. 111-124.

Table 2. **Breakdown by size of the enterprises surveyed**

Size of enterprise	No. of enterprises	% of total
Small:		
1-10 employees	7	9.7
11-50 employees	23	31.9
Medium-sized:		
51-100 employees	13	18.1
101-500 employees	22	30.6
Large:		
Over 500 employees	7	9.7
Total	72	100.0

Note: The small number of enterprises composing the sample did not justify breaking down the size categories by type of industry.

Staff amenities

Installations and facilities for the workers, if provided at all, were found to be grossly insufficient. One-third of the enterprises visited (32 per cent) did not lay on drinking water for their staff. More than half of them (53 per cent) – paradoxically, mainly those in which workers get very dirty (the construction and woodworking industries, repairs, transport and handling) – had no wash-basins. Where wash-basins were provided, there were fewer than the regulation number of taps, and hardly any enterprise complied with the regulation requiring it to supply its staff with soap and towels.

Nearly 60 per cent of the enterprises investigated had no staff cloakrooms, particularly – as with wash-basins – in sectors where workers should normally change their clothing before and after the day's work. Also, where there were cloakrooms, 70 per cent of them were unsuitable or in bad repair.

Showers were not provided in 70 per cent of enterprises in which the work done was unhealthy or dirty. Where there were showers (in 40 per cent of the enterprises investigated), the number of water pumps was absurdly inadequate for the number of workers, and there were no cabins in which they could change their clothes. Workers were not provided with soap or detergent, the wall coverings were not always in conformity with the regulations and the lighting was sometimes inadequate. Lavatories were provided in 79 per cent of all enterprises, but they did not always meet regulation standards of hygiene. There were not enough of them (far too few lavatories and urinals for the number of staff) and their quality left much to be desired (either there was no flush or the flush did not work, the premises were inadequately ventilated, dirty, etc.).

Storage of flammable material: Fire-fighting equipment

Fire is one of the greatest dangers for workers and plant in industrial enterprises. Ivorian law accordingly regulates the storage of flammable materials and the survey showed that these were properly warehoused and handled.

Generally speaking, storage sites and the containers used were intelligently chosen and premises were properly ventilated (78 per cent) and lighted (95 per cent). Contrary to regulations, however, there were no "No smoking" signs in 62 per cent of the establishments; this constituted serious negligence since, notoriously, cigarettes and unextinguished cigarette ends cause 18 per cent of industrial fires. [9]

The number of emergency exits conformed with the regulations in 76 per cent of the enterprises, but here and there these exits were blocked. Furthermore, in 88 per cent of all cases, the exits were not marked or were badly marked, doors other than those ordinarily used did not open easily from the inside and many workers did not know of their existence, and the emergency lighting essential in power failures (which are frequent in Côte d'Ivoire) [10] was completely lacking. In 50 per cent of the enterprises visited, passageways were encumbered by objects of all kinds, or ended in a blank wall. It is not enough to take precautions against the outbreak of fire; there must also be a routine for evacuating staff and (on some premises) the public. Enterprises should reconsider their fire-fighting arrangements. The number of fire extinguishers installed was tiny compared with the size of the establishments and the risks they ran. Some extinguishers were empty, covered with cobwebs, hidden away or used to hang clothes or bags on. The prescribed checks appeared to be negligently and carelessly made; for instance, the investigators discoverd one inspection form which stated that an extinguisher had been found to be in good condition for the year following the year of the survey! The inadequate number of extinguishers was all the more serious as only 30 per cent of the enterprises visited had fire-fighting points fed by water under pressure. Only very rarely did the investigators find special hydrants and emergency taps, and water tanks or fire-fighting vehicles were regarded as "luxuries the regulations talk of". Even fire-fighting materials as simple as sand or loose earth, with shovels and pails, were neglected.

Practically nowhere were there posters showing the action to be taken in case of fire, and in over half the enterprises the staff had never been given an opportunity to practise using the fire-fighting equipment available; nor had they ever been shown how to use an extinguisher.

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[9] ILO: *Accident prevention: A workers' eduction manual* (Geneva, 1986), p. 45.

[10] The hydroelectric power stations, which account for the bulk of the country's energy production, can be very seriously disrupted by drops in dam water levels due to natural phenomena such as a prolonged drought of the kind that occurred in 1983-84.

Only a tiny number of enterprises had a fire-fighting service, and the staff who formed such teams were generally unskilled and had received only on-the-job training. As there are no fire brigade stations in most of Côte d'Ivoire, it is clearly essential that employers should themselves do everything necessary to protect their staff and property against fire. They should ensure that workers are aware of the risks inherent in their surroundings and the work they are doing, and how to avoid them. The workers should also be taught how to use fire-fighting equipment to stop a blaze spreading. Employers should remain vigilant at all times and should carefully monitor the checks made on extinguishers.

