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Impacts of agricultural policy support on greenhouse gas emissions in the rice sector

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Abstract

We examine the impact of agricultural policy reforms on greenhouse gas (GHG) emissions with a focus on the rice sector in Asia. We employ the GTAP model to simulate the effects of abolishing agricultural subsidies and border protection measures on GHG emissions. Simulation results based on the removal of subsidies in all agricultural sectors suggest an increase in all agricultural prices, and reduction in their output and consumption, as well as in the emissions. Simulation results based on the removal of border measures indicate a decrease in all agricultural prices and increase in their consumption, and CO₂ emissions. There were exceptions to both results broadly and these were mainly due to the lower subsidies and tariffs to begin with.

Keywords: Greenhouse gas emission, rice, agricultural policy, policy reform, Asia

1. Introduction

Climate change increasingly affects the rice sector, which is characterized by policy measures that provide incentives to higher emission-intensive crop production. As this challenge will result in excessive methane emissions and substantial negative environmental and other externalities, policy measures that worsen these problems need to be identified and reformed.

Agriculture accounts for 11% of global GHG emissions while current rice production methods account for 10% of global anthropogenic methane emissions, contributing to climate change. The specific reason for rice as a source of GHG is the microbial production of methane in flooded soils. In turn, rice cultivation as such should not be deemed as the culprit of high GHG emissions, but rather the way in which the crop is grown and managed.

Rice is a highly political commodity characterized by multiple policy interventions such as border protection, guaranteed minimum prices, input subsidies, public procurement for food storage or distribution and many more such measures that can distort production incentives. In many cases, these policy interventions have led to substantial negative environmental and other externalities. For example, the inadequate pricing of irrigation services is one cause of the overuse of water, which is not only detrimental to water availability for other purposes but also results in excessive methane emissions.

The relative increase in the role of agriculture as an emitter has attracted a great deal of attention in the literature. In the case of rice, there is a potential for significant impact on GHG mitigation in this sector. Previous studies have mainly distinguished the possibility of high and low GHG mitigation between specific sectors in agriculture. For example, Sapkota et al. (2018) showed that, by 2030, total emissions from agriculture in India may drop by 21% relative to the business as usual with the adoption of technically feasible mitigation measures including

improved water and nutrient management, restoration of degraded land, energy-efficient technologies, and improved fertilizer production technologies. They also found that 80% of the total technical mitigation potential in Indian agriculture can be attained by adopting cost-beneficial mitigation options. Thus, the extent of adoption of various mitigation practices by farmers will be critical in achieving this mitigation potential. Likewise, Springmann et al. (2018) analyzed the environmental impacts of increases in agricultural yields and changes in management practices (e.g., rebalancing of fertilizer application between over applying and under applying regions, increasing nitrogen-use efficiency and phosphorus recycling, improvements in water management, and agricultural mitigation options). They estimated that the environmental pressures of the food system fall by 3–30% relative to the 2050 baseline projection in medium-ambition scenarios, and by 11–54% in high-ambition scenarios if those measures were implemented.

Despite increasing attention paid to the potential for significant mitigation impacts on the rice sector, very little research currently addresses how policy reforms can effectively reduce GHG emissions without trade-offs with other key goals such as improving nutrition and reducing poverty. An exception to this is the recent analyses done by Mamun et al. (2019) and Laborde et al. (2020), who showed that current and projected levels of agricultural production will greatly raise GHG emissions from agriculture without policy reforms and mitigation measures. Yet country-specific analysis of policy measures that exacerbate the GHG emission problem in the rice sector remains largely unexplored. Thus, addressing these gaps is highly relevant for many rice-growing countries, especially in Africa and Asia where rice is a dominant staple of the poor.

The purpose of this study is to understand the impacts of policy support programs on GHG emissions. Specifically, we examine the impact of abolishing subsidies and domestic price

support as well as border protection throughout the agricultural sector and alternatively to target the reform to the biggest emitters of GHG on livestock, dairy and rice sectors. The hypothesis is that the abolition of subsidies paid directly to farmers would reduce emissions by lowering the output of some GHG-intensive activities. By contrast, abolishing border measures alone could increase emissions, which is assumed to be partly explained by the fact that the negative impact on demand in protecting countries would outweigh the positive impact on supply. If confirmed for the rice sector, these results would indicate that direct subsidy measures are worse for the environment than border measures. This message would contradict the traditional ranking of harmful policy support measures based on trade impacts.

The paper is structured as follows. Section 2 outlines the methodology, data, and policy scenarios. Section 3 discusses the modelling results. Section 4 gives some concluding remarks.

2. Methodology and data

2.1. The GTAP model

We use the Global Trade Analysis Project (GTAP) model, the framework of which is well documented in Hertel (1997). Figure 1 depicts the standard GTAP model, which is a multiregion, multisector, computable general equilibrium model, assuming perfect competition and constant returns to scale. Bilateral trade is treated following the Armington assumption that products traded internationally are differentiated by country of origin. Like other CGE models, this model generates smaller and more realistic responses of trade to price changes, than usually obtained through models of homogeneous products. The GTAP model is well documented in the GTAP book and in various research and technical papers (e.g., Narayanan et al., 2015; Jensen, 2010). It allows for a wide range of closure options, including unemployment, tax revenue

replacement and fixed trade balance closures. A few partial equilibrium closures are also available to users, which enable comparison of the results with studies based on partial equilibrium assumptions more easily.

[Insert Figure 1 here]

2.2. Sectoral and regional disaggregation

We consider 18 agricultural sectors, which we grouped into three broad sectors, namely: (a) plant-based sector, (b) animal-based sector, and (c) fats, sugars and food products sector. Table 1 presents the sectoral disaggregation. For the scope of countries, our analysis includes Bangladesh, Brazil, Brunei, Cambodia, China, Cote d' Ivoire, Egypt, India, Indonesia, Japan, Korea, Kenya, Laos, Malaysia, Mozambique, Nepal, Nigeria, Pakistan, Philippines, Singapore, Sri Lanka, South Africa, Taiwan, Thailand, United States, Uruguay and Vietnam. Our analysis also includes seven regional aggregates, including Oceania, Rest of East Asia, Rest of South Asia, Rest of Southeast Asia, Other America, EU-25, Rest of World, Rest of Africa.

[Insert Table 1 here]

2.3. Updating emissions indicators in the GTAP data base

We extend the GTAP model to capture three types of emissions associated with livestock, dairy and rice sectors and countries (see Table 2). We employ the data on non-CO₂ GHG emissions from 2011 GTAP 9 Data Base and air pollution from 2011 GTAP 9.2 Data Base, updated them to 2014, while also expanding the sectors from 57 to 65 and regions from 140 to 141. Updating was done by using the emissions and pollution intensities in 2011 and then impose them on the 2014 GTAP 10 Database.

2.4. Policy simulation

The aim of this study is to shed some light on the likely impacts of a few policy reform scenarios through policy simulations. We consider two alternative scenarios:

Scenario 1. Removal of subsidies of the following categories in all agricultural sectors:

- a. Output subsidy
- b. Primary input subsidy
- c. Domestic intermediate input subsidy
- d. Imported intermediate input subsidy

Scenario 2. Removal of border tariffs on all agricultural sectors

For all our scenarios, we assume labor supply curve with an elasticity of 1, unlike the standard GTAP model in which aggregate labor supply is fixed and exogenous. We also include the CO₂ and other non-CO₂ GHG emissions and air pollution in the model, as being directly related to variables like output, intermediate inputs, private consumption, endowments, etc. The uniqueness of this approach entails the simultaneous capturing of all different types of emissions tracked through the economic activities.

3. Results

As mentioned in Section 2, we use the GTAP model to simulate the impact of abolishing subsidies and price support as well as border protection throughout the agricultural sector. The results are then grouped into three main sectors, namely: (1) plant-based sector, (2) animal-based sector, and (3) fats, sugars and food products sector. This section begins with the impacts of the simulations on key macroeconomic indicators including GDP, CPI, exports and imports. Next, we analyze the impacts of policy reforms on changes in prices and output for all agricultural

sectors. Finally, we analyze the impacts of policy reforms on GHG emissions. Simulation results are reported as percentage deviations away from baseline values.

3.1. Impact on the economy

We begin our empirical investigation with an analysis of the impacts on the overall economy. Full results on GDP, CPI, consumption, exports and imports are provided in Table 3. As expected, the overall results suggest that the removal of subsidies in all agricultural sectors (scenario 1) reduces GDP in most of the countries. As illustrated in Figure 2, the GDP reductions are varied based the nature of subsidy removal. In absolute terms, the extent of the decline in GDP is more pronounced under the elimination of primary input (scenario 1B) and domestic intermediate input (scenario 1C) subsidies. The GDP decreases also differed by country, but the drop is mostly noticeable in the cases of China and EU-25.

[Insert Figure 2 here]

As expected, when border tariffs on all agricultural sectors are phased out (scenario 2), GDP would rise in nearly all countries. Figure 3 shows the most affected countries where GDP would increase under scenario 2. In absolute terms, the results show that South Korea would have the largest increase in GDP (US\$2.5 billion) followed by India (US\$1.3 billion), while the drop in GDP range between US\$518 million and US\$547 million for Japan, China and EU-25.

[Insert Figure 3 here]

Turning to the impact on overall prices, the results show that the removal of all subsidies in agricultural sectors (scenario 1) would increase the CPI in nearly all countries (see Table 3). The elimination of *primary input and domestic* intermediate input subsidies has bigger impacts on CPI than the removal of output and imported intermediate input subsidies do. For the elimination of primary input subsidy (scenario 1B), Figure 4 shows the 10 most affected

countries with respect to the increase in CPI. For example, CPI would increase by 1.3% in Cote d'Ivoire and 1.2% in Kenya. The increases in CPI in other countries seem to be moderate. Meanwhile, the CPI in most of the countries would fall when border tariffs are removed.

[Insert Figure 4 here]

Figure 5 shows the results on absolute change in consumption. Full results are provided in Table 3. The increases in consumption by country are varied. The elimination of primary input subsidy (scenario 1B) has the largest impact. For example, consumption in absolute terms would increase by US\$23 billion for the US and US\$10 billion for Brazil. Also, under scenario 1B, the increases in consumption for countries such as EU-25, India, Indonesia and Japan range between US\$1.3 and US\$3.8 billion. When the domestic intermediate input subsidy (scenario 1C) is eliminated, the increase in consumption is also large for EU-25 (US\$5.6 billion) and the US (US\$5.4 billion).

[Insert Figure 5 here]

In terms of the impacts on trade, Table 3 presents the results on changes in exports. As a whole, the results show that exports in most of the countries would decline when subsidies in all agricultural sectors are abolished. While the reductions in exports by country are varied, it is noticeable that the two most affected countries under scenario 1B are the US and Japan where exports would respectively decline by US\$7.4 billion and US\$1.8 billion. In contrast, the elimination of border tariffs would lead to increases in exports in nearly all countries. The only exceptions are South Korea and Kenya where exports would fall by US\$6.5 billion and US\$27.7 million, respectively. EU-25 would have the largest increase in exports with US\$3.4 billion and India with US\$2 billion.

Table 3 also reports the results for the impact on imports. There are marked differences in changes in imports, which decline in most of the countries, notably under scenario 1A, scenario 1B and Scenario 1D. On the other hand, imports would increase in almost all countries when border tariffs are eliminated (scenario 2). China, EU-25 and India are the three most affected countries where imports would rise under scenario 2.

3.2. Impact on agricultural prices and output

Tables 4 and 5 present the impact on agricultural prices and output, respectively. When subsidies in all agricultural sectors are removed (*Scenario 1*), output prices generally increase in most of the sectors, while their output decline depending on the size of subsidies. In the case of paddy rice in Malaysia under the removal of output subsidy (*Scenario 1A*), price noticeably increased by about 40% and output fell by 10%. This can be due to the government's price support to increase rice production to meet the growing rice demand consistent with the rice self-sufficiency program in recent years (Rahim et al. 2018).

[Insert Table 4 here]

The increase in the prices of paddy rice is relatively large in the cases of China (5%), EU25 (2%) and Japan (5%) when primary inputs subsidies in all agricultural sectors are abolished (*Scenario 1B*). This finding corroborates to the large annual coupled subsidies paid to producers by the governments of China (US\$53.7 billion), EU28 (US\$ 36.2 billion), and Japan (US\$ 28 billion) during the period 2014-2016 (Laborde et al., 2020). Likewise, when the domestic input subsidies are removed (*Scenario 1C*), price of paddy rice rose by 10% for Indonesia where fertilizer subsidy remains a major support to agriculture with the value of subsidy reaching US\$2.31 billion in 2017 (Sudaryanto, 2018).

Under the same scenario, the increase in paddy rice prices is also noticeable for Nepal (2%) and the Philippines (2.3%) since fertilizer subsidies in the former country have increased significantly in recent years (Kyle et al., 2017) while support for rice producers in the latter country remains one of the highest across all commodities (OECD, 2017). The impacts of the removal of imported intermediate input subsidies (*Scenario 1D*) are small for all countries, mainly due to lower subsidies to begin with. As expected, prices of paddy rice fell in most of the countries when border tariffs on all agricultural sectors are removed (*Scenario 2*), particularly for Nepal because of its high agricultural tariffs that lower the competitiveness of imports in the local markets (Hussain and Sinha, 2019).

[Insert Table 5 here]

3.3. Impact on GHG emissions

Table 6 presents the impact on CO₂ emissions. As expected, the abolition of output subsidies (*Scenario 1A*), generally lead to lower CO₂ emissions with many cases of reductions for plant-based fibers and raw milk sectors (Figure 6). For example, given the large amount of coupled subsidies for Japan, the country displays the most pronounced drop in CO₂ emissions for the majority of agricultural sectors, particularly for wheat (52%), cereal grains (16%), processed rice and crops (6%), and animal-based sector (4.1–6.4%). However, exceptions to such a pattern are glaring for Malaysia (Japan) where CO₂ emissions from paddy rice (sugar cane) rise by 121% (38%).

[Insert Table 6 here]

[Insert Figure 6 here]

The elimination of input subsidy (*Scenario 1B*) lowers CO₂ emissions in many countries, especially for paddy rice, wheat, sugars and fats, and most of the animal-based sectors (Figure

7). Looking across countries, the marked reductions in CO₂ emissions are consistent throughout for EU25, except for the sugar sector. By contrast, CO₂ emissions from paddy rice increase in several rice-growing and-importing countries including Cote d'Ivoire, China, Japan, Malaysia and Nepal.

[Insert Figure 7 here]

When primary input subsidy is eliminated (*Scenario 1C*), CO₂ emissions fall for some countries only, albeit moderately, in the cases of wheat, vegetables oils and fats, sugarcane, and most of the animal-based sectors (Figure 8). However, *Scenario 1C* generally leads to increase in CO₂ emissions. This is particularly evident for India where CO₂ emissions increase in most of the agricultural sectors, including pronounced impacts on wheat, cattle and animal products as driven by large fertilizer and coupled subsidies. The increase in CO₂ emissions is also noticeable for paddy and processed rice, animal products and sugarcane sectors in the case of Indonesia. The elimination of imported intermediate input subsidy (*Scenario 1D*) leads to very small reductions in CO₂ emissions for majority of the countries and agricultural sectors (Figure 9).

[Insert Figure 8 here]

[Insert Figure 9 here]

In terms of removing border tariffs on all agricultural sectors (*Scenario 2*), CO₂ emissions generally increase in most agricultural sectors and countries specifically for those economies that have high agricultural tariffs including Cote d'Ivoire, India, Kenya, Nepal and Nigeria (Figure 10). As noted by Labored et al. (2020), border protection reduces global demand more than it increases global agricultural supply, and some countries that currently tax agriculture have high emission intensities. On the other hand, CO₂ emissions noticeably drop in the case of South Korea for plant-based fibers, crops, food products, sugar cane and dairy sectors.

[Insert Figure 10 here]

Next, Table 7 presents the results for the impact on total non-CO₂ emissions. Overall, there is a large decline in non-CO₂ emissions for few countries only when output subsidies are removed. Japan displays the greatest number of sectors with large decline in non-CO₂ emissions including wheat (924%), oil seeds (492%), cereal grains (271%), plant-based fibers (90.1%), sugar cane (73.7%), meat cattle (58.1%), sugar (43.7%), crops (37.1%), cattle (32.4%), dairy and raw milk (12%) (see also Figure 11). While EU25 is characterized by non-CO₂ emissions reduction for nearly all agricultural sectors, the large mitigation potentials are more visible for wheat (12.4%), vegetable, fruits and nuts (9.6%), and relatively moderate for paddy rice, cereal grains, crops, meat, and oil seeds (5%–6%) sectors. The wheat sector also shows a large fall in non-CO₂ emissions for Brazil (96.2%), Bangladesh (41.5%), Rest of Africa (23.4%), and Sri Lanka (18.5%).

