

Appendix 3. Concept relationships frequency chart

Concept/Idea Category	Relation	Concept/Idea Category	+/+	+/-	-/+	-/-	Total	Type
Uncontrolled/Unpredicted/Unaltered Natural Phenomena		Uncontrolled/Unpredicted/Unaltered Natural Phenomena	15	3			18	Natural Phenomena
Uncontrolled/Unpredicted/Unaltered Natural Phenomena		Inter-regional/International Institutional Coordination / Effective Basin Mgmt		4	3		7	Institutions
Uncontrolled/Unpredicted/Unaltered Natural Phenomena		Knowledge Capacity, Institutions, Resources, or Networks		1			1	Institutions
Uncontrolled/Unpredicted/Unaltered Natural Phenomena		Infrastructure for Managing Natural Phenomena/Controlled Natural Phenomena	1				1	Infrastructure
Uncontrolled/Unpredicted/Unaltered Natural Phenomena		Agriculture, Livestock, Forestry, Fishing, and Hunting Practices	2		1		3	Human Process
Uncontrolled/Unpredicted/Unaltered Natural Phenomena		Sustainable Use of Water/Exploitation of Natural Resources			1		1	Human Process
Uncontrolled/Unpredicted/Unaltered Natural Phenomena		Habitat/Biodiversity		6	1	1	8	Ecological Health
Uncontrolled/Unpredicted/Unaltered Natural Phenomena		Surface Water, Sediment, Soils, and/or Crop Quality	3	3	1	2	9	Ecological Health
Uncontrolled/Unpredicted/Unaltered Natural Phenomena		Uprooting, and Displacement/Maintenance of Cultural and Traditional Practices		2			2	Social Welfare
Uncontrolled/Unpredicted/Unaltered Natural Phenomena		Availability of Water, Soils, and Land/Resource sufficient for consumption and preservation of the environment	6	8	1		15	Social Welfare
Uncontrolled/Unpredicted/Unaltered Natural Phenomena		Economic Productivity or Development		1			1	Social Welfare
Uncontrolled/Unpredicted/Unaltered Natural Phenomena		Economic Activities, Infrastructure, and/or Equipment from Natural Phenomena	5			1	6	Social Welfare
Inter-regional/International Institutional Coordination / Effective Basin Mgmt		Uncontrolled/Unpredicted/Unaltered Natural Phenomena			3		3	Natural Phenomena
Inter-regional/International Institutional Coordination / Effective Basin Mgmt		Inter-regional/International Institutional Coordination / Effective Basin Mgmt	1			5	6	Institutions
Inter-regional/International Institutional Coordination / Effective Basin Mgmt		Knowledge Capacity, Institutions, Resources, or Networks				2	2	Institutions
Inter-regional/International Institutional Coordination / Effective Basin Mgmt		Sustainable Use of Water/Exploitation of Natural Resources	1				1	Human Process
Inter-regional/International Institutional Coordination / Effective Basin Mgmt		Distribution of Wealth/Lack of Impoverishment/Quality of Life				1	1	Social Welfare
Inter-regional/International Institutional Coordination / Effective Basin Mgmt		Availability of Water, Soils, and Land/Resource sufficient for consumption and preservation of the environment	2				2	Social Welfare
Inter-regional/International Institutional Coordination / Effective Basin Mgmt		Economic Activities, Infrastructure, and/or Equipment from Natural Phenomena			1		1	Social Welfare

Knowledge Capacity, Institutions, Resources, or Networks		Uncontrolled/Unpredicted/Unaltered Natural Phenomena			1	1	Natural Phenomena
Knowledge Capacity, Institutions, Resources, or Networks		Inter-regional/International Institutional Coordination / Effective Basin Mgmt	4		5	9	Institutions
Knowledge Capacity, Institutions, Resources, or Networks		Knowledge Capacity, Institutions, Resources, or Networks			2	2	Institutions
Knowledge Capacity, Institutions, Resources, or Networks		Regional Institutional Capacity, Prioritization of Env. Problems, or Enforcement			5	5	Institutions
Knowledge Capacity, Institutions, Resources, or Networks		Legal, Policy, or Regulatory Frameworks			1	1	Institutions
