

boost to the development and growth of the biotechnology industry in the country. The two subsectors identified with their corresponding lines of products and services considered to offer good opportunities are the agricultural and health bioindustry subsectors.

**Keywords:** biotechnology, agriculture, bioindustry, health, clusters

## **GLOBAL SITUATION OF AVIAN INFLUENZA (AI) IN HUMANS AND IN ANIMALS**

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In 1997, earliest cases of AI in humans were reported in China, coinciding with outbreaks of highly pathogenic H5N1 in animals. From then, no human cases were reported until 2003 in Hong Kong (February) and Viet Nam (December). In 2005, cases of H5N1 in animals and humans spread from Asia to Europe, Africa and the Middle East.

From December 2003 to 20 June 2006, 228 human cases of AI were reported to the World Health Organization. Cases were distributed in four regions of the WHO: Western Pacific (52%), South-East Asia (32%), Europe (9%) and Mediterranean (7%). Ten countries were affected, Viet Nam has the most cases (41%) followed by Indonesia (22%).

Ages of cases ranged from 3 months to 81 years, (median 20 years, n=216). Twenty-six percents' were below 20 years old. Cases were almost equally distributed by gender (F=51%, M=49%, n=216). Thirty-two percents' (34/104 cases) were farmers. Two cases were pregnant. There were 130 fatalities (CFR 57%). Half were below 20 years old. Duration from date of onset to death ranged from 2 to 28 days (median 9, n=111). Indonesia has the highest CFR (76.5%) among countries with 10 cases and more. CFR trend has declined in early part of 2005 and has slightly increasing since then.

In 2003, Korea reported the first outbreak of H5N1 in poultry. In 2004, many countries in South-east Asia were affected. H5N1 spread dramatically in 2005 to East Asia, Central Asia, East Europe, and in 2006, to Africa. The OIE or FAO has recorded more than 40 countries that officially reported H5N1 outbreaks in poultry or wild birds as of 20 June 2006. Wild birds were considered responsible for the introduction of H5N1 virus at considerable geographical distance from known outbreaks in poultry. Trades were also believed as a factor.