[Insert Table 7 here]

[Insert Figure 11 here]

In terms of non-CO₂ emissions for paddy rice and processed rice sectors, large reductions are only evident for Malaysia with 84.2% and 122.4%, respectively. Substantial declines in non-CO₂ emissions for plant-based fibers are shown in the cases of the US (112.2%), Brazil (28.4%) and rest of the world (49.1%). Non-CO₂ emissions are also reduced for a number of agricultural sectors in Kenya but these are only substantial for crops (48.4%), vegetable, fruits and nuts (16.7%), oil seeds, sugar cane and sugar (11%–13%) and cereal grains (9.5%). Similarly, non-CO₂ emissions noticeably fall for some agricultural sectors in Cote d'Ivoire including dairy and food products (7%–8%).

6. Conclusion

Given the role of agricultural sector in the economy of most developing countries, it is important to evaluate the effects of agricultural policy reforms. However, due to the complexities of these policies and lack of data, there have not been many comprehensive economy-wide analyses of these reforms. This study fills those gaps in the literature.

We examine two alternative scenarios. Simulation results based on the removal of subsidies in all agricultural sectors suggest an increase in all agricultural prices, and reduction in their output and consumption, as well as in the emissions. For the scenario on the removal of border measures, the results indicate a decrease in all agricultural prices and increase in their consumption, and CO₂ emissions. There were exceptions to both results broadly, and they were mainly due to the lower subsidies and tariffs to begin with. Overall, the results for the rice sector confirm that direct subsidy measures are worse for the environment than border measures. This finding has important policy implications in the sense that it would contradict the traditional ranking of harmful policy support measures based on trade impacts.

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Table 1. List of agricultural sectors by food groups.

Group	Sector
<i>Plant-based foods</i>	Paddy Rice Processed Rice Wheat Cereal Grains Vegetables, Fruit and Nuts Plant-Based Fibers Crops
<i>Animal source foods</i>	Cattle, Sheep, Goats, Horses Meat: Cattle, Sheep, Goats, Horses Meat Products Animal Products Raw Milk Dairy Products
<i>Fats, sugars and food products</i>	Vegetable Oils and Fats Oil Seeds Sugar Cane, Sugar Beet Sugar Food Products

Table 2. Types of greenhouse gas emissions and air pollution.

Group	Sources of emissions and air pollution
CO ₂ emissions	CO ₂ emissions from firms usage of domestic product CO ₂ emissions from firms usage of imports CO ₂ emissions from government consumption of domestic product CO ₂ emissions from private consumption of domestic product CO ₂ emissions from government consumption of imports CO ₂ emissions from private consumption of imports
Non-CO ₂ emissions	Non-CO ₂ GHGs associated with output Non-CO ₂ GHGs associated with endowment Non-CO ₂ GHGs associated with intermediate use Non-CO ₂ GHGs associated with HHs consumption
Air pollution	Air pollution associated with output Air pollution associated with endowment Air pollution associated with intermediate use Air pollution associated with HHs consumption

Table 3. Percent changes in macroeconomic variables. *Source:* Authors' own work based on GTAP Database and model.

	Scenario 1A					Scenario 1B					Scenario 1C				
	GDP	Consumption	CPI	Exports	Imports	GDP	Consumption	CPI	Exports	Imports	GDP	Consumption	CPI	Exports	Imports
Oceania	0.01	0.07	0.06	-0.02	0.08	0.03	0.36	0.29	-0.18	0.28	0.01	0.15	0.13	-0.07	0.13
China	-0.01	0.01	0.01	-0.02	-0.01	-0.09	-0.01	0.16	0.43	-0.16	-0.06	0.01	0.11	0.12	-0.05
Rest E Asia	0.00	0.00	0.01	-0.01	-0.01	-0.01	0.09	0.13	-0.05	-0.03	-0.01	0.04	0.07	-0.02	-0.01
Brunei	0.00	-0.02	0.00	0.00	-0.02	-0.01	-0.02	0.07	0.00	-0.04	-0.01	-0.06	0.02	0.01	-0.05
Laos	0.00	0.07	0.07	-0.03	-0.01	-0.01	0.47	0.41	-0.11	0.02	-0.01	0.22	0.20	-0.05	-0.02
Singapore	0.00	0.01	0.01	0.00	0.00	-0.01	0.09	0.11	-0.03	-0.02	0.00	0.09	0.06	-0.01	0.03
Rest S Asia	0.00	0.08	0.07	-0.04	0.03	-0.01	0.40	0.40	-0.21	0.09	-0.01	0.21	0.20	-0.07	0.08
Rest SE Asia	-0.01	0.01	0.03	0.00	-0.01	-0.04	0.11	0.23	-0.07	-0.14	-0.01	0.03	0.08	0.00	-0.03
Japan	0.00	-0.02	0.00	0.16	0.06	-0.02	0.10	0.13	-0.19	-0.04	-0.01	0.05	0.07	-0.05	0.04
Korea	0.00	0.00	0.01	-0.01	-0.01	-0.03	0.09	0.15	-0.05	-0.03	-0.02	0.07	0.09	-0.03	0.00
Taiwan	0.00	0.00	0.01	-0.01	0.00	-0.02	0.07	0.12	-0.06	-0.05	-0.01	0.05	0.07	-0.03	0.01
Cambodia	-0.01	0.09	0.09	-0.04	-0.02	-0.02	0.28	0.29	-0.09	-0.04	-0.02	0.13	0.14	-0.05	-0.04
Indonesia	-0.01	0.01	0.02	-0.01	-0.02	-0.04	0.26	0.31	0.02	0.04	-0.14	0.07	0.30	0.37	0.03
Malaysia	-0.03	0.10	0.14	0.01	0.00	-0.02	0.14	0.15	-0.05	-0.03	-0.03	0.02	0.06	0.01	0.03
Philippines	0.00	0.02	0.02	-0.03	-0.01	-0.01	0.21	0.23	-0.18	-0.08	-0.06	0.11	0.19	0.09	-0.05
Thailand	0.00	0.04	0.04	-0.02	0.00	-0.01	0.27	0.24	-0.13	0.01	-0.01	0.16	0.13	-0.07	0.03
Vietnam	-0.02	0.04	0.07	-0.03	-0.04	-0.04	0.37	0.37	-0.19	-0.08	-0.03	0.16	0.20	-0.09	-0.07
Bangladesh	-0.02	0.02	0.05	0.08	0.02	-0.04	0.16	0.24	-0.18	-0.15	-0.02	0.02	0.08	-0.10	-0.12
India	-0.01	0.05	0.05	-0.04	0.00	-0.03	0.31	0.33	-0.23	0.05	-0.05	-0.12	-0.01	0.77	0.12
Nepal	0.03	0.23	0.14	-0.48	0.14	0.21	1.73	1.03	-3.54	1.06	0.30	2.23	1.24	-4.69	1.50
Pakistan	0.00	0.05	0.05	-0.06	-0.01	0.00	0.28	0.27	-0.24	0.05	-0.01	0.10	0.10	-0.12	0.00
SriLanka	-0.01	0.04	0.03	-0.03	0.01	0.00	0.42	0.36	-0.20	0.10	0.00	0.17	0.14	-0.11	0.10
Rest America	0.00	0.03	0.03	-0.01	0.01	-0.01	0.27	0.26	-0.11	0.07	-0.01	0.12	0.12	-0.05	0.05
USA	0.00	0.02	0.02	-0.05	0.02	0.00	0.20	0.18	-0.37	0.15	-0.02	0.05	0.07	-0.03	0.02
Brazil	-0.01	0.00	0.00	0.03	0.00	0.01	0.67	0.59	-0.50	0.81	-0.03	-0.09	-0.06	0.10	-0.14
Uruguay	0.02	0.13	0.08	-0.09	0.11	0.12	0.98	0.63	-0.62	0.79	0.07	0.55	0.34	-0.35	0.51
EU 25	-0.01	0.00	0.02	-0.01	-0.02	-0.07	0.02	0.14	0.05	-0.07	-0.02	0.05	0.08	-0.01	0.03
Rest World	-0.02	0.01	0.05	0.00	-0.03	-0.04	0.15	0.26	0.04	-0.04	-0.01	0.06	0.11	0.02	0.02
Egypt	0.00	0.05	0.05	-0.03	-0.01	0.00	0.36	0.37	-0.28	-0.14	0.00	0.13	0.14	-0.09	-0.04
Rest Africa	0.00	0.05	0.06	0.03	0.03	0.00	0.35	0.41	0.06	0.09	-0.01	0.11	0.15	0.03	0.03
Cote d' Ivoire	0.03	0.32	0.21	-0.16	0.20	0.26	2.00	1.28	-0.90	1.34	0.09	0.71	0.45	-0.34	0.48
Nigeria	-0.02	0.02	0.05	0.03	-0.03	0.00	0.15	0.20	0.09	-0.02	0.00	0.05	0.07	0.03	0.00
Kenya	-0.40	-0.10	0.48	-0.30	-0.67	0.17	1.76	1.21	-0.97	1.04	0.06	0.66	0.45	-0.43	0.40
Mozambique	-0.01	0.03	0.04	-0.01	0.00	-0.04	0.19	0.31	-0.09	-0.07	-0.02	0.07	0.13	-0.03	-0.02
South Africa	0.00	0.03	0.03	-0.03	0.01	0.00	0.23	0.21	-0.18	0.09	-0.01	0.09	0.10	-0.05	0.05

Table 3. (Continued)

	Scenario 1D					Scenario 2				
	GDP	Consumption	CPI	Exports	Imports	GDP	Consumption	CPI	Exports	Imports
Oceania	0.00	0.01	0.01	-0.01	0.00	0.00	-0.02	-0.02	0.04	-0.04
China	0.00	0.01	0.01	-0.03	-0.04	0.01	-0.03	-0.05	0.04	0.06
Rest E Asia	0.00	-0.01	0.00	0.00	-0.01	0.00	0.00	-0.01	0.04	0.02
Brunei	0.00	-0.01	0.00	0.00	-0.01	0.00	0.02	0.00	0.01	0.00
Laos	0.00	0.00	0.00	-0.01	0.00	0.00	-0.63	-0.54	0.14	0.08
Singapore	0.00	-0.02	-0.01	0.00	-0.01	0.00	0.00	-0.01	0.02	0.02
Rest S Asia	0.00	0.14	0.14	-0.22	-0.03	0.04	-0.70	-0.69	1.30	0.28
Rest SE Asia	0.00	0.00	0.00	0.00	0.00	0.01	-0.13	-0.24	0.03	0.16
Japan	0.00	0.00	0.00	-0.02	-0.02	0.01	-0.05	-0.08	0.03	0.05
Korea	-0.01	-0.01	0.00	-0.01	-0.02	0.18	-0.40	-0.84	-0.95	-0.33
Taiwan	0.00	-0.01	0.00	-0.01	-0.02	0.01	-0.10	-0.12	0.06	0.07
Cambodia	0.00	0.00	0.00	0.00	0.00	0.02	-0.24	-0.30	0.14	0.17
Indonesia	-0.01	0.05	0.05	-0.15	-0.11	0.00	-0.10	-0.10	0.08	0.02
Malaysia	-0.04	-0.06	0.00	0.02	0.03	0.03	-0.01	-0.04	0.02	0.01
Philippines	0.00	0.00	0.00	0.00	-0.01	0.00	-0.07	-0.07	0.13	0.06
Thailand	0.00	-0.01	0.00	0.00	-0.01	0.07	-0.18	-0.27	0.07	0.11
Vietnam	0.00	-0.01	0.00	0.00	-0.01	0.03	-0.18	-0.26	0.02	0.04
Bangladesh	0.00	0.00	0.01	-0.01	-0.01	0.03	-0.34	-0.40	0.53	0.41
India	0.00	0.00	0.00	-0.01	-0.01	0.06	-0.24	-0.35	0.47	0.42
Nepal	0.00	0.01	0.01	-0.04	0.01	-0.17	-7.76	-5.08	18.86	-4.16
Pakistan	0.00	0.00	0.00	-0.01	-0.01	0.01	-0.10	-0.11	0.54	0.24
SriLanka	0.00	0.00	0.00	0.00	0.00	0.10	0.15	-0.04	0.72	0.70
Rest America	0.00	0.00	0.01	-0.03	-0.03	0.00	0.02	0.01	0.12	0.09
USA	0.00	0.01	0.01	-0.04	-0.02	0.00	-0.01	-0.01	0.09	-0.01
Brazil	0.00	0.02	0.02	-0.11	-0.04	0.00	0.02	0.01	0.11	0.10
Uruguay	0.00	0.01	0.01	-0.01	0.00	-0.01	-0.11	-0.07	0.09	-0.15
EU 25	0.00	0.00	0.01	-0.03	-0.03	0.00	-0.03	-0.03	0.05	0.02
Rest World	0.00	0.01	0.01	-0.02	-0.03	0.02	-0.12	-0.17	0.23	0.28
Egypt	0.00	0.00	0.01	-0.02	-0.02	0.00	-0.10	-0.10	0.17	0.07
Rest Africa	0.00	0.00	0.01	0.00	-0.01	0.04	-0.23	-0.31	0.16	0.13
Cote d' Ivoire	0.00	0.02	0.02	-0.02	0.00	0.00	-0.40	-0.35	0.25	-0.12
Nigeria	0.00	0.00	0.01	0.00	-0.01	0.00	-0.10	-0.11	0.05	0.12
Kenya	0.00	0.02	0.02	-0.01	0.01	0.04	0.78	0.49	-0.31	0.78
Mozambique	0.00	0.00	0.01	0.00	-0.01	0.02	-0.27	-0.29	0.19	0.05
South Africa	0.00	0.01	0.01	-0.03	-0.02	0.00	0.04	0.02	0.02	0.06

Table 4. Percent changes in output prices of agricultural commodities. *Source:* Authors' own work based on GTAP Database and model.