Knowledge Capacity, Institutions, Resources, or Networks		Economic Activities, Infrastructure, and/or Equipment from Natural Phenomena			1	1	Ecological Health
Knowledge Capacity, Institutions, Resources, or Networks		Surface Water, Sediment, Soils, and/or Crop Quality			1	1	Ecological Health
Knowledge Capacity, Institutions, Resources, or Networks		Availability of Water, Soils, and Land/Resource sufficient for consumption and preservation of the environment	1			1	Social Welfare
Regional Institutional Capacity, Prioritization of Env. Problems, or Enforcement		Inter-regional/International Institutional Coordination / Effective Basin Mgmt			1	1	Institutions
Regional Institutional Capacity, Prioritization of Env. Problems, or Enforcement		Regional Institutional Capacity, Prioritization of Env. Problems, or Enforcement			1	1	Institutions
Regional Institutional Capacity, Prioritization of Env. Problems, or Enforcement		Overuse, Accidental, Non-compliant, or Unregulated release of environmental contaminants			2	2	Human Process
Regional Institutional Capacity, Prioritization of Env. Problems, or Enforcement		Surface Water, Sediment, Soils, and/or Crop Quality			1	1	Ecological Health
Regional Institutional Capacity, Prioritization of Env. Problems, or Enforcement		Economic Activities, Infrastructure, and/or Equipment from Natural Phenomena			1	1	Social Welfare
Legal, Policy, or Regulatory Frameworks		Regional Institutional Capacity, Prioritization of Env. Problems, or Enforcement			2	2	Institutions
Legal, Policy, or Regulatory Frameworks		Sustainable Use of Water/Exploitation of Natural Resources	1			1	Human Process
Legal, Policy, or Regulatory Frameworks		Surface Water, Sediment, Soils, and/or Crop Quality			1	1	Ecological Health
Legal, Policy, or Regulatory Frameworks		Distribution of Wealth/Lack of Impoverishment/Quality of Life	1			1	Social Welfare
Legal, Policy, or Regulatory Frameworks		Uprooting, and Displacement/Maintenance of Cultural and Traditional Practices	1			1	Social Welfare
Legal, Policy, or Regulatory Frameworks		Availability of Water, Soils, and Land/Resource sufficient for consumption and preservation of the environment	1			1	Social Welfare
Legal, Policy, or Regulatory Frameworks		Economic Activities, Infrastructure, and/or Equipment from Natural Phenomena	1			1	Social Welfare

Infrastructure for Managing Natural Phenomena/Controlled Natural Phenomena	Uncontrolled/Unpredicted/Unaltered Natural Phenomena	3	2	2	7	Natural Phenomena
Infrastructure for Managing Natural Phenomena/Controlled Natural Phenomena	Biological Cycles/Ecosystems	2			2	Natural Phenomena
Infrastructure for Managing Natural Phenomena/Controlled Natural Phenomena	Inter-regional/International Institutional Coordination / Effective Basin Mgmt	1			1	Institutions
Infrastructure for Managing Natural Phenomena/Controlled Natural Phenomena	Habitat/Biodiversity		2		2	Ecological Health
Infrastructure for Managing Natural Phenomena/Controlled Natural Phenomena	Surface Water, Sediment, Soils, and/or Crop Quality	2			2	Ecological Health
Infrastructure for Managing Natural Phenomena/Controlled Natural Phenomena	Availability of Water, Soils, and Land/Resource sufficient for consumption and preservation of the environment	2	1		3	Social Welfare
Infrastructure/Processes for Pollution Discharge Control and/or Remediation	Infrastructure/Processes for Pollution Discharge Control and/or Remediation			1	1	Infrastructure
Infrastructure/Processes for Pollution Discharge Control and/or Remediation	Overuse, Accidental, Non-compliant, or Unregulated release of environmental contaminants		1	6	7	Human Process
Infrastructure/Processes for Pollution Discharge Control and/or Remediation	Habitat/Biodiversity	1			1	Ecological Health
Infrastructure/Processes for Pollution Discharge Control and/or Remediation	Surface Water, Sediment, Soils, and/or Crop Quality	1			1	Ecological Health
