

First Year Matters and Feet to the Fire Survey on Climate Change, August, 2008

Question #1: What do you see as the greatest threat resulting from climate change?

Please choose only one response.

_____ a. **Threat to water resources** includes increased water availability in moist tropics and high latitudes, decreasing water availability and increasing drought in mid-latitudes and semi- and low latitudes, and hundreds of millions of people exposed to increased water stress.

_____ b. **Threat to ecosystems** includes up to 30% of species at increasing risk of extinction and significant extinctions around the globe as temperatures increase, coral bleaching and widespread coral mortality as temperatures increase, terrestrial biosphere tends toward a net carbon source as approximately 15% to 40% of ecosystems are affected as temperatures increase, increasing species range shifts and wildfire risk, and ecosystem changes due to weakening of the meridional overturning circulation.

_____ c. **Threat to food** includes complex localized negative impacts on small holders, subsistence farmers and fishers, productivity of all cereals decreases in low latitudes as temperatures increase, and productivity of some cereal productivity to increase at mid- to high latitudes ultimately decreasing in some regions as the temperature increases.

_____ d. **Threat to coasts** includes increased damage from floods and storms, about 30% of global coastal wetlands lost when the temperature increases 3°C, and millions more people could experience coastal flooding each year when the temperature increases 2°C.

_____ e. **Threat to health** includes increasing burden from malnutrition, diarrhoeal, cardio-respiratory and infectious diseases, increased morbidity and mortality from heat waves, floods and droughts, changed distribution of some disease vectors, and substantial burden on health services.

_____ f. **Warm spells/heat waves** where the frequency increases over most land areas and results in reduced agricultural yields in warmer regions; increased danger of wildfire; increased water demand and water quality problems; increased risk of heat-related mortality and reduction in quality of life for people in warm areas without appropriate housing with greatest impact on the elderly, very young and poor.

_____ g. **Heavy precipitation events** where the frequency increases over most land areas and results in damage to crops, soil erosion, inability to cultivate land due to waterlogging of soils; adverse effects on the quality of surface and groundwater; contamination of water supply and possible relief of water scarcity; increased risk of death injuries and infectious, respiratory and skin diseases; disruption of settlements, commerce, transport and societies due to flooding; pressures on urban and rural infrastructures; and loss of property.

_____ h. **Area affected by drought increases** and results in land degradation; lower yields/crop damage and failure; increased livestock deaths; increased risk of wildfire; more widespread water stress; increased risk of food and water shortage, malnutrition and water- and food-borne diseases; water shortage for settlements, industry and societies; reduced hydropower generation potentials; potential for population migration.

_____ i. **Intense tropical cyclone activity increases** and results in damage to crops; windthrow (uprooting) of trees; damage to coral reefs; power outages causing disruption of public water supply; increased risk of deaths, injuries, water- and food- borne diseases; post-traumatic stress disorders; industry, settlement and societal disruption by flood and high winds; withdrawal of risk coverage in vulnerable areas by private insurers; potential for population migrations; loss of property.

_____ j. **Increased incidence of extreme high sea level** (excludes tsunamis) results in salinisation of irrigation water, estuaries and fresh-water systems; decreased fresh-water resources availability due to saltwater intrusion; increased risk of deaths and injuries by drowning in floods; migration-related health effects; costs of coastal protection versus costs of land-use relocation; potential for movement of populations and infrastructure; industry, settlement and societal disruption by flood and high winds; withdrawal of risk coverage in vulnerable areas by private insurers; and, loss of property.

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Question #2: What do you see as the most effective adaptation or alleviating factor to reduce the impact of climate change?

Please choose only one response.

_____ a. **Stabilizing carbon emissions at the rate existing between the years 2000 - 2030** (between 350 and 486 parts per million (ppm)) resulting in -85% to 5% change from the year 2000 in global CO₂ emissions in 2050; a global average temperature increase from 2.0 to 3.2 C; a global average sea level rise from thermal expansion only of .4 to 1.9 meters and an approximate gain in the growth of the world economy's gross domestic product (GDP) of 5.5% by 2050.