Scenario 1A																		
	Paddy rice	Processed rice	Wheat	Cereal grains	Veg, fruit, nuts	Plant-based fibers	Crops	Cattle etc	Meat: cattle etc	Meat products	Animal products	Raw milk	Dairy	Veg oils & fats	Oil seeds	Sugar cane	Sugar	Food products
Oceania	0.2	0.1	0.2	0.1	0.2	0.2	0.4	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.1
China	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.0
Rest E Asia	0.1	0.1	0.1	0.1	0.1	0.7	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0
Brunei	0.0	0.2	0.1	0.0	0.1	0.7	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.0
Laos	0.2	0.1	0.0	0.1	0.1	0.3	0.3	0.1	0.1	0.1	0.1	5.5	0.0	0.1	0.1	0.1	0.1	0.1
Singapore	0.3	0.1	0.2	0.2	0.2	0.9	0.4	0.3	0.0	0.0	0.1	0.3	0.0	0.0	0.3	0.2	0.0	0.0
Rest S Asia	0.2	0.1	0.2	0.2	0.2	0.4	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.3	0.2	0.1	0.1
Rest SE Asia	0.1	0.1	0.2	0.1	0.1	0.4	0.1	0.1	0.1	0.1	0.1	0.5	0.0	0.1	0.2	0.1	0.0	0.0
Japan	-0.7	-0.6	102.9	88.9	-0.3	0.0	1.9	5.1	2.2	0.0	0.0	6.2	1.1	0.7	63.5	67.7	5.8	0.2
Korea	0.1	0.1	0.2	0.2	0.1	0.3	0.3	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.6	0.1	0.1
Taiwan	0.1	0.1	0.1	0.1	0.1	0.7	0.3	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.1
Cambodia	0.4	0.4	0.2	0.3	0.3	0.2	0.3	0.4	0.3	0.2	0.2	0.5	0.1	0.1	0.3	0.3	0.1	0.1
Indonesia	0.1	0.1	0.2	0.1	0.1	1.2	0.2	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.0
Malaysia	39.6	16.4	0.2	-0.3	-0.2	0.1	-0.1	-0.4	0.1	-0.1	-0.3	0.1	0.0	-0.1	-0.2	-0.3	-0.3	0.3
Philippines	0.1	0.1	0.4	0.1	0.1	0.8	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0
Thailand	0.2	0.2	0.3	0.2	0.2	0.9	0.3	0.2	0.1	0.1	0.2	0.3	0.1	0.1	0.2	0.4	0.2	0.1
Vietnam	0.3	0.2	0.1	0.3	0.2	1.4	0.4	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.2	0.1	0.1
Bangladesh	0.1	0.1	1.2	0.3	0.1	1.3	1.4	0.3	0.0	0.0	0.1	0.3	0.0	0.0	0.1	0.1	0.1	0.1
India	0.2	0.1	0.1	0.1	0.1	0.4	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Nepal	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2
Pakistan	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
SriLanka	-0.1	0.0	0.7	0.5	0.4	1.1	0.6	-0.1	0.0	0.0	-0.1	-0.1	0.0	0.1	0.4	0.7	0.4	0.1
Rest America	0.3	0.1	0.2	0.1	0.1	0.9	0.3	0.1	0.1	0.2	0.5	0.1	0.1	0.1	0.2	0.1	0.1	0.1
USA	0.2	0.0	0.1	0.0	0.0	6.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Brazil	0.6	0.2	4.0	1.2	-0.1	3.3	0.8	0.2	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.3	0.1	0.2
Uruguay	0.2	0.2	0.4	0.1	0.2	1.1	0.2	0.2	0.2	0.2	0.5	0.2	0.1	0.1	0.1	0.1	0.1	0.1
EU 25	1.1	0.2	0.5	0.7	0.7	0.7	0.7	1.1	0.4	0.3	0.8	1.4	0.4	0.1	0.5	0.7	0.1	0.1
Rest World	0.0	0.1	0.0	0.0	0.0	7.3	0.3	0.0	0.0	0.0	0.0	1.8	0.5	0.3	1.0	0.0	0.1	0.1
Egypt	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Rest Africa	0.1	0.1	1.0	0.1	0.1	0.4	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1
Cote d' Ivoire	0.3	0.3	0.3	0.3	0.3	0.6	0.4	0.4	0.2	0.3	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.3
Nigeria	0.1	0.0	0.2	0.1	0.1	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0
Kenya	-0.2	-0.6	0.1	1.7	2.3	0.0	2.0	2.0	-0.6	-0.7	-0.3	1.9	-0.3	-0.4	2.4	1.9	1.6	-0.5
Mozambique	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1
South Africa	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0

Table 4. (Continued)

Scenario 1B																		
	Paddy rice	Processed rice	Wheat	Cereal grains	Veg, fruit, nuts	Plant-based fibers	Crops	Cattle etc	Meat: cattle etc	Meat products	Animal products	Raw milk	Dairy	Veg oils & fats	Oil seeds	Sugar cane	Sugar	Food products
Oceania	0.5	0.7	3.3	1.4	0.3	3.0	4.7	0.1	0.3	9.0	2.8	0.7	0.4	1.0	0.4	0.4	0.3	0.1
China	-0.2	-0.2	0.0	-0.2	-0.2	-1.7	-4.3	-0.2	-0.3	-0.5	-0.7	0.1	0.7	0.2	0.1	0.2	0.3	-0.2
Rest E Asia	0.9	1.5	1.8	0.7	0.4	3.0	4.8	0.9	0.3	6.8	3.3	0.8	1.2	2.4	0.0	0.7	1.6	0.4
Brunei	0.0	0.0	10.2	2.3	1.4	5.7	5.5	2.0	2.2	10.7	4.2	-0.1	1.4	2.0	0.0	3.2	2.2	0.5
Laos	0.0	0.0	5.0	0.6	0.0	0.4	0.4	0.1	1.6	0.9	1.8	-0.1	-0.3	0.0	0.0	6.3	0.2	0.0
Singapore	0.3	0.8	0.6	0.1	-0.8	4.1	1.9	-0.5	1.4	4.2	1.0	-0.1	0.8	1.2	1.4	-0.3	2.0	0.6
Rest S Asia	0.0	-0.1	0.1	0.0	0.1	0.4	1.3	0.1	0.0	1.0	0.5	0.1	0.2	0.0	0.2	0.1	0.0	0.0
Rest SE Asia	0.0	0.0	9.4	0.1	0.3	0.8	1.0	0.0	0.0	4.5	0.5	-0.1	-0.2	-0.2	-0.1	0.3	0.3	0.0
Japan	-0.5	-0.5	9.3	3.6	0.6	1.5	7.6	0.3	0.2	10.5	4.3	0.7	0.5	1.7	1.1	0.2	0.1	0.0
Korea	-0.1	0.0	0.7	0.2	-0.2	0.4	0.7	0.4	0.9	0.5	2.4	-0.4	-0.5	0.2	-0.2	-0.1	-0.1	-0.2
Taiwan	0.0	0.0	6.1	0.5	0.0	-1.3	1.4	0.4	0.3	12.6	3.9	0.3	0.6	0.0	0.1	0.6	0.5	-0.2
Cambodia	0.1	0.1	3.0	0.2	0.1	1.5	0.9	0.6	0.6	0.5	0.2	0.0	-0.2	0.1	0.0	0.7	0.2	0.1
Indonesia	-0.2	-0.3	-0.4	-0.2	-0.3	1.3	0.7	-0.5	-0.5	2.6	1.3	-0.3	-0.2	0.0	-0.2	-0.1	0.1	-0.1
Malaysia	-0.3	-0.3	6.2	-0.1	-0.2	1.0	0.8	-1.0	-1.9	2.2	0.8	-0.1	0.2	-0.1	0.0	0.3	0.3	0.0
Philippines	0.0	0.0	2.8	0.5	0.2	3.1	0.6	0.1	0.1	13.3	1.5	0.1	0.2	0.1	0.1	0.1	0.2	0.1
Thailand	0.1	0.1	3.7	0.3	0.2	-0.1	0.9	0.4	0.4	7.0	1.3	-0.1	-0.1	1.2	0.8	0.5	0.4	0.1
Vietnam	-0.1	-0.1	2.3	-0.1	-0.1	-0.1	0.1	-0.1	-0.1	1.0	3.2	-0.4	-0.1	-0.1	-0.1	0.0	0.3	0.1
Bangladesh	-0.1	-0.1	1.0	-0.1	0.1	0.5	0.9	0.4	0.8	5.4	0.3	-0.1	0.0	0.2	-0.1	0.0	0.2	0.1
India	0.1	0.1	0.2	0.1	0.0	0.6	0.6	0.1	0.2	1.9	0.7	0.5	1.4	0.0	0.0	-0.1	0.0	-0.1
Nepal	0.0	-0.2	0.1	0.3	0.1	0.3	0.0	0.3	0.2	-0.1	0.3	0.4	0.5	0.4	0.2	0.5	0.0	-0.2
Pakistan	0.2	0.6	0.1	0.1	0.1	1.1	0.4	0.1	0.3	-0.1	2.1	0.3	0.7	0.0	-0.1	0.0	0.0	0.0
SriLanka	-0.1	-0.2	-10.0	-0.7	-0.3	0.5	-0.1	-0.3	-0.3	9.7	1.2	-0.1	0.1	-0.1	-0.1	0.0	0.2	-0.2
Rest America	0.2	0.0	5.1	0.2	-0.1	1.3	3.1	0.0	0.0	2.4	1.9	-0.2	-0.2	-0.4	-0.3	0.0	0.0	0.0
USA	-0.9	1.0	-5.6	-0.1	1.7	-0.3	0.3	0.4	0.4	-4.1	-2.3	0.4	0.2	0.6	0.5	0.0	0.1	0.1
Brazil	-0.1	0.0	1.3	0.0	0.0	0.5	3.0	-0.3	-0.3	4.1	3.5	0.1	-0.1	0.2	0.1	-0.1	-0.1	-0.2
Uruguay	-0.8	-1.3	4.4	0.4	0.7	1.2	4.9	0.0	0.0	8.2	1.1	-0.1	-0.1	-0.4	-0.1	-0.8	-0.8	-0.1
EU 25	-2.9	-1.1	-7.2	-2.8	-4.0	-3.1	-15.3	-2.0	-1.4	-85.4	-3.9	-2.2	-2.0	-2.2	-2.5	-1.5	-1.1	-0.8
Rest World	0.1	-0.5	2.8	0.5	0.6	0.7	1.9	0.1	-0.3	3.4	-5.0	-1.8	-1.0	0.0	-0.3	-0.7	-0.5	0.0
Egypt	0.0	0.0	1.1	0.2	0.5	1.0	0.8	0.2	0.0	2.6	6.1	0.0	0.3	0.2	0.0	0.1	0.2	-0.1
Rest Africa	-0.2	-0.3	4.0	0.0	0.3	0.8	1.8	0.3	0.5	6.7	5.1	0.9	0.3	0.8	0.2	0.0	0.2	-0.1
Cote d' Ivoire	0.3	-1.8	5.0	0.3	0.0	-0.3	0.2	-1.5	-2.0	1.0	2.8	0.3	0.2	0.4	0.3	-1.7	-2.6	-2.3
Nigeria	0.0	0.7	5.6	0.0	0.0	1.5	0.2	0.0	0.7	0.4	0.7	0.0	0.0	0.0	0.0	0.5	3.0	0.2
Kenya	5.5	-1.2	6.0	0.3	0.6	-0.5	0.4	-0.2	-0.2	17.3	3.5	0.5	0.3	0.2	0.9	0.4	0.4	0.1
Mozambique	0.0	0.2	7.3	-0.1	0.2	1.9	3.1	1.9	2.8	8.2	1.8	0.0	0.1	1.0	-0.1	-0.3	0.0	-0.2
South Africa	2.7	0.4	6.0	0.6	3.2	1.4	1.3	0.2	0.5	9.2	7.2	0.1	0.1	0.7	0.6	0.1	0.4	0.3

Table 4. (Continued)

Scenario 1C																		
	Paddy rice	Processed rice	Wheat	Cereal grains	Veg, fruit, nuts	Plant-based fibers	Crops	Cattle etc	Meat: cattle etc	Meat products	Animal products	Raw milk	Dairy	Veg oils & fats	Oil seeds	Sugar cane	Sugar	Food products
Oceania	0.2	0.2	1.0	0.7	0.1	0.3	0.6	0.2	0.1	0.9	0.8	0.9	0.9	0.5	0.3	0.3	0.4	0.1
China	-0.1	-0.1	-0.2	-0.2	-0.1	-0.2	0.2	-0.3	-0.5	0.1	0.4	-0.1	0.0	-0.2	-0.2	-0.3	-0.3	-0.1
Rest E Asia	0.4	0.6	0.6	0.4	0.3	0.6	2.0	0.6	-0.3	1.5	0.7	0.3	1.0	1.6	0.1	0.3	0.6	0.2
Brunei	0.2	-0.1	6.7	2.3	0.4	1.9	2.0	1.6	0.6	2.9	1.3	0.0	1.4	0.9	0.0	0.9	1.3	0.3
Laos	0.0	0.0	2.4	0.4	0.0	0.3	0.4	0.0	-0.3	0.0	0.9	0.0	0.0	0.0	0.0	2.1	0.2	0.0
Singapore	3.1	4.3	0.1	0.5	-0.7	1.1	0.2	0.0	0.8	1.2	0.5	0.2	0.9	0.8	0.7	-0.2	1.1	0.3
Rest S Asia	0.0	-0.1	0.3	0.0	-0.1	0.0	0.2	0.0	-0.1	0.6	0.4	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
Rest SE Asia	0.0	0.0	3.4	0.1	0.0	0.2	0.4	0.1	0.1	1.7	0.1	0.0	0.0	0.0	0.0	-0.1	0.3	0.1
Japan	-0.1	-0.1	1.1	0.2	-0.1	0.1	0.7	0.0	0.0	-0.4	-0.7	-0.3	-0.3	-1.5	-1.1	-0.2	-0.1	-0.1
Korea	-0.1	-0.1	0.1	0.2	-0.1	-0.2	-1.2	0.2	0.5	0.0	0.1	-0.1	-0.1	0.1	0.0	0.0	0.0	-0.1
Taiwan	0.1	0.0	2.3	0.4	0.1	-1.5	0.8	0.2	0.2	1.9	1.3	0.5	1.3	0.1	0.2	0.4	0.3	-0.1
Cambodia	0.1	0.1	1.4	0.2	0.0	0.5	0.4	0.3	0.3	0.0	0.1	0.1	0.2	0.0	0.0	0.3	0.1	0.0
Indonesia	-1.9	-2.0	-10.3	0.1	0.4	0.5	0.3	-0.5	-0.5	2.8	-2.2	-2.2	-1.3	0.0	0.1	-1.1	-0.7	-0.1
Malaysia	-0.3	-0.3	3.4	1.0	0.0	0.1	0.1	-0.1	-0.3	0.4	0.7	0.0	0.8	0.5	0.1	0.3	0.3	0.0
Philippines	-0.5	-0.5	2.5	-0.1	-0.4	0.2	0.0	-1.0	-1.0	-3.4	-0.4	-0.1	0.3	-0.3	-0.2	-0.2	0.1	-0.1
Thailand	0.2	0.2	1.0	0.4	0.1	-0.7	0.3	-0.1	-0.1	1.5	0.5	0.1	0.1	0.7	0.5	0.2	0.2	0.1
Vietnam	0.2	0.2	1.3	0.1	-0.1	-0.6	-0.1	0.0	0.0	0.1	1.1	-0.2	0.0	0.1	-0.1	0.0	0.3	0.1
Bangladesh	0.0	0.0	3.2	0.1	0.0	0.1	0.4	-0.1	-0.1	1.3	0.3	0.0	0.0	0.1	0.0	0.0	0.1	-0.1
India	-0.1	0.0	-1.7	-0.7	-0.1	-0.5	-0.4	-0.8	-1.0	-1.3	-1.2	-0.6	-0.3	-1.2	-0.7	-0.1	-0.1	-1.1
Nepal	-0.2	-0.4	0.9	0.5	-0.3	-0.3	-0.6	0.4	0.2	-0.4	0.6	0.7	0.6	0.5	0.3	0.6	-0.2	-0.4
Pakistan	0.2	0.5	0.0	0.1	0.0	0.1	0.1	0.0	0.1	-0.1	0.7	0.1	0.3	0.1	0.0	0.0	0.0	0.0
SriLanka	0.0	-0.1	1.8	1.0	-0.2	0.1	0.0	0.2	0.2	0.5	0.6	0.0	0.1	0.1	0.0	0.1	0.2	0.0
Rest America	0.2	0.0	0.5	0.0	0.3	0.1	1.0	0.0	0.0	-0.1	0.9	0.4	0.2	0.0	-0.1	0.0	0.0	0.0
USA	-0.1	0.3	0.8	-0.6	-0.5	-0.6	-0.3	0.0	0.0	-0.3	0.9	-1.3	-1.1	-0.7	-0.7	-0.8	-0.7	-0.1
Brazil	-0.3	-0.1	-17.3	-0.5	0.0	-0.7	-2.3	0.3	0.4	0.2	-2.6	-0.3	-0.3	0.9	0.3	-0.2	-0.1	-0.2
Uruguay	-0.7	-1.1	8.2	0.5	0.0	-0.3	1.6	-0.1	-0.1	1.3	0.7	-0.1	-0.3	-0.2	0.1	-0.4	-0.4	-0.1
EU 25	-0.9	-0.3	-0.9	-0.5	-0.7	-0.2	-0.2	-0.1	-0.1	-0.8	-0.5	-0.3	-0.3	-0.4	-0.5	-0.4	-0.3	-0.1
Rest World	-0.3	-0.7	0.8	0.1	0.1	0.1	0.3	-0.3	-0.3	0.2	0.4	-0.4	-0.2	-0.1	-0.2	-0.1	-0.1	0.0
Egypt	0.0	0.0	0.4	0.1	0.2	0.1	0.3	0.0	-0.1	0.2	2.8	0.0	0.3	0.1	0.0	0.0	0.1	0.0
Rest Africa	0.0	0.0	0.2	0.0	0.1	0.1	0.6	0.1	0.1	1.6	2.0	0.2	0.2	0.4	0.1	0.0	0.0	0.0
Cote d' Ivoire	0.1	-0.4	2.2	0.1	-0.1	-0.2	0.0	-0.4	-0.6	0.3	1.1	0.1	0.1	0.2	0.2	-0.5	-0.8	-0.7
Nigeria	0.0	0.4	2.2	0.0	0.0	0.4	0.1	0.0	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.2	1.2	0.1
Kenya	-0.1	-0.4	2.0	0.1	0.2	-0.3	0.1	0.0	0.0	1.1	1.2	0.2	0.1	0.1	1.3	0.2	0.2	0.1
Mozambique	0.0	0.1	1.9	0.0	0.1	0.4	1.4	0.5	0.7	2.1	0.8	0.0	0.3	0.6	0.1	-0.1	0.1	-0.2
South Africa	0.0	0.1	0.3	0.2	0.4	0.1	0.1	0.0	0.1	0.4	0.9	-0.1	-0.1	-0.2	-0.2	0.0	0.1	0.0