Infrastructure/Processes for Pollution Discharge Control and/or Remediation	Distribution of Wealth/Lack of Impoverishment/Quality of Life	1			1	Social Welfare
Overuse, Accidental, Non-compliant, or Unregulated release of environmental contaminants	Inter-regional/International Institutional Coordination / Effective Basin Mgmt			1	1	Institutions
Overuse, Accidental, Non-compliant, or Unregulated release of environmental contaminants	Overuse, Accidental, Non-compliant, or Unregulated release of environmental contaminants	3			3	Human Process
Overuse, Accidental, Non-compliant, or Unregulated release of environmental contaminants	Surface Water, Sediment, Soils, and/or Crop Quality		8		8	Ecological Health
Agriculture, Livestock, Forestry, Fishing, and Hunting Practices	Uncontrolled/Unpredicted/Unaltered Natural Phenomena		1		1	Natural Phenomena
Agriculture, Livestock, Forestry, Fishing, and Hunting Practices	Biological Cycles/Ecosystems	1			1	Natural Phenomena
Agriculture, Livestock, Forestry, Fishing, and Hunting Practices	Inter-regional/International Institutional Coordination / Effective Basin Mgmt	3		3	6	Institutions
Agriculture, Livestock, Forestry, Fishing, and Hunting Practices	Agriculture, Livestock, Forestry, Fishing, and Hunting Practices	2	1		3	Human Process
Agriculture, Livestock, Forestry, Fishing, and Hunting Practices	Sustainable Use of Water/Exploitation of Natural Resources			3	3	Human Process

Agriculture, Livestock, Forestry, Fishing, and Hunting Practices	Habitat/Biodiversity	1	8	8	17	Ecological Health
Agriculture, Livestock, Forestry, Fishing, and Hunting Practices	Surface Water, Sediment, Soils, and/or Crop Quality		6	1	7	Ecological Health
Agriculture, Livestock, Forestry, Fishing, and Hunting Practices	Uprooting, and Displacement/Maintenance of Cultural and Traditional Practices	1			1	Social Welfare
Agriculture, Livestock, Forestry, Fishing, and Hunting Practices	Availability of Water, Soils, and Land/Resource sufficient for consumption and preservation of the environment		1		1	Social Welfare
Sustainable Use of Water/Exploitation of Natural Resources	Uncontrolled/Unpredicted/Unaltered Natural Phenomena	1			1	Natural Phenomena
Sustainable Use of Water/Exploitation of Natural Resources	Inter-regional/International Institutional Coordination / Effective Basin Mgmt	4			4	Institutions
Sustainable Use of Water/Exploitation of Natural Resources	Agriculture, Livestock, Forestry, Fishing, and Hunting Practices			5	5	Human Process
Sustainable Use of Water/Exploitation of Natural Resources	Sustainable Use of Water/Exploitation of Natural Resources	2			2	Human Process
Sustainable Use of Water/Exploitation of Natural Resources	Habitat/Biodiversity	1		1	2	Ecological Health
Sustainable Use of Water/Exploitation of Natural Resources	Surface Water, Sediment, Soils, and/or Crop Quality	2			2	Ecological Health
Sustainable Use of Water/Exploitation of Natural Resources	Distribution of Wealth/Lack of Impoverishment/Quality of Life	1			1	Social Welfare
Sustainable Use of Water/Exploitation of Natural Resources	Uprooting, and Displacement/Maintenance of Cultural and Traditional Practices	1			1	Social Welfare
Population, Economic Activities, Infrastructure, and/or Equipment from Natural Phenomena	Agriculture, Livestock, Forestry, Fishing, and Hunting Practices			1	1	Human Process
Population, Economic Activities, Infrastructure, and/or Equipment from Natural Phenomena	Sustainable Use of Water/Exploitation of Natural Resources			1	1	Human Process
Population, Economic Activities, Infrastructure, and/or Equipment from Natural Phenomena	Habitat/Biodiversity			1	1	Ecological Health