Hazards and dangerous behaviour

Accidents can also be prevented by eliminating hazards and by prudent behaviour in workplaces. In this respect, the survey brought to light circumstances that are, to say the least, surprising. In many of the establishments visited there was a danger of falls, but in 70 per cent of them no effective protection against them; generally speaking, ladders and scaffolding were not properly fixed and in bad condition or unsuitable (73 per cent); holes, wells or tunnels were neither marked nor fenced off (40 per cent); and safety signs warning of work in progress were lacking in 58 per cent of establishments, or inadequate in 23 per cent of them.

Apparatus, machines or machine parts recognised as dangerous rarely had safety guards and were freely accessible, even though the regulations recommend siting them, and providing them with barriers, protective rails or other similar devices, in such a way as to prevent employees from touching them accidentally. Moreover, such machines were sometimes too close to each other; this is dangerous, especially as the clothing worn by workers was often unsuitable to their work, and most of the workers had been given only on-the-job training and had not been taught to be safety-conscious.

Most of the machinery was regularly inspected by the maintenance services, but was so old that it needed to be replaced by plant that would perhaps have been more expensive but would certainly have been safer.

The investigators observed a number of dangerous situations in enterprises, or examples of dangerous behaviour, such as when workers rode on self-propelled trucks, or in skips or other vehicles. Thus a driver of a fork-lift used it to raise a pallet on which, unknown to him, a worker was taking a nap on a pile of goods; that worker was killed. Then there were the daily journeys to and from work for which employers had no hesitation in crowding their workers on to light lorries without seats, safety rails or roll-over bars. But this does not happen only in Côte d'Ivoire; there have been reports from Mexico that agricultural workers there are similarly treated.[11]

[11] M. Vanackere: "Conditions of agricultural day-labourers in Mexico", in *International Labour Review*, 1988/1, p. 106.

Very often the workers did not realise the risks they were running. They even felt superior to their colleagues waiting for a bus or walking to work. The large number of accidents caused by dangerous transport of this kind should lead employers to supply safer vehicles for conveying their workers.

Other dangers included falling objects that had been improperly stacked or badly loaded on to lorries (in 50 per cent of the enterprises visited); electrical risks (unprotected wires, overloaded or badly installed power points, 32 per cent); unsuitable or defective tools (40 per cent); cuts, burns or foreign bodies in the eye (33 per cent); misuse of a tool (23 per cent); and dangerous or unnatural working postures (18 per cent). All these dangers were due as much to bad working conditions as to employees' ignorance or negligence.

Another danger was that of intense heat (in 21 per cent of the enterprises visited), which obliged workers to take off clothing and thereby increase their exposure to the heat. To prevent this, hours of work should be so arranged as to allow long breaks on worksites and in quarries and plantations during the hottest hours of the day. In factories, such workstations should be isolated or automated or, where this is not possible, the workers should be issued with personal protective equipment.

In this connection, the survey showed that, for all risks without distinction, 48 per cent of employees had no personal protection at all. They said their employer refused to provide them with any (63 per cent of these cases), or that such equipment made movement difficult or was uncomfortable (19 per cent), or was not necessary for their work (10 per cent); or they gave other reasons (8 per cent). The investigators reported that, in the enterprises where such equipment was provided, it was often in bad condition.

Medical and health assistance

The regulations require enterprises employing more than 750 workers to provide a permanent medical service comprising one physician and two nurses; those employing between 250 and 749 workers, periodic attendance by a physician and permanent attendance by a nurse; those with between 100 and 249 workers, permanent attendance by a nurse; and those with fewer than 100 workers, periodic attendance by a nurse.

It is mainly the large enterprises that have made an effort in this respect, but much has still to be done. Over half of the enterprises surveyed (58 per cent) had their own medical or health service. The others did not, either because they had contracted with public medical centres or dispensaries for these to provide necessary treatment, or because they were near a hospital, or because their size exempted them from the regulations, or because (they said) their worksites were continually on the move. Nearly all large establishments had an infirmary, but not so the small and medium-sized ones, most of which did not conform to the minimum requirements of an infirmary in every establishment having more than 100 employees, a first-aid

room in every establishment having between 20 and 100 employees, and a first-aid kit containing medicaments and dressings in all establishments.

Inspection of the premises set aside for the infirmary showed that they rarely conformed to the regulations. Very few works infirmaries had separate rooms for a pharmacy, X-rays, isolation ward, etc.; most of them had only a single all-purpose room. They were generally underequipped, and when there were any beds and blankets they were few and far from clean. There was not always a regular supply of medicaments and dressings, and even such routine medicaments as aspirin were lacking. The workers expressed their dissatisfaction with this state of affairs but they nevertheless thought quite highly of the company's medical service, whose strong point seemed to be its human resources. Incidentally, the workers did not consult any other medical service outside their enterprise, except in serious cases or for specialist care; for them a good hospital was one where treatment and medicine were free.

By and large, the enterprises visited satisfied the basic requirements relating to medical and health personnel, but the personnel were not skilled. Medical examinations were often neglected; 58 per cent of the enterprises did not have workers medically examined before engaging them, and if they looked strong and healthy recruited them without further ado. In 49 per cent of all cases sick workers were not visited daily. The compulsory (annual) regular medical examination was not carried out in 48 per cent of the enterprises investigated, and medical examination before resuming work was often omitted.