Table 4. (Continued)

	Scenario 1D																	
	Paddy rice	Processed rice	Wheat	Cereal grains	Veg, fruit, nuts	Plant-based fibers	Crops	Cattle etc	Meat: cattle etc	Meat products	Animal products	Raw milk	Dairy	Veg oils & fats	Oil seeds	Sugar cane	Sugar	Food products
Oceania	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	-0.1	0.1	0.0	0.1	0.1	0.0
China	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest E Asia	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	-0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0
Brunei	0.0	0.0	0.9	0.2	0.1	0.2	-0.1	0.1	0.0	0.5	0.0	0.0	0.1	0.1	0.0	0.4	0.1	0.0
Laos	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0
Singapore	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.2	0.0
Rest S Asia	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.2	0.3	-0.1	0.1	-0.1	0.3	-1.3	-0.7	-0.3	-0.8	1.0
Rest SE Asia	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Japan	0.0	0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.4	-0.1	-0.1	-0.2	-0.1	0.0	0.0	0.0
Korea	0.0	0.0	0.0	0.1	-0.1	0.0	-0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Taiwan	0.0	0.0	0.3	0.0	0.0	-0.1	0.1	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.1	0.1	-0.1
Cambodia	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Indonesia	-0.1	-0.1	0.1	0.0	0.0	-0.1	0.0	-0.1	-0.1	0.0	-0.2	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
Malaysia	-0.2	-0.2	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.0	0.0	0.0	0.0
Philippines	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	0.0	0.0	0.4	0.0	-0.1	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.0
Vietnam	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bangladesh	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
India	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0
Nepal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pakistan	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0
SriLanka	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest America	0.0	0.0	-0.6	-0.2	0.1	0.0	0.1	0.0	0.0	-0.2	0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0
USA	-0.1	0.0	0.2	0.0	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brazil	0.0	0.0	0.6	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.2	-0.1	-0.1	0.1	0.0	0.0	0.0	0.0
Uruguay	0.0	0.0	0.4	0.0	0.0	0.1	0.2	0.0	0.0	0.3	0.0	-0.1	-0.1	0.1	0.0	0.1	0.1	0.0
EU 25	0.1	0.0	-0.2	0.0	-0.2	0.0	-0.4	0.0	0.0	-0.6	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0
Rest World	0.0	0.0	0.2	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	0.0	0.0
Egypt	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest Africa	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Cote d' Ivoire	0.0	-0.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	-0.1
Nigeria	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Kenya	0.1	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Mozambique	0.0	0.0	0.4	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	-0.1
South Africa	-0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 4. (Continued)

Scenario 2																			
	Paddy rice	Processed rice	Wheat	Cereal grains	Veg, fruit, nuts	Plant-based fibers	Crops	Cattle etc	Meat: cattle etc	Meat products	Animal products	Raw milk	Dairy	Veg oils & fats	Oil seeds	Sugar cane	Sugar	Food products	
Oceania	-0.4	-0.5	2.3	1.2	2.6	-1.5	-0.5	-0.1	0.3	-0.6	-1.3	-0.6	-1.0	-0.3	0.9	-0.5	-0.6	-0.5	
China	0.0	0.0	-0.3	-0.2	0.0	0.1	-1.2	0.0	0.0	0.1	0.9	0.0	0.1	0.1	-0.1	0.1	0.1	-0.2	
Rest E Asia	-0.8	-1.0	-2.6	-0.7	4.2	-0.2	10.3	-0.4	-0.8	6.7	0.5	-0.4	-0.3	-0.5	-0.2	0.2	0.0	-0.6	
Brunei	-1.0	0.2	-18.0	-4.4	0.9	-1.5	-2.7	-0.3	0.1	-3.1	-5.2	0.0	-0.7	-0.4	-0.2	-1.2	0.3	-0.6	
Laos	0.2	0.1	-7.4	-0.1	-0.2	-9.5	-16.2	0.2	6.9	0.3	-0.9	0.1	0.9	0.8	0.4	6.5	-0.1	0.1	
Singapore	-0.6	-0.2	-1.8	-1.3	0.4	-2.6	-2.5	-0.8	-0.9	-0.8	0.6	-0.8	-0.2	-0.1	-0.6	-0.6	-0.5	-1.7	
Rest S Asia	0.2	0.3	-0.3	0.1	-1.5	2.6	-0.2	0.1	1.2	1.6	-0.4	0.1	0.6	1.1	-0.2	0.2	0.5	0.7	
Rest SE Asia	0.1	0.1	-1.6	-0.1	-0.1	-1.3	-4.6	0.2	0.2	0.0	-0.3	0.2	0.2	0.2	0.0	0.1	0.3	-0.3	
Japan	0.2	0.2	-70.4	-10.4	-1.3	-0.9	1.0	0.4	0.4	3.3	-1.5	0.6	1.5	1.7	1.0	0.3	0.2	1.0	
Korea	2.0	1.0	4.8	-40.8	-0.9	45.0	-36.2	2.2	4.7	1.7	6.8	5.2	5.4	5.1	5.2	3.5	3.8	13.5	
Taiwan	-0.3	0.3	-11.9	1.0	-2.5	0.1	1.4	0.5	0.2	9.6	4.1	0.5	1.5	0.5	0.5	0.7	0.7	0.0	
Cambodia	0.3	0.4	-7.5	-2.2	-0.4	-3.9	-9.3	0.6	0.6	0.0	0.9	0.3	0.5	0.4	-0.3	0.3	0.4	-0.1	
Indonesia	0.0	0.0	-3.7	-0.7	0.3	-0.7	-0.5	0.3	0.3	0.1	0.4	-0.5	0.2	0.0	0.0	0.1	0.2	-0.1	
Malaysia	0.0	0.1	0.1	0.3	0.4	-0.4	-0.3	0.6	1.5	0.3	-0.9	0.1	-1.0	0.2	0.1	0.3	0.3	-0.6	
Philippines	-0.2	0.0	-2.8	-0.5	0.5	0.9	-1.1	0.0	0.0	-0.6	0.2	0.0	0.0	0.1	0.0	0.0	0.1	-0.2	
Thailand	0.1	0.1	-1.1	-1.8	0.0	34.7	-12.9	0.4	0.4	-0.5	-0.8	-0.1	-0.1	0.3	0.4	0.7	0.8	0.5	
Vietnam	-0.3	-0.3	3.9	-2.0	-0.3	-2.3	-1.3	-0.1	-0.1	-0.1	2.5	-1.7	0.4	0.5	0.1	0.2	0.4	-0.9	
Bangladesh	0.1	0.1	-3.0	-0.1	-2.1	0.2	0.3	0.3	0.5	1.7	-2.4	0.1	0.0	0.2	-0.1	0.0	0.0	0.2	
India	0.0	0.0	-0.4	0.3	-1.3	0.3	0.4	0.3	0.3	0.6	-1.4	-0.2	1.1	0.5	0.2	0.2	0.2	0.5	
Nepal	0.6	2.6	-0.4	-0.9	-2.2	5.7	1.3	-0.4	0.7	3.9	-2.3	-1.5	-1.0	-0.3	-0.2	-1.3	1.6	5.4	
Pakistan	-0.2	-0.4	-1.0	-0.1	0.2	-0.4	0.1	0.0	-0.1	0.1	-1.4	0.0	0.0	0.1	0.1	0.0	0.0	0.0	
SriLanka	-0.1	-0.1	-16.5	-9.2	-5.7	1.0	0.1	-0.8	-0.8	1.2	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.2	
Rest America	-0.9	0.0	3.4	-1.0	2.4	-1.3	-0.3	-0.1	-0.1	-0.8	-1.9	-0.2	-0.2	-0.2	0.0	-0.1	-0.1	-0.2	
USA	1.7	-0.9	2.0	0.2	1.6	-0.9	-0.3	-0.1	-0.1	-0.7	0.3	-0.2	-0.2	-0.2	0.0	-0.1	-0.1	-0.3	
Brazil	0.0	-0.1	-8.2	3.6	0.1	-1.0	1.0	-0.2	-0.3	-0.6	-0.3	-0.1	-0.1	-0.7	-0.3	0.0	0.0	0.0	
Uruguay	-1.0	-0.4	-12.7	-1.0	2.4	-0.3	1.0	0.0	0.0	-2.4	-0.4	0.8	-0.3	-0.1	1.9	0.0	0.0	0.0	
EU 25	-1.3	-0.6	5.2	0.0	-1.7	-0.6	0.0	-0.1	-0.2	0.0	0.0	0.1	0.0	-0.1	0.1	-0.1	-0.1	-0.2	
Rest World	0.6	5.1	-6.0	-0.2	-0.7	1.3	0.9	0.7	1.0	0.1	-1.7	0.0	0.3	0.8	0.4	0.3	0.4	0.5	
Egypt	0.0	0.0	-0.9	0.0	0.1	-0.6	-0.1	0.1	0.2	0.0	-7.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	
Rest Africa	0.3	0.4	-12.1	0.0	-1.5	1.5	-0.5	0.3	0.4	0.8	-1.2	0.0	0.2	0.6	-0.1	0.3	0.8	0.5	
Cote d' Ivoire	0.1	0.6	-42.3	-0.1	-2.4	-0.1	-0.1	0.1	0.2	-0.1	2.0	0.1	0.0	0.6	0.4	0.0	0.1	0.1	
Nigeria	0.0	-0.3	-12.2	0.0	0.0	-0.2	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.3	-0.1	
Kenya	3.1	-1.4	96.8	-0.1	-0.7	-1.1	0.0	-0.3	-0.4	10.7	3.4	0.1	0.0	-0.1	0.3	0.0	0.0	0.1	
Mozambique	0.0	0.4	-19.6	0.2	-1.2	-0.3	-2.1	0.1	0.1	-0.4	2.6	0.1	0.2	0.5	-0.7	0.3	0.2	0.9	
South Africa	-2.9	-0.4	-11.8	0.3	4.6	-0.7	-1.0	-0.1	-0.2	-2.0	-9.1	-0.1	-0.1	-0.2	0.0	-0.1	-0.1	-0.3	

Table 5. Percent changes in output of agricultural commodities. *Source:* Authors' own work based on GTAP Database and model.

Scenario 1A																		
	Paddy rice	Processed rice	Wheat	Cereal grains	Veg, fruit, nuts	Plant-based fibers	Crops	Cattle etc	Meat: cattle etc	Meat products	Animal products	Raw milk	Dairy	Veg oils & fats	Oil seeds	Sugar cane	Sugar	Food products
Oceania	0.0	0.0	0.1	0.1	0.0	5.5	0.6	0.2	0.2	0.2	0.1	0.3	0.3	0.0	0.4	0.2	0.3	0.0
China	0.0	0.0	0.0	0.0	0.0	1.1	0.2	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Rest E Asia	0.2	0.3	0.1	0.1	0.0	3.6	0.4	0.1	0.1	0.4	0.0	0.2	0.5	0.1	0.0	0.0	0.0	0.1
Brunei	0.1	-0.1	0.8	0.2	0.2	14.7	0.6	0.0	0.3	0.0	-0.1	1.9	0.1	0.5	0.4	-0.2	0.3	0.2
Laos	0.0	0.0	0.4	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.0	-15.8	0.1	0.0	0.0	0.0	0.0	0.0
Singapore	0.1	0.1	-0.1	0.0	-0.3	4.8	0.2	0.0	0.2	0.2	0.0	0.1	1.4	0.3	0.1	-0.2	0.2	0.1
Rest S Asia	0.0	0.0	0.0	0.0	0.0	0.9	0.1	0.0	0.0	-0.1	0.0	0.1	0.0	-0.1	0.3	0.0	-0.1	0.0
Rest SE Asia	0.0	0.0	0.8	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.1	0.2	-0.1	0.2	0.1	0.1	0.0
Japan	0.0	0.1	-60.2	-44.1	0.1	5.7	-2.7	-4.9	-4.4	0.1	0.0	-1.5	-0.9	-1.1	-60.5	-5.7	-3.3	-0.2
Korea	0.0	0.0	0.0	0.1	0.0	0.9	0.7	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.3	0.6	0.0
Taiwan	0.0	0.0	0.4	0.1	0.0	7.1	0.9	0.1	0.1	0.0	0.0	0.3	0.2	0.0	0.0	0.1	0.1	0.0
Cambodia	0.3	0.4	0.0	0.0	-0.1	0.3	-0.1	0.2	0.7	-0.1	-0.1	0.2	0.0	-0.1	-0.2	0.0	0.0	0.0
Indonesia	0.0	0.0	-0.2	0.1	0.0	2.2	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Malaysia	-9.7	-10.4	0.1	0.2	0.5	1.7	0.9	-0.3	-0.3	0.5	-0.3	0.2	0.2	0.7	0.6	0.1	1.1	-0.5
Philippines	0.0	0.0	-0.9	0.0	0.0	3.3	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.1	0.1	0.0
Thailand	0.1	0.1	0.5	0.0	-0.1	3.6	0.2	0.0	0.0	0.2	0.1	0.1	0.1	-0.1	-0.2	0.8	0.8	0.0
Vietnam	0.1	0.1	0.2	0.0	-0.1	0.5	0.5	-0.1	0.0	0.0	0.0	0.0	0.1	-0.2	-0.2	0.0	0.0	0.0
Bangladesh	0.0	0.0	-3.1	-0.1	0.0	4.5	-0.5	-0.1	0.0	0.0	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	-0.1
India	0.0	0.0	0.0	0.0	0.0	1.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
Nepal	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Pakistan	0.2	0.5	0.0	0.0	0.0	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0
SriLanka	0.0	0.0	-3.2	-0.2	-0.2	4.0	-0.3	0.0	0.0	0.0	0.0	0.1	0.1	-0.2	-0.1	-0.6	-0.6	-0.1
Rest America	0.0	0.0	0.8	0.0	0.1	2.6	0.6	0.0	0.0	-0.3	-0.2	0.0	0.0	0.0	0.3	0.0	0.0	0.0
USA	0.2	0.1	1.2	0.3	0.2	10.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.4	0.2	0.2	0.0
Brazil	-0.1	0.0	-8.8	-0.6	0.0	-2.4	-0.8	0.0	0.0	0.4	0.2	0.0	0.0	0.1	0.2	-0.1	-0.1	-0.1
Uruguay	-0.1	-0.2	3.2	0.1	0.1	10.6	0.2	-0.1	-0.1	-0.1	-0.2	0.1	0.1	-0.1	0.0	0.0	0.0	0.0
EU 25	-0.6	-0.1	-0.9	-0.5	-0.7	7.2	-0.4	-0.4	-0.4	-0.4	-0.5	-0.4	-0.3	-0.2	-0.4	-0.1	-0.1	-0.1
Rest World	0.0	0.1	0.5	0.2	0.1	-3.7	0.2	0.1	0.0	0.2	0.1	-0.4	-0.4	-0.5	-1.3	0.1	0.0	0.0
Egypt	0.0	0.0	0.0	0.0	0.1	0.6	1.2	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Rest Africa	0.0	0.0	-2.0	0.0	0.0	4.2	0.8	0.0	0.0	0.1	0.0	0.0	0.1	-0.1	0.2	0.0	0.0	0.0
Cote d' Ivoire	0.1	-0.2	0.7	0.0	0.0	0.7	0.3	0.2	0.0	0.1	0.1	-0.3	-0.5	-0.2	-0.1	-0.3	-0.4	-0.6
Nigeria	0.0	0.2	-0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.9	0.0	0.0	0.0	0.1	0.0
Kenya	6.6	1.1	2.1	-0.7	-1.2	12.1	-3.8	-0.9	-0.2	-0.1	1.1	-0.7	-0.3	0.7	-0.9	-0.9	-0.9	-0.2
Mozambique	0.0	0.1	1.3	0.0	0.0	4.1	0.4	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.3	0.2	0.2	0.0
South Africa	0.4	0.0	0.8	0.2	0.5	5.7	1.2	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.0

Table 5. (Continued)