_____ b. **Stabilizing carbon emissions at the rate predicted between the years 2020 - 2060** (between 485 and 570 parts per million (ppm)) resulting in 10% to 60% change from the year 2000 in global CO₂ emissions in 2050; a global average temperature increase from 3.2 to 4.0 C; a global average sea level rise from thermal expansion only of .6 to 2.4 meters and an approximate reduction in the growth of the world economy's gross domestic product (GDP) of 4% by 2050.

_____ c. **Stabilizing carbon emissions at the rate predicted between the years 2050 - 2090** (between 570 and 790 parts per million (ppm)) resulting in 25% to 140% change from the year 2000 in global CO₂ emissions in 2050; a global average temperature increase from 4.0 to 4.9 C; a global average sea level rise from thermal expansion only of .8 to 3.7 meters and an approximate change in the growth of the world economy's gross domestic product (GDP) by -1% to 2% by 2050.

_____ d. **Adaptation of agricultural planning**, adjusting planting dates and crop variety, crop relocation, and improved land management (e.g. erosion control and soil protection through tree planting), requiring institutional reform, land tenure and land reform, training and capacity building, crop insurance, financial incentives (e.g. subsidies and tax credits) which may lead to technological and financial constraints and restricted access to new varieties and markets, in addition to opportunities for longer growing seasons in higher latitudes and revenues from 'new' products.

_____ e. **Coastal zone infrastructure** relocation, seawalls and storm surge barriers; dune reinforcement; land acquisition and creation of marshlands/wetlands to buffer sea level rise and flooding, and protection of existing natural barriers, requiring standards and regulations that integrate climate change considerations into designs, land-use policies, building codes and insurance which may lead to financial and technological barriers and restricted availability of relocation space, in addition to opportunities for integrated policies and management and synergies with sustainable development goals.

_____ f. **Reinvestment in infrastructure and design of cities**, energy efficient buildings and designs, new traffic patterns, new

and more public transportation systems, reduced car use, comprehensive shopping zones, requiring standards and regulations that integrate climate change considerations into designs, land-use policies, building codes and insurance which may lead to financial and technological barriers, increased litigation, resistance to cultural change, in addition to opportunities for integrated policies, management and synergies with sustainable development goals.

_____ g. **Adaptation to water use**, expanded rainwater harvesting, water storage and conservation techniques, water re-use, desalinization, water-use and irrigation efficiency requiring national water policies and integrated water resources and water-related hazards management, which may lead to financial, human resources and physical barriers, in addition to opportunities for integrated water resources management and synergies with other sectors.

_____ h. **Adaptation to human health planning**, improved heat-health action plans, emergency medical services, climate-sensitive disease surveillance and control, safe water and sanitation requiring public health policies that recognize climate risk, strengthened health services and regional and international cooperation, which may lead to limits to human tolerance, knowledgeable limitations, and restricted financial capacity in addition to opportunities for upgraded health services and improved quality of life.

_____ i. **Reduction in pollution from domestic and industrial sources**, eliminating and chemicals that negatively affect human and ecosystem health (e.g., carcinogens, hormone mimics and pesticides) and finding replacements, including new systems to serve the above chemicals purpose requiring public health policies that recognize climate risk, strengthened health services and regional and international cooperation which may lead to overcoming contemporary industrial and manufacturing processing practices in addition to opportunities for upgraded services, and improved quality of life.

_____ j. **Strengthening of energy** transmission and distribution, underground cabling for utilities, energy efficiency, use of renewable sources, reduced dependence on single sources of energy, requiring national energy policies, regulations and fiscal and financial incentives to encourage use of alternative sources, incorporation of climate change in design standards, which may lead to restricted access to viable alternatives, financial and technological barriers, and resistance to acceptance of new technologies, in addition to opportunities for stimulation of new technologies and use of local resources.