Action by the company physician to prevent work accidents could decisively improve safety at work, but was rarely taken. Most of the company physicians interviewed said that the state of health in their establishment was generally rather poor and that the equipment supplied was inadequate. There is no doubt that as well as having physicians to look after sick and injured employees it would be useful to have competent psychologists who could awaken employers and their workers to their responsibilities in the occupational safety and health field.

4. Conclusions

This diagnosis of the state of health, working conditions, hygiene and safety in Ivorian enterprises largely confirms observations in other developing countries. The relevant regulations are often based on those of the former colonial power; by and large, they are ignored or incompletely applied. Some 35 per cent of the managers interviewed complained that the penalties provided for breaches of the regulations were not applied, that regulations were drafted in a style difficult to understand, and that they were inappropriate to the conditions prevailing in enterprises.

Moreover, although developing countries have often adopted regulations, very few of them bother with preventive action; where they do,

it is all too often badly planned and not followed up. But any serious action to improve safety must necessarily be based on a sound knowledge of the risks run and of the causes of occupational accidents and diseases. In this respect, the survey by the National Social Insurance Fund of Côte d'Ivoire sets a good example. Occupational safety and health in Côte d'Ivoire is not the worst in Africa,[12] but it badly needs effective regulation and much more information and training of all the persons involved.

One of the first things to be done is to revise and adapt occupational safety and health legislation, which is either too detailed, or incomplete and lax. Thereafter, all persons concerned should be informed of the provisions in force at regular seminars on clearly defined topics, at which participants would be handed illustrated booklets written in simple language. Managers and employees of enterprises would then realise the need to ensure healthy and safe working conditions, and appreciate that it is in their own interest to do so.

Heads of enterprises should also take care to provide adequate training for the introduction of new technology, so that their staff is not exposed to unknown risks. It is intolerable that managers of subsidiaries of enterprises that are very safety-conscious in the industrialised countries should say that they have no knowledge of elementary safety precautions, or even that they did not know they are required to have workers medically examined before recruiting them. There should be no discrimination as regards safety, and the fact that labour is abundant and cheap is no excuse for bad working conditions.

CNPS safety inspectors and labour inspectors should be given training that enables them to be much more vigilant.

The appointment of safety officers at workplaces and, if possible, of health and safety committees and fire-fighting teams, all of them well trained and practised, would do much to improve matters.

The most difficult task of all is the one that can give the best results. It is the long-term one of educating employers and workers to think about the causes of accidents and thereby stop them happening. It has rightly been said that "all safety precautions depend implicitly or explicitly on certain beliefs regarding the cause of accidents".[13] Those beliefs vary according to whether the observer is a layman or an expert, a manager or a subordinate employee, the victim or the witness of an accident.[14]

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[12] J. P. Léger: "Safety and the organisation of work in South African gold mines: A crisis of control", in *International Labour Review*, 1986/5, pp. 591-603.

[13] J. Laplat: *La représentation des causes d'accidents* (Paris, Laboratoire de psychologie du travail de l'Ecole pratique de hautes études, 1980; working paper).

[14] F. Heider: *The psychology of interpersonal relations* (New York, Wiley, 1985); D. R. Kouabenan: "L'analyse des attributions causales des accidents", in *Le travail humain* (Paris), Feb. 1985, Vol. 48, No. 1, pp. 1-17; idem: "Degree of involvement in an accident and causal attribution", in *Journal of Occupational Accidents* (Amsterdam), 1985, No. 7, pp. 187-194.

Attribution theory, which attempts to explain the rules followed by a non-specialist to explain day-to-day events, is an excellent guide for this purpose. The ideas that people have about things or events and the relations between them enable them to connect cause and effect. In a sense, the hazards and dangerous behaviour mentioned above are connected with the employers' ideas about the safety and well-being of their staff. All too often, safety is regarded as an expensive waste of time that is pointless in a developing country with plenty of cheap labour; and employers think that in any case the workers will not use the safety equipment provided, or that they know very well that they have to be careful.

The workers have their own ideas about working life: nothing will persuade them that their machinery is not safe and reliable; like many of their colleagues in the industrialised countries, they are sure that they themselves are experienced operators and they are fatalistic about the accidents that do happen. Besides, a population like that of Côte d'Ivoire is still steeped in its ancient traditions and culture. It regards suffering as unavoidable and therefore learns to bear it. This is the significance of the initiation ceremonies intended to harden young people and prepare them to bear the trials of life with fortitude. Animist beliefs are still widely held and according to them animals, trees, rivers and mountains can protect or harm. When an accident happens, therefore, it is easily ascribed to revenge by an offended spirit.

Accordingly, anyone wanting to know why employers do not care about accidents, and why workers are not more careful to avoid them, has to know what employers and workers believe are the causes of accidents. Only once such beliefs have been examined will it be possible to draft a successful accident prevention programme that will be easily acceptable to employers and workers alike.