Scenario 1B																		
	Paddy rice	Processed rice	Wheat	Cereal grains	Veg, fruit, nuts	Plant-based fibers	Crops	Cattle etc	Meat: cattle etc	Meat products	Animal products	Raw milk	Dairy	Veg oils & fats	Oil seeds	Sugar cane	Sugar	Food products
Oceania	0.5	0.7	3.3	1.4	0.3	3.0	4.7	0.1	0.3	9.0	2.8	0.7	0.4	1.0	0.4	0.4	0.3	0.1
China	-0.2	-0.2	0.0	-0.2	-0.2	-1.7	-4.3	-0.2	-0.3	-0.5	-0.7	0.1	0.7	0.2	0.1	0.2	0.3	-0.2
Rest E Asia	0.9	1.5	1.8	0.7	0.4	3.0	4.8	0.9	0.3	6.8	3.3	0.8	1.2	2.4	0.0	0.7	1.6	0.4
Brunei	0.0	0.0	10.2	2.3	1.4	5.7	5.5	2.0	2.2	10.7	4.2	-0.1	1.4	2.0	0.0	3.2	2.2	0.5
Laos	0.0	0.0	5.0	0.6	0.0	0.4	0.4	0.1	1.6	0.9	1.8	-0.1	-0.3	0.0	0.0	6.3	0.2	0.0
Singapore	0.3	0.8	0.6	0.1	-0.8	4.1	1.9	-0.5	1.4	4.2	1.0	-0.1	0.8	1.2	1.4	-0.3	2.0	0.6
Rest S Asia	0.0	-0.1	0.1	0.0	0.1	0.4	1.3	0.1	0.0	1.0	0.5	0.1	0.2	0.0	0.2	0.1	0.0	0.0
Rest SE Asia	0.0	0.0	9.4	0.1	0.3	0.8	1.0	0.0	0.0	4.5	0.5	-0.1	-0.2	-0.2	-0.1	0.3	0.3	0.0
Japan	-0.5	-0.5	9.3	3.6	0.6	1.5	7.6	0.3	0.2	10.5	4.3	0.7	0.5	1.7	1.1	0.2	0.1	0.0
Korea	-0.1	0.0	0.7	0.2	-0.2	0.4	0.7	0.4	0.9	0.5	2.4	-0.4	-0.5	0.2	-0.2	-0.1	-0.1	-0.2
Taiwan	0.0	0.0	6.1	0.5	0.0	-1.3	1.4	0.4	0.3	12.6	3.9	0.3	0.6	0.0	0.1	0.6	0.5	-0.2
Cambodia	0.1	0.1	3.0	0.2	0.1	1.5	0.9	0.6	0.6	0.5	0.2	0.0	-0.2	0.1	0.0	0.7	0.2	0.1
Indonesia	-0.2	-0.3	-0.4	-0.2	-0.3	1.3	0.7	-0.5	-0.5	2.6	1.3	-0.3	-0.2	0.0	-0.2	-0.1	0.1	-0.1
Malaysia	-0.3	-0.3	6.2	-0.1	-0.2	1.0	0.8	-1.0	-1.9	2.2	0.8	-0.1	0.2	-0.1	0.0	0.3	0.3	0.0
Philippines	0.0	0.0	2.8	0.5	0.2	3.1	0.6	0.1	0.1	13.3	1.5	0.1	0.2	0.1	0.1	0.1	0.2	0.1
Thailand	0.1	0.1	3.7	0.3	0.2	-0.1	0.9	0.4	0.4	7.0	1.3	-0.1	-0.1	1.2	0.8	0.5	0.4	0.1
Vietnam	-0.1	-0.1	2.3	-0.1	-0.1	-0.1	0.1	-0.1	-0.1	1.0	3.2	-0.4	-0.1	-0.1	-0.1	0.0	0.3	0.1
Bangladesh	-0.1	-0.1	1.0	-0.1	0.1	0.5	0.9	0.4	0.8	5.4	0.3	-0.1	0.0	0.2	-0.1	0.0	0.2	0.1
India	0.1	0.1	0.2	0.1	0.0	0.6	0.6	0.1	0.2	1.9	0.7	0.5	1.4	0.0	0.0	-0.1	0.0	-0.1
Nepal	0.0	-0.2	0.1	0.3	0.1	0.3	0.0	0.3	0.2	-0.1	0.3	0.4	0.5	0.4	0.2	0.5	0.0	-0.2
Pakistan	0.2	0.6	0.1	0.1	0.1	1.1	0.4	0.1	0.3	-0.1	2.1	0.3	0.7	0.0	-0.1	0.0	0.0	0.0
SriLanka	-0.1	-0.2	-10.0	-0.7	-0.3	0.5	-0.1	-0.3	-0.3	9.7	1.2	-0.1	0.1	-0.1	-0.1	0.0	0.2	-0.2
Rest America	0.2	0.0	5.1	0.2	-0.1	1.3	3.1	0.0	0.0	2.4	1.9	-0.2	-0.2	-0.4	-0.3	0.0	0.0	0.0
USA	-0.9	1.0	-5.6	-0.1	1.7	-0.3	0.3	0.4	0.4	-4.1	-2.3	0.4	0.2	0.6	0.5	0.0	0.1	0.1
Brazil	-0.1	0.0	1.3	0.0	0.0	0.5	3.0	-0.3	-0.3	4.1	3.5	0.1	-0.1	0.2	0.1	-0.1	-0.1	-0.2
Uruguay	-0.8	-1.3	4.4	0.4	0.7	1.2	4.9	0.0	0.0	8.2	1.1	-0.1	-0.1	-0.4	-0.1	-0.8	-0.8	-0.1
EU 25	-2.9	-1.1	-7.2	-2.8	-4.0	-3.1	-15.3	-2.0	-1.4	-85.4	-3.9	-2.2	-2.0	-2.2	-2.5	-1.5	-1.1	-0.8
Rest World	0.1	-0.5	2.8	0.5	0.6	0.7	1.9	0.1	-0.3	3.4	-5.0	-1.8	-1.0	0.0	-0.3	-0.7	-0.5	0.0
Egypt	0.0	0.0	1.1	0.2	0.5	1.0	0.8	0.2	0.0	2.6	6.1	0.0	0.3	0.2	0.0	0.1	0.2	-0.1
Rest Africa	-0.2	-0.3	4.0	0.0	0.3	0.8	1.8	0.3	0.5	6.7	5.1	0.9	0.3	0.8	0.2	0.0	0.2	-0.1
Cote d' Ivoire	0.3	-1.8	5.0	0.3	0.0	-0.3	0.2	-1.5	-2.0	1.0	2.8	0.3	0.2	0.4	0.3	-1.7	-2.6	-2.3
Nigeria	0.0	0.7	5.6	0.0	0.0	1.5	0.2	0.0	0.7	0.4	0.7	0.0	0.0	0.0	0.0	0.5	3.0	0.2
Kenya	5.5	-1.2	6.0	0.3	0.6	-0.5	0.4	-0.2	-0.2	17.3	3.5	0.5	0.3	0.2	0.9	0.4	0.4	0.1
Mozambique	0.0	0.2	7.3	-0.1	0.2	1.9	3.1	1.9	2.8	8.2	1.8	0.0	0.1	1.0	-0.1	-0.3	0.0	-0.2
South Africa	2.7	0.4	6.0	0.6	3.2	1.4	1.3	0.2	0.5	9.2	7.2	0.1	0.1	0.7	0.6	0.1	0.4	0.3

Table 5. (Continued)

Scenario 1C																		
	Paddy rice	Processed rice	Wheat	Cereal grains	Veg, fruit, nuts	Plant-based fibers	Crops	Cattle etc	Meat: cattle etc	Meat products	Animal products	Raw milk	Dairy	Veg oils & fats	Oil seeds	Sugar cane	Sugar	Food products
Oceania	0.2	0.2	1.0	0.7	0.1	0.3	0.6	0.2	0.1	0.9	0.8	0.9	0.9	0.5	0.3	0.3	0.4	0.1
China	-0.1	-0.1	-0.2	-0.2	-0.1	-0.2	0.2	-0.3	-0.5	0.1	0.4	-0.1	0.0	-0.2	-0.2	-0.3	-0.3	-0.1
Rest E Asia	0.4	0.6	0.6	0.4	0.3	0.6	2.0	0.6	-0.3	1.5	0.7	0.3	1.0	1.6	0.1	0.3	0.6	0.2
Brunei	0.2	-0.1	6.7	2.3	0.4	1.9	2.0	1.6	0.6	2.9	1.3	0.0	1.4	0.9	0.0	0.9	1.3	0.3
Laos	0.0	0.0	2.4	0.4	0.0	0.3	0.4	0.0	-0.3	0.0	0.9	0.0	0.0	0.0	0.0	2.1	0.2	0.0
Singapore	3.1	4.3	0.1	0.5	-0.7	1.1	0.2	0.0	0.8	1.2	0.5	0.2	0.9	0.8	0.7	-0.2	1.1	0.3
Rest S Asia	0.0	-0.1	0.3	0.0	-0.1	0.0	0.2	0.0	-0.1	0.6	0.4	0.0	0.0	0.0	0.0	0.0	-0.1	0.0
Rest SE Asia	0.0	0.0	3.4	0.1	0.0	0.2	0.4	0.1	0.1	1.7	0.1	0.0	0.0	0.0	0.0	-0.1	0.3	0.1
Japan	-0.1	-0.1	1.1	0.2	-0.1	0.1	0.7	0.0	0.0	-0.4	-0.7	-0.3	-0.3	-1.5	-1.1	-0.2	-0.1	-0.1
Korea	-0.1	-0.1	0.1	0.2	-0.1	-0.2	-1.2	0.2	0.5	0.0	0.1	-0.1	-0.1	0.1	0.0	0.0	0.0	-0.1
Taiwan	0.1	0.0	2.3	0.4	0.1	-1.5	0.8	0.2	0.2	1.9	1.3	0.5	1.3	0.1	0.2	0.4	0.3	-0.1
Cambodia	0.1	0.1	1.4	0.2	0.0	0.5	0.4	0.3	0.3	0.0	0.1	0.1	0.2	0.0	0.0	0.3	0.1	0.0
Indonesia	-1.9	-2.0	-10.3	0.1	0.4	0.5	0.3	-0.5	-0.5	2.8	-2.2	-2.2	-1.3	0.0	0.1	-1.1	-0.7	-0.1
Malaysia	-0.3	-0.3	3.4	1.0	0.0	0.1	0.1	-0.1	-0.3	0.4	0.7	0.0	0.8	0.5	0.1	0.3	0.3	0.0
Philippines	-0.5	-0.5	2.5	-0.1	-0.4	0.2	0.0	-1.0	-1.0	-3.4	-0.4	-0.1	0.3	-0.3	-0.2	-0.2	0.1	-0.1
Thailand	0.2	0.2	1.0	0.4	0.1	-0.7	0.3	-0.1	-0.1	1.5	0.5	0.1	0.1	0.7	0.5	0.2	0.2	0.1
Vietnam	0.2	0.2	1.3	0.1	-0.1	-0.6	-0.1	0.0	0.0	0.1	1.1	-0.2	0.0	0.1	-0.1	0.0	0.3	0.1
Bangladesh	0.0	0.0	3.2	0.1	0.0	0.1	0.4	-0.1	-0.1	1.3	0.3	0.0	0.0	0.1	0.0	0.0	0.1	-0.1
India	-0.1	0.0	-1.7	-0.7	-0.1	-0.5	-0.4	-0.8	-1.0	-1.3	-1.2	-0.6	-0.3	-1.2	-0.7	-0.1	-0.1	-1.1
Nepal	-0.2	-0.4	0.9	0.5	-0.3	-0.3	-0.6	0.4	0.2	-0.4	0.6	0.7	0.6	0.5	0.3	0.6	-0.2	-0.4
Pakistan	0.2	0.5	0.0	0.1	0.0	0.1	0.1	0.0	0.1	-0.1	0.7	0.1	0.3	0.1	0.0	0.0	0.0	0.0
SriLanka	0.0	-0.1	1.8	1.0	-0.2	0.1	0.0	0.2	0.2	0.5	0.6	0.0	0.1	0.1	0.0	0.1	0.2	0.0
Rest America	0.2	0.0	0.5	0.0	0.3	0.1	1.0	0.0	0.0	-0.1	0.9	0.4	0.2	0.0	-0.1	0.0	0.0	0.0
USA	-0.1	0.3	0.8	-0.6	-0.5	-0.6	-0.3	0.0	0.0	-0.3	0.9	-1.3	-1.1	-0.7	-0.7	-0.8	-0.7	-0.1
Brazil	-0.3	-0.1	-17.3	-0.5	0.0	-0.7	-2.3	0.3	0.4	0.2	-2.6	-0.3	-0.3	0.9	0.3	-0.2	-0.1	-0.2
Uruguay	-0.7	-1.1	8.2	0.5	0.0	-0.3	1.6	-0.1	-0.1	1.3	0.7	-0.1	-0.3	-0.2	0.1	-0.4	-0.4	-0.1
EU 25	-0.9	-0.3	-0.9	-0.5	-0.7	-0.2	-0.2	-0.1	-0.1	-0.8	-0.5	-0.3	-0.3	-0.4	-0.5	-0.4	-0.3	-0.1
Rest World	-0.3	-0.7	0.8	0.1	0.1	0.1	0.3	-0.3	-0.3	0.2	0.4	-0.4	-0.2	-0.1	-0.2	-0.1	-0.1	0.0
Egypt	0.0	0.0	0.4	0.1	0.2	0.1	0.3	0.0	-0.1	0.2	2.8	0.0	0.3	0.1	0.0	0.0	0.1	0.0
Rest Africa	0.0	0.0	0.2	0.0	0.1	0.1	0.6	0.1	0.1	1.6	2.0	0.2	0.2	0.4	0.1	0.0	0.0	0.0
Cote d' Ivoire	0.1	-0.4	2.2	0.1	-0.1	-0.2	0.0	-0.4	-0.6	0.3	1.1	0.1	0.1	0.2	0.2	-0.5	-0.8	-0.7
Nigeria	0.0	0.4	2.2	0.0	0.0	0.4	0.1	0.0	0.1	0.1	0.3	0.0	0.0	0.0	0.0	0.2	1.2	0.1
Kenya	-0.1	-0.4	2.0	0.1	0.2	-0.3	0.1	0.0	0.0	1.1	1.2	0.2	0.1	0.1	1.3	0.2	0.2	0.1
Mozambique	0.0	0.1	1.9	0.0	0.1	0.4	1.4	0.5	0.7	2.1	0.8	0.0	0.3	0.6	0.1	-0.1	0.1	-0.2
South Africa	0.0	0.1	0.3	0.2	0.4	0.1	0.1	0.0	0.1	0.4	0.9	-0.1	-0.1	-0.2	-0.2	0.0	0.1	0.0

Table 5. (Continued)

	Scenario 1D																	
	Paddy rice	Processed rice	Wheat	Cereal grains	Veg, fruit, nuts	Plant-based fibers	Crops	Cattle etc	Meat: cattle etc	Meat products	Animal products	Raw milk	Dairy	Veg oils & fats	Oil seeds	Sugar cane	Sugar	Food products
Oceania	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	-0.1	0.1	0.0	0.1	0.1	0.0
China	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest E Asia	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	-0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0
Brunei	0.0	0.0	0.9	0.2	0.1	0.2	-0.1	0.1	0.0	0.5	0.0	0.0	0.1	0.1	0.0	0.4	0.1	0.0
Laos	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0
Singapore	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.0	0.2	0.0
Rest S Asia	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.2	0.3	-0.1	0.1	-0.1	0.3	-1.3	-0.7	-0.3	-0.8	1.0
Rest SE Asia	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Japan	0.0	0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.4	-0.1	-0.1	-0.2	-0.1	0.0	0.0	0.0
Korea	0.0	0.0	0.0	0.1	-0.1	0.0	-0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Taiwan	0.0	0.0	0.3	0.0	0.0	-0.1	0.1	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.1	0.1	-0.1
Cambodia	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Indonesia	-0.1	-0.1	0.1	0.0	0.0	-0.1	0.0	-0.1	-0.1	0.0	-0.2	0.0	-0.1	0.0	0.0	0.0	0.0	0.0
Malaysia	-0.2	-0.2	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.1	0.0	0.0	0.0	0.0
Philippines	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thailand	0.0	0.0	0.4	0.0	-0.1	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.0
Vietnam	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bangladesh	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
India	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0	0.0	0.0
Nepal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pakistan	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-0.1	-0.2	0.0	0.0	0.0	0.0	0.0
SriLanka	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest America	0.0	0.0	-0.6	-0.2	0.1	0.0	0.1	0.0	0.0	-0.2	0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0
USA	-0.1	0.0	0.2	0.0	-0.1	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brazil	0.0	0.0	0.6	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	-0.2	-0.1	-0.1	0.1	0.0	0.0	0.0	0.0
Uruguay	0.0	0.0	0.4	0.0	0.0	0.1	0.2	0.0	0.0	0.3	0.0	-0.1	-0.1	0.1	0.0	0.1	0.1	0.0
EU 25	0.1	0.0	-0.2	0.0	-0.2	0.0	-0.4	0.0	0.0	-0.6	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	0.0
Rest World	0.0	0.0	0.2	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	-0.1	0.0	0.0
Egypt	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest Africa	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Cote d' Ivoire	0.0	-0.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	-0.1
Nigeria	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Kenya	0.1	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Mozambique	0.0	0.0	0.4	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	-0.1
South Africa	-0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 5. (Continued)

