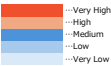


Dependency and Impact Heatmap



Business Activities		Impact on Nature												
Supply Chain	Business Process	Input							Output					
		Land use	Land use in fresh water areas	Land use on seabed	Water use	Use of other biotic resources (such as wood)	Use of abiotic resources	GHG emissions	Non-GHG air pollutants	Discharge of soil and water pollutants	Nutrients causing soil and water pollution	Solid waste	Disturbance (impact of noise, light, etc. on living organisms)	Introduction of invasive species
Upstream	Cultivation of vegetal raw materials													
	Harvesting of vegetal raw materials													
	Manufacturing of raw materials from refined petroleum													
	Manufacturing of paper packaging materials													
	Manufacturing of plastic and rubber packaging materials													
	Wholesale business (specialized trading companies)													
	Wholesale business (general trading companies)													
	Chemical (API) manufacturing													
Sawal Group business	Manufacturing of basic chemicals													
	Pharmaceutical manufacturing													
	Office operations													
	Technical testing & analysis													
	Experiment & development													
	Logistics (transportation)													
	Logistics (warehousing and supply storage)													
	Call center operations													
Downstream	Waste disposal													

Business Activities		Dependencies on ecosystem services																								
Supply Chain	Business Process	Provisioning services						Regulating and supporting services														Cultural services				
		Provision of biological resources	Provision of gene stock	Provision of water	Labor of working animals	Global climate regulation	Rainfall pattern regulation	Local climate regulation	Air purification	Soil quality regulation	Soil and sediment retention	Solid waste decomposition	Water purification	Water flow regulation	Flood control	Storm mitigation	Noise reduction	Pollination	Biological control	Preservation of animal and plant populations and their habitats	Dilution by atmosphere and ecosystems	Mitigation of perceived effects (other than noise)	Recreation	Visual amenity	Educational, scientific, and research functions	Spiritual, aesthetic, and symbolic value
Upstream	Cultivation of vegetal raw materials																									
	Harvesting of vegetal raw materials																									
	Manufacturing of raw materials from refined petroleum																									
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	Call center operations																									
Downstream	Waste disposal																									

An ENCORE analysis indicates that the pharmaceutical manufacturing business depends heavily on ecosystem services such as gene stock (including DNA) and educational, scientific, and research functions (especially research inspiration given by the functions and characteristics of organisms and natural environments). However, in reality, the Sawal Group basically does not utilize gene stock in its business. Also, its research primarily aims to create better products based on originator drugs. Consequently, we have determined that we do not depend on these two kinds of ecosystem services and therefore removed them from the heatmap.