Population, Economic Activities, Infrastructure, and/or Equipment from Natural Phenomena	Distribution of Wealth/Lack of Impoverishment/Quality of Life	1	1		2	Social Welfare
Population, Economic Activities, Infrastructure, and/or Equipment from Natural Phenomena	Uprooting, and Displacement/Maintenance of Cultural and Traditional Practices			1	1	Social Welfare
Population, Economic Activities, Infrastructure, and/or Equipment from Natural Phenomena	Economic Productivity or Development		1		1	Social Welfare
Population, Economic Activities, Infrastructure, and/or Equipment from Natural Phenomena	Economic Activities, Infrastructure, and/or Equipment from Natural Phenomena	3			3	Social Welfare

Habitat/Biodiversity	Uncontrolled/Unpredicted/Unaltered Natural Phenomena			1	1	Natural Phenomena
Habitat/Biodiversity	Agriculture, Livestock, Forestry, Fishing, and Hunting Practices			1	1	Human Process
Habitat/Biodiversity	Sustainable Use of Water/Exploitation of Natural Resources			1	1	Human Process
Habitat/Biodiversity	Habitat/Biodiversity	1		17	18	Ecological Health
Habitat/Biodiversity	Surface Water, Sediment, Soils, and/or Crop Quality			10	10	Ecological Health
Habitat/Biodiversity	Distribution of Wealth/Lack of Impoverishment/Quality of Life	1		1	2	Social Welfare
Habitat/Biodiversity	Uprooting, and Displacement/Maintenance of Cultural and Traditional Practices			8	8	Social Welfare
Habitat/Biodiversity	Human health, life expectancy, environment, livelihoods, and food security			3	3	Social Welfare
Habitat/Biodiversity	Availability of Water, Soils, and Land/Resource sufficient for consumption and preservation of the environment			2	2	Social Welfare
Habitat/Biodiversity	Economic Productivity or Development			1	1	Social Welfare
Surface Water, Sediment, Soils, and/or Crop Quality	Uncontrolled/Unpredicted/Unaltered Natural Phenomena		3		3	Natural Phenomena
Surface Water, Sediment, Soils, and/or Crop Quality	Inter-regional/International Institutional Coordination / Effective Basin Mgmt			3	3	Institutions
Surface Water, Sediment, Soils, and/or Crop Quality	Knowledge Capacity, Institutions, Resources, or Networks	3		3	6	Institutions
Surface Water, Sediment, Soils, and/or Crop Quality	Agriculture, Livestock, Forestry, Fishing, and Hunting Practices	4		4	8	Human Process
Surface Water, Sediment, Soils, and/or Crop Quality	Sustainable Use of Water/Exploitation of Natural Resources	4			4	Human Process
Surface Water, Sediment, Soils, and/or Crop Quality	Habitat/Biodiversity	3		10	13	Ecological Health
Surface Water, Sediment, Soils, and/or Crop Quality	Surface Water, Sediment, Soils, and/or Crop Quality	1		18	19	Ecological Health
Surface Water, Sediment, Soils, and/or Crop Quality	Distribution of Wealth/Lack of Impoverishment/Quality of Life	1			1	Social Welfare
Surface Water, Sediment, Soils, and/or Crop Quality	Uprooting, and Displacement/Maintenance of Cultural and Traditional Practices			3	3	Social Welfare
Surface Water, Sediment, Soils, and/or Crop Quality	Human health, life expectancy, environment, livelihoods, and food security	3		9	12	Social Welfare

Surface Water, Sediment, Soils, and/or Crop Quality	Availability of Water, Soils, and Land/Resource sufficient for consumption and preservation of the environment				2	2	Social Welfare
Surface Water, Sediment, Soils, and/or Crop Quality	Economic Productivity or Development				2	2	Social Welfare
Distribution of Wealth/Lack of Impoverishment/Quality of Life	Surface Water, Sediment, Soils, and/or Crop Quality				3	3	Ecological Health
Distribution of Wealth/Lack of Impoverishment/Quality of Life	Distribution of Wealth/Lack of Impoverishment/Quality of Life	1			1	2	Social Welfare
Distribution of Wealth/Lack of Impoverishment/Quality of Life	Uprooting, and Displacement/Maintenance of Cultural and Traditional Practices	1			2	3	Social Welfare