	Scenario 2																	
	Paddy rice	Processed rice	Wheat	Cereal grains	Veg, fruit, nuts	Plant-based fibers	Crops	Cattle etc	Meat: cattle etc	Meat products	Animal products	Raw milk	Dairy	Veg oils & fats	Oil seeds	Sugar cane	Sugar	Food products
Oceania	-0.4	-0.5	2.3	1.2	2.6	-1.5	-0.5	-0.1	0.3	-0.6	-1.3	-0.6	-1.0	-0.3	0.9	-0.5	-0.6	-0.5
China	0.0	0.0	-0.3	-0.2	0.0	0.1	-1.2	0.0	0.0	0.1	0.9	0.0	0.1	0.1	-0.1	0.1	0.1	-0.2
Rest E Asia	-0.8	-1.0	-2.6	-0.7	4.2	-0.2	10.3	-0.4	-0.8	6.7	0.5	-0.4	-0.3	-0.5	-0.2	0.2	0.0	-0.6
Brunei	-1.0	0.2	-18.0	-4.4	0.9	-1.5	-2.7	-0.3	0.1	-3.1	-5.2	0.0	-0.7	-0.4	-0.2	-1.2	0.3	-0.6
Laos	0.2	0.1	-7.4	-0.1	-0.2	-9.5	-16.2	0.2	6.9	0.3	-0.9	0.1	0.9	0.8	0.4	6.5	-0.1	0.1
Singapore	-0.6	-0.2	-1.8	-1.3	0.4	-2.6	-2.5	-0.8	-0.9	-0.8	0.6	-0.8	-0.2	-0.1	-0.6	-0.6	-0.5	-1.7
Rest S Asia	0.2	0.3	-0.3	0.1	-1.5	2.6	-0.2	0.1	1.2	1.6	-0.4	0.1	0.6	1.1	-0.2	0.2	0.5	0.7
Rest SE Asia	0.1	0.1	-1.6	-0.1	-0.1	-1.3	-4.6	0.2	0.2	0.0	-0.3	0.2	0.2	0.2	0.0	0.1	0.3	-0.3
Japan	0.2	0.2	-70.4	-10.4	-1.3	-0.9	1.0	0.4	0.4	3.3	-1.5	0.6	1.5	1.7	1.0	0.3	0.2	1.0
Korea	2.0	1.0	4.8	-40.8	-0.9	45.0	-36.2	2.2	4.7	1.7	6.8	5.2	5.4	5.1	5.2	3.5	3.8	13.5
Taiwan	-0.3	0.3	-11.9	1.0	-2.5	0.1	1.4	0.5	0.2	9.6	4.1	0.5	1.5	0.5	0.5	0.7	0.7	0.0
Cambodia	0.3	0.4	-7.5	-2.2	-0.4	-3.9	-9.3	0.6	0.6	0.0	0.9	0.3	0.5	0.4	-0.3	0.3	0.4	-0.1
Indonesia	0.0	0.0	-3.7	-0.7	0.3	-0.7	-0.5	0.3	0.3	0.1	0.4	-0.5	0.2	0.0	0.0	0.1	0.2	-0.1
Malaysia	0.0	0.1	0.1	0.3	0.4	-0.4	-0.3	0.6	1.5	0.3	-0.9	0.1	-1.0	0.2	0.1	0.3	0.3	-0.6
Philippines	-0.2	0.0	-2.8	-0.5	0.5	0.9	-1.1	0.0	0.0	-0.6	0.2	0.0	0.0	0.1	0.0	0.0	0.1	-0.2
Thailand	0.1	0.1	-1.1	-1.8	0.0	34.7	-12.9	0.4	0.4	-0.5	-0.8	-0.1	-0.1	0.3	0.4	0.7	0.8	0.5
Vietnam	-0.3	-0.3	3.9	-2.0	-0.3	-2.3	-1.3	-0.1	-0.1	-0.1	2.5	-1.7	0.4	0.5	0.1	0.2	0.4	-0.9
Bangladesh	0.1	0.1	-3.0	-0.1	-2.1	0.2	0.3	0.3	0.5	1.7	-2.4	0.1	0.0	0.2	-0.1	0.0	0.0	0.2
India	0.0	0.0	-0.4	0.3	-1.3	0.3	0.4	0.3	0.3	0.6	-1.4	-0.2	1.1	0.5	0.2	0.2	0.2	0.5
Nepal	0.6	2.6	-0.4	-0.9	-2.2	5.7	1.3	-0.4	0.7	3.9	-2.3	-1.5	-1.0	-0.3	-0.2	-1.3	1.6	5.4
Pakistan	-0.2	-0.4	-1.0	-0.1	0.2	-0.4	0.1	0.0	-0.1	0.1	-1.4	0.0	0.0	0.1	0.1	0.0	0.0	0.0
SriLanka	-0.1	-0.1	-16.5	-9.2	-5.7	1.0	0.1	-0.8	-0.8	1.2	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Rest America	-0.9	0.0	3.4	-1.0	2.4	-1.3	-0.3	-0.1	-0.1	-0.8	-1.9	-0.2	-0.2	-0.2	0.0	-0.1	-0.1	-0.2
USA	1.7	-0.9	2.0	0.2	1.6	-0.9	-0.3	-0.1	-0.1	-0.7	0.3	-0.2	-0.2	-0.2	0.0	-0.1	-0.1	-0.3
Brazil	0.0	-0.1	-8.2	3.6	0.1	-1.0	1.0	-0.2	-0.3	-0.6	-0.3	-0.1	-0.1	-0.7	-0.3	0.0	0.0	0.0
Uruguay	-1.0	-0.4	-12.7	-1.0	2.4	-0.3	1.0	0.0	0.0	-2.4	-0.4	0.8	-0.3	-0.1	1.9	0.0	0.0	0.0
EU 25	-1.3	-0.6	5.2	0.0	-1.7	-0.6	0.0	-0.1	-0.2	0.0	0.0	0.1	0.0	-0.1	0.1	-0.1	-0.1	-0.2
Rest World	0.6	5.1	-6.0	-0.2	-0.7	1.3	0.9	0.7	1.0	0.1	-1.7	0.0	0.3	0.8	0.4	0.3	0.4	0.5
Egypt	0.0	0.0	-0.9	0.0	0.1	-0.6	-0.1	0.1	0.2	0.0	-7.0	0.0	0.0	0.0	-0.1	0.0	0.0	0.0
Rest Africa	0.3	0.4	-12.1	0.0	-1.5	1.5	-0.5	0.3	0.4	0.8	-1.2	0.0	0.2	0.6	-0.1	0.3	0.8	0.5
Cote d' Ivoire	0.1	0.6	-42.3	-0.1	-2.4	-0.1	-0.1	0.1	0.2	-0.1	2.0	0.1	0.0	0.6	0.4	0.0	0.1	0.1
Nigeria	0.0	-0.3	-12.2	0.0	0.0	-0.2	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.3	-0.1
Kenya	3.1	-1.4	96.8	-0.1	-0.7	-1.1	0.0	-0.3	-0.4	10.7	3.4	0.1	0.0	-0.1	0.3	0.0	0.0	0.1
Mozambique	0.0	0.4	-19.6	0.2	-1.2	-0.3	-2.1	0.1	0.1	-0.4	2.6	0.1	0.2	0.5	-0.7	0.3	0.2	0.9
South Africa	-2.9	-0.4	-11.8	0.3	4.6	-0.7	-1.0	-0.1	-0.2	-2.0	-9.1	-0.1	-0.1	-0.2	0.0	-0.1	-0.1	-0.3

Table 6. Percent changes in carbon dioxide emissions in agricultural sector. *Source:* Authors' own work based on GTAP Database and model.

Scenario 1A																		
	Paddy rice	Processed rice	Wheat	Cereal grains	Veg, fruit, nuts	Plant-based fibers	Crops	Cattle etc	Meat: cattle etc	Meat products	Animal products	Raw milk	Dairy	Veg oils & fats	Oil seeds	Sugar cane	Sugar	Food products
Oceania	0.3	0.2	0.2	0.2	0.2	-1.5	0.2	0.0	0.2	0.1	0.2	-0.7	0.1	0.2	0.2	0.0	0.2	0.2
China	-0.1	-0.1	-0.1	0.0	0.0	1.5	-0.3	0.0	0.0	-0.2	-0.1	-0.9	0.0	0.1	0.1	-0.6	0.0	0.0
Rest E Asia	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.0	0.2	0.1	0.2	-0.6	0.1	0.2	0.2	0.2	0.2	0.1
Brunei	0.4	0.5	0.5	0.5	0.5	3.2	0.5	0.5	0.6	0.5	0.5	0.6	0.4	0.5	0.6	0.4	0.6	0.6
Laos	-0.5	-0.5	-0.4	-0.4	-0.4	-3.8	-0.4	-0.4	-0.4	-0.4	-0.4	-8.0	-0.5	-0.4	-0.4	-0.4	-0.4	-0.4
Singapore	0.4	0.2	0.2	0.2	0.1	1.8	0.1	0.2	0.2	0.2	0.2	-0.2	-0.1	0.1	0.1	0.2	0.2	0.2
Rest S Asia	0.1	0.0	0.1	0.1	0.0	-3.0	0.0	-0.2	0.0	0.1	0.0	-1.0	0.0	0.0	-0.6	0.1	0.0	0.0
Rest SE Asia	-0.1	-0.1	0.0	-0.1	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.2	0.0	0.0	0.0	-1.1	-0.1	0.0
Japan	-8.2	-6.6	-51.9	-16.1	-6.4	-4.2	-6.0	-4.1	-6.4	-6.4	-6.4	2.3	-5.2	-5.9	-0.6	38.2	-3.2	-6.3
Korea	-0.1	0.0	0.1	0.1	0.1	0.4	0.0	-0.1	0.0	0.0	0.0	-0.6	0.0	0.1	0.1	0.7	0.1	0.1
Taiwan	0.2	0.2	0.1	0.1	0.2	0.5	0.2	0.1	0.2	0.1	0.2	-0.8	0.1	0.2	0.2	0.2	0.2	0.2
Cambodia	0.7	0.3	-0.1	0.1	0.1	-1.4	-0.1	0.2	-1.3	0.2	0.0	-0.1	0.0	0.0	0.1	0.2	0.0	0.0
Indonesia	0.2	0.0	0.0	0.0	0.1	0.4	0.0	0.1	0.0	0.0	0.0	-1.1	0.0	0.1	0.1	0.1	0.0	0.0
Malaysia	120.6	3.3	-0.4	-0.1	-0.3	-0.3	-0.7	-0.7	-0.3	-0.8	-0.7	-0.4	-0.5	-0.6	-0.7	-0.9	-0.5	-0.3
Philippines	0.0	0.1	-0.1	0.1	0.1	1.0	0.0	0.0	0.0	0.0	-0.2	-1.1	0.0	0.1	0.1	0.1	0.1	0.1
Thailand	0.4	0.0	0.3	0.2	0.2	0.7	0.1	0.2	0.1	0.0	0.1	-0.3	0.0	0.2	0.2	0.5	0.1	0.1
Vietnam	0.5	0.0	0.1	-0.1	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	-1.2	0.0	0.0	0.0	0.2	0.1	0.0
Bangladesh	0.0	0.0	1.1	-0.1	0.0	-0.2	0.9	0.1	-0.8	-0.3	0.0	-0.9	0.0	0.0	0.0	0.0	0.0	0.0
India	0.2	-0.3	-0.1	0.0	0.0	-0.5	-0.2	-0.3	-0.1	-0.1	0.0	-1.3	-0.4	0.0	-0.1	-0.2	0.0	0.0
Nepal	0.2	0.1	0.2	0.0	0.1	0.0	0.0	0.1	0.0	0.1	0.1	-1.0	0.2	0.1	0.0	0.2	-0.1	0.1
Pakistan	0.3	0.0	0.1	0.0	0.0	-0.9	-0.4	0.0	0.0	0.1	0.0	-1.2	-0.1	0.1	0.0	-0.6	0.0	0.0
SriLanka	-0.5	-0.1	-0.2	0.0	0.1	-0.2	0.1	-0.3	-0.1	-0.3	-0.2	-0.6	-0.1	0.0	0.2	0.6	-0.2	0.0
Rest America	0.2	0.1	0.1	0.1	0.1	-3.5	0.0	0.1	0.1	0.3	0.2	-1.0	0.0	0.1	0.1	-0.1	0.1	0.1
USA	0.1	-0.2	-0.2	-0.2	-0.2	-0.1	-0.2	-0.4	-0.3	-0.4	-0.4	-1.4	-0.6	-0.2	-0.2	-0.2	-0.2	-0.2
Brazil	0.6	-0.3	2.8	0.0	-0.4	-0.4	0.1	-0.3	-0.3	-0.7	-0.4	-1.5	-0.4	-0.3	-0.4	-0.1	-0.3	-0.2
Uruguay	0.0	0.1	0.8	0.3	0.3	0.1	0.2	0.3	0.4	0.3	0.4	-0.1	0.3	0.3	0.3	0.2	0.3	0.3
EU 25	1.0	0.0	0.1	0.0	0.0	1.0	0.1	0.2	0.1	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Rest World	-0.6	-0.1	-0.3	-0.2	-0.2	1.0	-0.3	-0.3	-0.2	-0.2	-0.3	1.6	0.0	-0.2	0.0	-0.8	-0.1	-0.2
Egypt	0.0	0.0	0.0	0.0	-0.1	-1.4	-0.4	0.0	0.0	0.0	0.0	-1.1	0.0	0.0	0.0	-0.7	0.0	0.1
Rest Africa	0.0	0.1	-0.7	0.0	0.0	-0.2	-0.1	0.0	0.0	0.0	0.0	-1.1	0.0	0.0	0.0	0.1	0.1	0.1
Cote d' Ivoire	0.4	-0.1	0.0	0.0	-0.1	-0.7	-0.1	0.1	-0.1	-0.1	-0.1	-0.5	-0.1	0.2	0.0	0.2	0.1	-0.1
Nigeria	-0.2	0.0	0.0	-0.1	0.0	-1.7	-0.5	0.0	-0.2	-0.3	-0.1	-0.6	0.3	0.0	-0.2	0.1	0.0	0.0
Kenya	0.5	0.6	0.4	1.1	1.4	0.8	-1.1	1.7	-0.9	-0.6	0.5	1.6	0.9	0.0	1.5	2.4	0.7	-0.1
Mozambique	-0.1	0.1	0.1	0.1	0.1	0.8	0.0	0.1	0.1	0.1	0.1	-0.7	0.1	0.1	0.1	0.1	0.1	0.1
South Africa	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.1	0.2	-0.1	0.1	-1.0	-0.2	0.2	0.1	0.2	0.2	0.2

Table 6. (Continued)

