



## Global Conference on Animal Welfare: an OIE initiative

**TOPIC:** Space, environmental design and behaviour

**TITLE:** Effect of space and environment on animal welfare

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**ABSTRACT:**

Domestic animals are kept in environments which often induce restrictions of their live quality. This is particularly the case in “intensive” production systems. These restrictions are usually considered as having negative consequences on animal welfare. These negative restrictions should be avoided but the challenge the scientists are facing is to assess objectively those consequences not using anthropomorphism and “good old time” attitude.

Restrictions relate in particular to available microclimatic conditions (e.g. temperature, humidity, ammonia, dust), floor characteristics, relatively limited environmental complexity, social density, but also restricted social environment. The questions relate often to the ability of the animals to cope with the environment, to predict and control the important events, and to have the opportunity to make their own choices, moving freely, choosing their environmental conditions and their social partners. In addition, man/animal relationship can have a major impact on animal welfare and may interact with physical factors. Different factors, in particular their genetic background and their ontogeny, can have consequences on the way the animal is reacting.

Different perspectives are used for assessing animal welfare. The first one is to use the natural state considered as optimum. It postulates that the biology, and in particular the behavioural abilities, has been shaped by natural selection. However when dealing with farmed animals, even if innate mechanisms are still operating, domestication has induced a lot of changes in thresholds which should be taken into account. The second perspective is by considering the physiological adaptation of the animals and their coping ability. A last alternative option which is to focus on the way the animal perceives its environment in terms of emotions as the ultimate goal of the assessment.

Depending on these different perspectives various methods are used to assess animal welfare: - Physical health (mortality, morbidity, injuries) is a prerequisite; - Production traits can be used as indicators of welfare but they are not sensitive; - Physiological indicators are derived from stress physiology and their use is mostly restricted for assessing acute stress; - Behavioural indicators of welfare are often very pertinent criteria. They include a large range of experimental paradigms and measurements such as time budgets, choice tests and operant conditioning techniques. It is only by using that range of tools in a pluridisciplinary approach that a sensible assessment can be

achieved in particular when dealing with complex questions as the one of space and environment. As a consequence of that complexity a simple quantitative risk assessment is difficult to achieve as there is a need to weight the importance of different parameters which are involved and sometime to trade between contradictory factors. As examples assessment of the quality of life of the animals in some productions systems (e.g. veal calves, laying hens, broilers, pigs) will be analysed and ways to improve it will be proposed.

It will be concluded that, in most of the cases, it should be possible to improve animal welfare and still have a sustainable production by optimising the husbandry systems but also the breeding strategies. However, to be pertinent the analysis of those new husbandry systems should not be restricted to animal welfare parameters but should also consider product qualities, characteristics of the workers' work (safety, hardness, self-satisfaction), environmental protection and the overall economic profitability of the system.