Distribution of Wealth/Lack of Impoverishment/Quality of Life	Human health, life expectancy, environment, livelihoods, and food security	1				1	Social Welfare
Distribution of Wealth/Lack of Impoverishment/Quality of Life	Economic Productivity or Development	3			3	6	Social Welfare
Distribution of Wealth/Lack of Impoverishment/Quality of Life	Economic Activities, Infrastructure, and/or Equipment from Natural Phenomena				1	1	Social Welfare
Migration, Uprooting, and Displacement/Maintenance of Cultural and Traditional Practices	Distribution of Wealth/Lack of Impoverishment/Quality of Life	1			1	2	Social Welfare
Migration, Uprooting, and Displacement/Maintenance of Cultural and Traditional Practices	Uprooting, and Displacement/Maintenance of Cultural and Traditional Practices				4	4	Social Welfare
Migration, Uprooting, and Displacement/Maintenance of Cultural and Traditional Practices	Human health, life expectancy, environment, livelihoods, and food security				2	2	Social Welfare
Human health, life expectancy, environment, livelihoods, and food security	Inter-regional/International Institutional Coordination / Effective Basin Mgmt	3			3	6	Institutions
Human health, life expectancy, environment, livelihoods, and food security	Human health, life expectancy, environment, livelihoods, and food security				1	1	Social Welfare
Land/Resource sufficient for consumption and preservation of the environment	Uncontrolled/Unpredicted/Unaltered Natural Phenomena				1	1	Natural Phenomena
Land/Resource sufficient for consumption and preservation of the environment	Biological Cycles/Ecosystems	1				1	Natural Phenomena
Land/Resource sufficient for consumption and preservation of the environment	Inter-regional/International Institutional Coordination / Effective Basin Mgmt	1				1	Institutions
Land/Resource sufficient for consumption and preservation of the environment	Habitat/Biodiversity				2	2	Ecological Health
Land/Resource sufficient for consumption and preservation of the environment	Surface Water, Sediment, Soils, and/or Crop Quality			1	1	2	Ecological Health
Land/Resource sufficient for consumption and preservation of the environment	Uprooting, and Displacement/Maintenance of Cultural and Traditional Practices				2	2	Social Welfare

Land/Resource sufficient for consumption and preservation of the environment	Human health, life expectancy, environment, livelihoods, and food security				2	2	Social Welfare
Land/Resource sufficient for consumption and preservation of the environment	Availability of Water, Soils, and Land/Resource sufficient for consumption and preservation of the environment	3			2	5	Social Welfare
Land/Resource sufficient for consumption and preservation of the environment	Economic Productivity or Development				3	3	Social Welfare
Land/Resource sufficient for consumption and preservation of the environment	Economic Activities, Infrastructure, and/or Equipment from Natural Phenomena			1		1	Social Welfare
Economic Productivity or Development	Uncontrolled/Unpredicted/Unaltered Natural Phenomena		3			3	Natural Phenomena
Economic Productivity or Development	Knowledge Capacity, Institutions, Resources, or Networks	3			3	6	Institutions
Economic Productivity or Development	Agriculture, Livestock, Forestry, Fishing, and Hunting Practices	3			3	6	Human Process
Economic Productivity or Development	Sustainable Use of Water/Exploitation of Natural Resources	3				3	Human Process
Economic Productivity or Development	Surface Water, Sediment, Soils, and/or Crop Quality		2		3	5	Ecological Health
Economic Productivity or Development	Distribution of Wealth/Lack of Impoverishment/Quality of Life		1		2	3	Social Welfare
Economic Productivity or Development	Human health, life expectancy, environment, livelihoods, and food security	3			3	6	Social Welfare