Scenario 1B																			
	Paddy rice	Processed rice	Wheat	Cereal grains	Veg, fruit, nuts	Plant-based fibers	Crops	Cattle etc	Meat: cattle etc	Meat products	Animal products	Raw milk	Dairy	Veg oils & fats	Oil seeds	Sugar cane	Sugar	Food products	
Oceania	0.7	0.5	0.7	0.3	0.6	0.7	0.4	-1.9	0.3	-0.4	0.5	-0.3	0.5	-0.2	0.5	-1.5	0.3	0.5	
China	3.4	0.6	1.4	0.5	0.0	3.5	-3.4	-4.9	0.0	-1.0	0.9	-1.9	-0.4	-2.0	-1.3	-3.3	-0.7	0.0	
Rest E Asia	0.7	0.8	0.3	0.6	0.7	1.2	1.0	0.5	0.7	0.7	0.6	0.3	0.7	0.2	0.7	-0.5	0.6	0.7	
Brunei	1.2	1.2	1.2	1.3	1.3	2.3	1.6	1.8	1.6	1.3	1.7	1.2	1.8	2.0	1.1	1.3	1.4	1.4	
Laos	0.1	0.1	-0.1	0.1	0.2	0.1	0.3	-0.5	0.1	0.0	0.5	0.3	0.3	0.2	0.2	3.0	0.1	0.3	
Singapore	2.0	0.6	0.3	0.4	0.2	-1.5	0.2	0.4	0.4	0.5	0.0	0.3	0.6	0.7	0.3	-0.1	-0.3	0.3	
Rest S Asia	0.6	0.2	0.2	-0.3	0.1	0.0	-1.0	-0.6	0.0	-0.7	-0.8	-1.6	0.1	0.0	0.0	-2.1	0.0	0.1	
Rest SE Asia	-0.7	-0.4	0.0	-0.1	-0.1	0.3	-3.6	-1.0	0.0	0.1	-2.0	-0.6	-0.3	-0.4	0.0	-0.6	0.0	0.0	
Japan	12.5	2.2	1.9	1.6	0.7	0.2	0.3	-2.8	0.9	5.6	0.2	0.3	1.1	0.7	0.7	-2.1	0.5	1.0	
Korea	0.9	0.0	-0.9	0.1	0.3	-0.1	0.4	-1.0	0.0	0.3	-0.1	-0.4	0.3	-0.3	0.2	-0.1	-0.1	0.1	
Taiwan	0.8	0.1	-1.3	0.1	0.2	0.5	0.7	0.0	0.2	0.3	1.1	0.0	0.5	-0.3	0.1	-1.7	0.0	0.3	
Cambodia	0.2	0.2	0.3	0.1	0.2	0.3	0.1	-0.5	0.2	-0.5	-2.1	-1.0	0.5	0.2	0.1	-0.2	0.2	0.1	
Indonesia	-0.2	0.4	-0.1	0.1	0.2	0.0	-0.1	-0.1	0.1	0.1	-0.4	0.0	0.1	-0.4	0.1	-1.4	-0.1	0.0	
Malaysia	2.0	0.0	0.2	-0.1	-0.1	0.1	-0.1	-0.2	0.1	-0.1	-0.3	0.4	-0.1	0.1	-0.2	-0.1	-0.2	-0.1	
Philippines	-0.8	0.4	0.9	0.4	0.4	0.4	0.2	-0.5	0.4	0.2	-0.2	0.2	0.0	0.2	-0.8	-2.2	0.2	0.3	
Thailand	0.7	0.3	0.6	0.2	0.3	0.4	0.1	-0.1	0.2	0.3	-0.4	0.5	0.2	-0.7	0.3	-0.5	0.1	0.3	
Vietnam	-1.5	0.4	0.6	0.1	-0.1	0.0	0.0	0.0	0.2	0.1	-0.2	0.2	0.1	0.2	0.1	-2.4	0.0	0.1	
Bangladesh	-1.9	0.0	-0.3	0.1	-0.3	-0.2	-0.4	-0.9	-0.2	0.0	-0.7	-0.6	-1.0	-1.6	0.0	-2.6	0.2	-0.2	
India	0.3	-0.3	-1.6	-0.2	0.0	0.0	-0.2	-3.0	-0.1	-1.1	-1.3	-2.1	-0.9	-0.5	-0.4	-2.9	-0.9	0.1	
Nepal	2.2	0.5	1.2	0.0	0.5	0.2	-0.1	0.5	-0.6	0.0	0.3	0.7	-0.3	0.9	0.4	-1.1	1.5	0.5	
Pakistan	-3.0	-0.1	-0.6	-0.2	-0.2	-0.1	0.0	-6.0	-0.1	-1.0	-0.2	-0.3	0.0	0.2	-0.7	-2.9	-0.4	0.0	
SriLanka	0.8	-0.1	-0.9	-0.4	-0.1	-0.4	0.2	-0.4	-0.5	-7.6	-0.3	-0.8	-0.7	-0.4	-0.5	-0.8	-0.5	-0.2	
Rest America	-0.8	0.2	-0.5	0.1	0.4	0.0	-0.2	-0.2	0.2	-2.0	0.0	0.6	0.4	0.7	0.2	-2.0	0.0	0.2	
USA	2.6	-0.2	1.1	-0.1	-0.7	-0.2	-0.1	-1.4	-0.5	-0.2	-0.6	-1.5	-0.6	-1.2	-0.7	-2.7	-1.1	-0.3	
Brazil	1.4	0.3	-0.3	0.1	0.1	0.1	0.4	0.3	0.4	0.2	-0.4	0.3	0.4	-0.4	0.3	-1.4	0.5	0.6	
Uruguay	0.7	0.2	-0.1	0.1	0.0	0.2	0.2	-1.3	0.1	-0.2	0.0	0.2	0.2	0.2	0.2	-0.5	0.4	0.3	
EU 25	-2.2	-6.0	-5.6	-5.8	-6.0	-6.0	-6.3	-5.8	-5.9	-36.1	-5.5	-4.8	-5.7	-5.9	-5.8	-2.5	-5.9	-5.9	
Rest World	-2.4	-0.2	-1.0	-0.2	-0.3	-0.1	-0.1	-3.7	-0.1	-1.9	2.3	2.7	0.4	-0.2	-0.4	1.9	0.0	-0.1	
Egypt	0.0	0.2	-0.1	-0.2	-1.0	0.0	-0.5	-6.9	0.1	-14.0	-0.3	0.0	0.2	-0.1	-0.1	-2.5	0.0	0.2	
Rest Africa	-0.1	0.3	1.9	0.1	0.1	0.5	0.0	-0.1	0.4	-1.7	-0.4	-1.0	0.1	-0.1	-0.4	-1.9	0.3	0.4	
Cote d' Ivoire	3.1	-0.7	0.9	-0.1	-0.6	0.3	0.3	0.4	0.6	-0.2	-1.2	0.5	-0.4	-0.2	-0.4	-0.7	0.1	-0.4	
Nigeria	-0.8	0.3	-1.4	-0.4	-0.4	-0.3	-0.7	-1.1	-0.2	-2.0	-3.1	0.2	-1.2	-1.6	-0.2	-1.3	1.2	0.0	
Kenya	-0.1	-0.2	0.1	0.4	0.3	0.4	0.3	-0.3	0.3	-0.3	-0.3	-0.2	0.2	0.3	0.1	-0.3	-0.1	0.7	
Mozambique	-0.4	0.4	0.1	0.4	0.2	0.9	0.3	-0.2	0.5	0.8	-0.2	0.3	0.3	0.5	0.4	-1.4	0.3	0.5	
South Africa	0.7	0.8	0.5	0.5	0.8	0.5	0.4	-0.3	0.5	0.9	0.9	0.3	0.6	-1.3	0.2	-2.1	-0.5	0.6	

Table 6. (Continued)

Scenario 1C																		
	Paddy rice	Processed rice	Wheat	Cereal grains	Veg, fruit, nuts	Plant-based fibers	Crops	Cattle etc	Meat: cattle etc	Meat products	Animal products	Raw milk	Dairy	Veg oils & fats	Oil seeds	Sugar cane	Sugar	Food products
Oceania	0.4	0.1	0.3	0.1	0.2	0.0	0.3	0.3	0.2	0.1	0.1	-0.2	0.3	-0.1	0.2	0.0	0.1	0.2
China	-0.3	0.4	0.3	0.4	0.0	0.7	0.3	0.0	0.2	0.2	-0.5	0.4	-0.1	-0.1	0.0	0.8	0.0	0.4
Rest E Asia	0.2	0.3	0.1	0.2	0.2	0.3	0.2	0.1	0.2	0.3	0.3	0.1	0.3	-0.1	0.3	0.0	0.2	0.2
Brunei	0.4	0.7	4.0	1.4	0.7	1.0	0.9	1.1	0.9	0.7	0.8	0.6	1.2	1.0	0.6	0.7	0.8	0.7
Laos	-0.2	0.0	0.0	0.1	0.1	0.1	0.2	-0.4	0.2	0.1	0.3	0.2	0.2	0.1	0.2	1.1	0.0	0.1
Singapore	2.5	0.4	0.3	0.3	0.2	0.0	0.2	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.3	0.3	0.1	0.3
Rest S Asia	0.3	0.1	-0.6	-0.1	0.2	0.0	0.1	-1.7	-0.6	0.0	-0.5	-1.5	-1.7	1.2	-0.3	-0.6	1.5	0.6
Rest SE Asia	-0.9	-0.3	0.0	-0.2	-0.1	0.1	0.0	-0.7	-0.2	0.0	0.0	-0.5	-0.5	-0.5	-0.2	0.4	-0.1	-0.1
Japan	0.7	0.2	-0.1	0.0	0.0	-0.1	-0.2	-0.4	0.0	-0.2	0.1	0.3	-0.1	0.0	0.2	0.8	0.0	0.1
Korea	2.6	0.6	0.2	0.1	0.4	0.2	-0.1	-0.4	0.0	0.1	0.2	-0.3	-0.2	-0.2	-0.1	0.4	-0.2	0.3
Taiwan	0.5	0.1	-0.4	0.0	0.0	0.4	0.4	-0.1	0.1	0.2	0.1	0.0	0.6	-0.5	-0.1	-0.5	0.0	0.2
Cambodia	-0.4	0.1	0.1	0.0	-0.1	0.1	0.1	-0.5	0.1	-0.1	-0.7	-0.2	-0.3	-0.3	0.0	-0.1	0.1	0.0
Indonesia	29.7	5.0	-1.4	-0.1	-0.7	-2.9	0.6	0.2	0.0	-0.1	5.1	1.5	0.6	-1.7	-0.3	7.6	0.3	-0.1
Malaysia	2.6	0.2	0.5	0.4	0.1	0.1	-0.2	-0.4	0.2	0.1	-0.1	0.1	0.0	-0.4	-0.2	0.1	0.0	0.1
Philippines	4.4	0.1	0.3	-0.1	0.0	-0.1	-0.2	2.7	0.4	-1.1	0.1	0.2	-0.7	-0.1	-0.1	0.1	-0.4	-0.1
Thailand	0.0	-0.2	0.0	-0.1	0.2	0.2	-0.1	0.2	0.0	0.1	-0.2	0.3	0.2	-0.4	-0.1	-0.1	0.0	0.1
Vietnam	0.9	0.0	0.3	-0.2	-0.1	-0.1	0.0	-0.2	0.0	0.0	0.1	0.1	0.0	-0.1	-0.1	-0.7	-0.2	0.0
Bangladesh	-0.2	0.1	-1.2	1.0	0.0	0.0	-0.2	-0.7	0.1	0.4	-0.9	-0.8	-0.5	-0.5	0.1	-0.9	0.2	0.0
India	2.5	0.4	13.6	0.7	-0.7	-0.4	0.4	5.3	0.1	1.8	5.8	2.0	0.0	3.2	0.6	-2.1	-0.8	1.0
Nepal	4.1	1.0	-1.5	0.1	1.5	0.7	0.0	1.8	-0.5	0.1	0.5	-0.9	-0.7	1.9	0.8	2.3	2.8	0.8
Pakistan	0.1	0.0	0.0	-0.2	0.1	0.0	0.0	-0.9	0.0	-0.8	-0.2	-0.4	-0.2	-0.7	-0.4	-1.1	-0.2	0.0
SriLanka	0.0	0.1	0.1	-0.1	0.2	0.0	-0.2	-0.3	0.1	0.1	-0.3	-0.8	-0.2	-0.3	-0.2	-0.2	-0.1	-0.1
Rest America	-0.7	0.0	0.4	0.2	0.0	0.4	-0.1	-0.1	0.2	0.3	0.1	-0.1	-0.5	-0.2	0.0	-0.1	-0.2	0.1
USA	1.3	0.0	0.2	0.0	0.0	-0.1	-0.1	-0.4	-0.1	-0.1	-0.2	1.2	1.0	0.2	0.2	2.9	0.7	-0.1
Brazil	4.3	-0.6	5.3	-0.2	-0.9	-0.4	0.7	-1.2	-0.7	-0.3	1.3	1.1	-0.4	-1.2	-0.1	0.7	-0.8	1.2
Uruguay	0.4	-0.2	0.7	0.0	0.4	0.1	0.2	-0.2	0.2	0.1	-0.1	-0.2	0.0	0.1	0.0	0.0	0.2	0.2
EU 25	4.2	-0.1	0.7	0.1	0.1	0.2	-0.2	-0.2	-0.1	-0.6	0.8	0.9	0.2	0.0	0.0	2.2	0.2	0.3
Rest World	2.7	-0.6	0.3	0.3	0.0	-0.1	0.0	1.4	-0.1	1.3	0.8	1.5	-0.4	-0.3	0.5	0.6	-0.1	0.0
Egypt	-0.7	0.1	0.0	-0.1	-0.2	0.1	-0.2	-0.9	0.1	-0.5	-0.1	0.0	0.3	0.0	0.0	-0.9	0.1	0.1
Rest Africa	-0.4	0.1	-1.6	0.3	-0.1	0.1	0.1	-0.4	0.1	-0.1	-0.2	0.1	-0.2	-0.2	-0.2	0.2	0.1	0.1
Cote d' Ivoire	0.2	-0.2	0.1	0.0	-0.1	0.3	0.1	-0.3	0.1	0.2	-0.4	0.0	-0.1	-0.1	-0.2	-0.3	0.1	-0.1
Nigeria	-0.8	0.1	-0.5	-0.4	-0.2	0.0	-0.3	-0.8	0.1	-0.3	-1.1	0.1	-0.6	-0.8	0.0	-0.4	0.5	0.0
Kenya	-0.2	-0.2	-0.1	-0.1	-0.1	0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.7	-0.2	0.0	0.0	-0.3	-0.2	0.1
Mozambique	-0.5	0.2	0.0	0.1	0.0	0.3	0.2	-0.5	0.2	0.2	-0.1	0.0	0.0	0.3	0.0	-0.5	0.1	0.2
South Africa	0.0	0.1	0.1	0.1	0.0	0.1	0.1	-0.1	0.1	0.0	-0.1	0.3	0.3	0.2	0.1	0.1	-0.2	-0.1

Table 6. (Continued)

Scenario 2																		
	Paddy rice	Processed rice	Wheat	Cereal grains	Veg, fruit, nuts	Plant-based fibers	Crops	Cattle etc	Meat: cattle etc	Meat products	Animal products	Raw milk	Dairy	Veg oils & fats	Oil seeds	Sugar cane	Sugar	Food products
Oceania	2.1	0.0	0.2	0.1	0.3	-0.2	0.3	0.3	0.0	0.2	0.1	0.0	0.0	0.0	0.8	1.2	0.0	0.1
China	2.8	-0.1	0.8	0.9	1.4	-0.4	-1.7	0.2	0.0	-0.6	6.6	1.4	-0.1	-0.3	3.3	1.0	-0.1	0.5
Rest E Asia	1.8	0.3	3.1	0.4	0.6	0.2	-0.2	0.4	0.0	0.1	0.4	0.4	0.3	0.4	0.3	2.1	0.3	0.4
Brunei	0.0	-1.0	-1.0	-1.2	-1.1	-1.4	-1.2	-1.1	-1.1	-1.2	-0.5	-1.0	-1.3	-1.2	-0.9	-1.0	-1.0	-1.1
Laos	7.3	-1.0	0.6	-0.3	3.1	2.5	-1.6	-1.5	0.2	-0.3	0.4	-0.2	-0.6	-0.8	0.2	2.5	-0.3	-0.4
Singapore	1.2	-0.5	-0.4	-0.4	-0.8	0.7	-0.5	-0.3	-0.4	-0.6	-1.3	-0.3	-0.4	-0.4	-0.4	0.3	-0.3	-0.4
Rest S Asia	2.8	-0.2	1.5	0.7	5.1	0.3	11.9	13.8	0.8	6.6	8.6	10.5	0.9	-0.2	3.0	-0.3	-0.3	0.1
Rest SE Asia	1.8	0.3	0.7	0.7	8.1	0.2	-1.0	2.4	0.4	0.6	0.0	1.3	-0.2	0.5	3.4	0.6	0.5	0.7
Japan	25.2	-1.9	-9.4	-3.3	-0.5	-1.0	-1.9	-2.0	-1.8	-1.8	-1.4	2.6	-1.8	-2.1	-0.5	-1.9	-2.0	-2.1
Korea	6.9	1.5	3.5	1.5	13.1	-10.2	-15.7	2.3	1.0	1.2	3.6	0.3	-2.7	-1.5	0.6	-4.5	-1.1	-11.3
Taiwan	-2.3	-0.1	4.4	0.4	5.9	0.7	1.1	0.1	0.7	0.7	-3.0	0.9	1.3	0.0	1.1	0.5	0.5	0.8
Cambodia	0.0	-0.9	0.5	-0.8	3.9	-1.5	0.8	-0.8	-0.1	-0.3	8.0	-0.4	-0.4	-0.7	3.2	-0.2	-0.2	-0.1
Indonesia	5.5	-0.2	-0.3	1.1	0.8	-0.1	0.2	-0.1	-0.1	-0.1	2.8	0.1	-0.3	-0.1	1.3	0.5	-0.2	0.2
Malaysia	15.1	0.0	0.9	0.3	0.0	1.0	-0.3	-0.4	-0.1	0.1	1.3	-0.3	0.2	-0.1	0.2	0.1	-0.1	0.2
Philippines	46.3	-0.1	-0.5	1.2	1.0	-0.1	1.9	-0.1	0.0	-0.4	0.5	0.0	0.0	-0.1	1.7	0.6	-0.2	0.2
Thailand	12.1	0.7	-0.3	3.8	3.2	-9.1	12.9	1.0	0.6	0.7	4.3	0.4	0.5	0.4	1.6	0.7	0.1	0.5
Vietnam	0.5	0.6	1.2	3.9	-2.1	0.1	0.0	0.5	0.2	0.0	-3.6	0.8	0.2	-0.5	0.9	0.2	-0.2	0.1
Bangladesh	-0.7	-0.1	1.3	0.1	4.9	0.0	-0.2	-0.2	-0.1	0.0	9.9	-0.3	-0.2	-0.6	0.3	-0.7	0.0	0.0
India	23.8	0.0	38.7	0.9	11.1	0.0	17.5	9.3	-0.1	1.2	38.3	13.2	-0.7	-1.4	3.3	-1.0	-0.6	-0.3
Nepal	1.9	-2.5	-0.2	1.2	3.5	-3.3	1.1	-10.2	5.3	1.1	0.6	1.1	5.6	-8.2	0.4	-12.6	-8.6	-4.7
Pakistan	11.0	-0.2	12.3	0.4	2.1	0.0	0.0	0.9	-0.1	0.8	3.5	0.7	0.0	-0.3	1.6	0.6	-0.2	0.0
SriLanka	24.7	-0.3	-2.8	-0.2	7.3	-0.8	13.9	0.0	-1.0	0.1	12.4	1.0	-0.6	-0.2	2.1	-0.1	-0.6	-0.7
Rest America	7.3	-0.1	3.5	0.7	0.6	-0.1	0.5	0.4	0.0	1.1	2.8	0.2	0.0	0.0	0.6	1.3	0.0	-0.1
USA	3.3	0.1	0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.0	-0.2	0.0	0.0	0.0	0.2	1.5	0.2	0.2
Brazil	-0.1	-0.1	3.1	0.1	1.1	-0.1	0.1	0.2	-0.2	-0.4	6.5	-0.1	-0.2	0.0	0.8	0.9	-0.1	-0.1
Uruguay	-0.7	-0.3	-2.9	-0.3	0.8	-0.3	-0.2	1.0	-0.4	0.0	-0.2	-0.3	-0.3	-0.3	0.5	0.1	-0.4	-0.3
EU 25	4.4	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	0.0	0.0	0.0	0.0	0.2	0.8	0.0	0.0
Rest World	-0.1	1.2	10.8	1.7	2.0	0.2	0.7	0.5	0.2	0.2	4.0	1.5	0.0	-0.1	2.3	-0.3	-0.1	0.0
Egypt	1.4	0.0	-0.1	-0.3	1.1	-0.2	-0.3	-0.3	-0.2	0.1	-0.1	-0.3	-0.3	-0.3	-0.1	0.5	-0.2	-0.1
Rest Africa	0.9	0.0	-5.0	0.5	2.8	0.1	3.6	0.4	-0.1	1.4	10.5	0.2	-0.2	-0.4	3.1	0.0	-0.2	-0.4
Cote d' Ivoire	-0.2	-0.8	-3.0	-0.5	6.2	-1.0	0.7	-1.3	-1.2	4.2	17.6	0.5	-1.2	-3.1	2.9	-0.7	-1.2	-1.1
Nigeria	5.4	-0.3	3.3	2.0	11.8	-0.2	7.4	-0.3	-0.4	4.8	15.4	1.8	-0.3	-0.3	2.3	0.1	-0.3	-0.1
Kenya	4.2	4.2	3.2	7.0	10.9	5.0	5.5	5.9	4.7	3.8	2.0	6.7	5.8	5.5	2.5	6.3	3.6	4.6
Mozambique	0.4	-0.3	0.2	0.0	5.1	-0.4	-0.8	-0.7	-0.4	-0.7	1.1	-0.6	-0.5	-0.3	1.3	-0.1	-0.4	-0.8
South Africa	-0.3	-0.7	-0.6	-0.2	-0.9	-0.6	0.4	-0.1	-0.5	-0.7	-1.2	-0.3	-0.4	-0.4	0.7	0.7	-0.6	-0.5

Table 7. Percent changes in total non-CO2 emissions in agricultural sector. *Source:* Authors' own work based on GTAP Database and model.

Scenario 1A																		
	Paddy rice	Processed rice	Wheat	Cereal grains	Veg, fruit, nuts	Plant-based fibers	Crops	Cattle etc	Meat: cattle etc	Meat products	Animal products	Raw milk	Dairy	Veg oils & fats	Oil seeds	Sugar cane	Sugar	Food products
Oceania	-0.1	0.7	0.3	0.6	-0.5	39.1	4.3	1.4	3.4	2.2	0.9	3.2	4.9	-0.4	2.4	1.3	4.9	0.2
China	0.0	0.1	0.4	0.1	0.1	16.2	3.3	0.1	1.1	0.3	0.2	0.3	0.7	0.0	0.5	0.4	0.5	0.1
Rest E Asia	2.2	4.1	1.7	1.0	0.1	40.0	5.4	1.0	2.1	5.9	0.1	1.5	7.8	1.0	-0.2	0.4	-0.3	0.8
Brunei	0.9	-1.2	10.9	2.5	2.9	241.7	9.0	0.1	3.6	-0.4	-0.4	12.6	2.1	7.1	5.8	-2.3	3.7	3.1
Laos	0.1	0.1	2.6	0.0	-0.1	4.6	4.2	0.0	-0.3	0.1	0.1	-85.9	1.0	0.2	-0.2	0.4	-0.3	0.0
Singapore	0.7	1.7	-0.9	0.5	-3.7	74.7	2.9	0.0	2.4	2.8	0.4	2.0	19.8	4.9	1.0	-2.4	3.2	1.9
Rest S Asia	0.2	0.1	-0.4	-0.2	-0.2	13.1	0.8	0.1	-0.4	-1.0	0.1	0.4	0.6	-1.7	3.6	0.2	-1.5	-0.5
Rest SE Asia	0.2	0.4	11.9	0.3	0.4	26.5	0.2	0.0	-0.3	-0.3	-0.1	0.7	2.5	-1.5	3.3	0.8	0.8	0.2
Japan	0.9	0.9	-924.0	-271.1	1.5	90.6	-37.1	-32.4	-58.1	1.1	-0.6	-12.0	-12.4	-15.6	-492.8	-73.7	-43.7	-2.8
Korea	0.0	0.0	-0.6	0.7	-0.1	13.8	10.7	0.0	-0.2	1.4	0.2	0.4	0.7	0.2	0.5	4.1	8.1	-0.4
Taiwan	0.0	0.1	5.0	2.0	-0.2	116.6	12.7	0.5	1.6	0.4	0.3	2.2	3.4	-0.1	-0.3	1.3	1.4	-0.1
Cambodia	2.5	5.5	0.0	0.0	-0.8	3.4	-1.2	1.5	10.1	-0.8	-0.2	1.8	-0.5	-1.6	-1.4	0.2	0.1	-0.6
Indonesia	-0.1	-0.3	-3.0	0.6	-0.3	32.1	5.5	0.2	0.1	0.1	0.0	0.3	1.6	1.2	0.5	0.3	0.3	0.2
Malaysia	-84.2	-122.4	1.5	1.8	5.8	18.7	11.5	-2.6	-3.9	7.2	-2.8	1.3	3.3	10.3	8.3	1.6	16.5	-7.4
Philippines	0.2	0.3	-12.7	0.6	-0.4	49.2	3.5	0.3	0.7	0.5	0.3	0.3	1.2	2.7	0.7	2.0	2.1	0.3
Thailand	1.3	1.9	6.7	0.6	-0.7	54.5	2.8	-0.1	-0.4	2.3	1.0	1.0	1.6	-1.0	-2.2	10.9	11.1	0.3
Vietnam	1.2	2.1	2.9	0.4	-1.9	7.5	6.9	-0.4	-0.6	-0.6	-0.1	0.2	1.7	-2.7	-2.1	-0.2	-0.2	0.2
Bangladesh	-0.3	-0.4	-41.5	-0.7	-0.2	70.6	-7.0	-0.4	-0.1	0.4	-0.3	-0.4	0.7	-0.1	-0.2	0.0	0.3	-1.0
India	0.2	0.4	0.2	0.3	-0.3	17.2	1.8	1.0	1.3	-0.3	0.1	0.0	0.2	-0.9	-0.2	0.0	0.0	-0.4
Nepal	0.1	-0.2	0.1	0.5	0.0	2.4	0.9	0.4	0.8	0.8	0.2	0.8	0.2	-0.1	0.3	0.8	0.3	-0.5
Pakistan	1.9	6.8	-0.3	-0.3	-0.1	0.8	5.1	0.0	0.2	-0.3	-0.2	0.1	0.0	-3.1	0.4	-0.1	-0.2	-0.2
SriLanka	0.5	0.7	-18.5	-2.3	-3.0	62.1	-4.5	-0.1	0.6	0.7	0.1	0.5	1.5	-3.1	-0.7	-7.7	-8.3	-0.9
Rest America	-0.4	-0.1	11.8	0.5	0.6	37.5	8.3	0.1	-0.2	-3.8	-1.6	0.2	0.4	-0.3	3.5	0.4	0.4	-0.2
USA	1.9	1.4	16.5	3.5	2.7	-112.2	-0.2	1.0	1.5	2.0	1.0	0.5	1.1	-0.6	5.6	2.4	2.7	0.4
Brazil	-0.8	-0.2	-96.2	-7.7	0.3	-28.4	-9.6	-0.2	-0.3	5.3	1.2	-0.1	0.1	1.2	3.1	-0.5	-0.9	-1.1
Uruguay	-0.7	-2.2	48.9	1.5	1.2	179.3	3.3	-0.6	-1.6	-1.2	-1.6	0.6	1.2	-1.1	0.5	0.2	0.2	-0.5
EU 25	-5.8	-2.0	-12.4	-6.7	-9.6	115.1	-6.2	-3.4	-5.2	-5.8	-3.7	-3.3	-4.0	-2.9	-5.7	-1.3	-1.9	-2.0
Rest World	0.2	1.0	6.9	2.5	1.8	-49.1	3.5	0.4	0.1	2.2	0.6	-3.5	-5.0	-7.6	-18.0	1.0	0.1	-0.1
Egypt	0.0	0.0	0.3	0.4	0.9	8.1	17.6	0.0	0.6	0.0	0.1	0.3	2.0	0.5	1.0	0.6	0.2	-0.2
Rest Africa	0.0	0.2	-23.4	-0.1	-0.1	54.1	7.4	0.0	0.1	1.4	0.3	0.3	2.0	-1.4	1.0	0.1	0.5	-0.7
Cote d' Ivoire	0.1	-3.1	4.0	0.3	-0.6	8.6	3.3	1.6	0.6	1.0	0.5	-1.8	-7.2	-3.3	-1.1	-3.2	-5.3	-8.3
Nigeria	-0.2	2.3	-0.8	-0.2	-0.2	1.9	0.4	-0.1	-0.3	-0.3	-0.1	1.2	13.4	0.2	0.3	-0.3	0.9	0.1
Kenya	72.5	15.7	21.9	-9.5	-16.7	201.9	-48.4	-6.1	-2.7	-1.3	6.9	-4.3	-3.9	10.7	-11.5	-11.7	-12.8	-2.7
Mozambique	-0.1	1.7	7.8	-0.3	0.0	27.8	2.7	0.0	0.2	1.0	-0.1	-0.1	-0.3	1.7	1.5	1.0	3.5	-0.4
South Africa	3.3	0.6	9.9	1.8	5.1	81.0	12.9	0.2	0.1	1.5	0.9	0.5	1.6	0.8	1.7	1.4	4.5	0.6

Table 7. (Continued)

Scenario 1B																		
	Paddy rice	Processed rice	Wheat	Cereal grains	Veg, fruit, nuts	Plant-based fibers	Crops	Cattle etc	Meat: cattle etc	Meat products	Animal products	Raw milk	Dairy	Veg oils & fats	Oil seeds	Sugar cane	Sugar	Food products
Oceania	2.0	9.5	22.4	8.6	1.2	44.7	33.6	-1.2	4.2	65.2	19.4	4.9	6.3	15.0	4.1	4.1	4.5	2.0
China	-2.4	-3.1	0.1	-3.6	-3.3	-23.2	-56.7	-3.6	-4.5	-6.8	-9.8	-3.2	9.9	3.6	-1.6	-2.2	4.4	-2.7
Rest E Asia	8.8	22.1	24.2	8.3	5.3	45.0	63.6	9.8	4.5	78.8	45.3	6.6	17.2	36.3	0.6	6.4	23.7	5.6
Brunei	-0.2	-0.6	157.5	31.7	20.8	90.0	79.0	27.5	32.3	165.8	65.4	0.7	20.4	29.7	1.0	22.6	32.2	7.8
Laos	0.0	0.3	32.1	5.1	0.2	5.7	2.5	1.0	23.0	9.5	19.4	-0.2	-3.6	0.6	0.6	43.9	2.8	0.2
Singapore	5.0	11.8	8.8	0.9	-11.8	62.9	28.5	-6.7	20.1	65.7	15.3	-0.1	12.0	17.5	12.2	-4.0	30.1	9.3
Rest S Asia	0.0	-0.9	1.6	0.0	0.8	5.7	18.3	1.2	-0.2	14.3	6.5	1.0	2.6	0.2	1.7	0.8	0.2	-0.4
Rest SE Asia	-0.5	-0.4	160.0	1.6	3.8	11.3	13.6	0.6	0.6	70.2	6.8	-0.3	-2.3	-2.2	-0.8	2.5	4.8	0.5
Japan	-10.9	-7.3	157.8	54.7	8.9	22.5	125.7	4.6	2.8	183.9	67.6	2.2	7.8	25.6	5.5	0.0	2.2	0.4
Korea	-0.5	-0.4	10.9	2.9	-2.8	5.6	10.4	6.0	12.9	7.6	35.4	-10.2	-6.6	3.6	-8.9	-7.7	-1.5	-3.2
Taiwan	0.1	0.1	92.9	7.1	0.4	-17.6	21.1	5.1	4.0	229.1	60.5	2.6	7.7	0.6	1.1	5.0	7.6	-3.0
Cambodia	0.9	2.0	18.5	1.1	0.9	21.9	6.0	5.8	8.3	5.9	1.6	0.2	-3.0	0.7	0.6	4.8	2.6	0.9
Indonesia	-2.2	-3.8	-6.0	-1.9	-4.0	19.7	10.8	-6.7	-6.8	37.7	18.6	-4.6	-2.6	0.4	-4.2	-3.6	0.9	-1.0
Malaysia	-3.0	-4.2	69.3	-1.8	-3.0	14.6	11.3	-10.5	-26.0	23.9	9.4	-0.1	2.6	-1.2	0.6	2.9	3.9	-0.4
Philippines	0.1	0.3	41.4	7.2	2.8	47.0	9.2	1.4	1.4	237.2	21.4	1.3	3.3	2.1	1.3	1.1	3.2	1.0
Thailand	0.7	1.1	56.1	5.0	2.6	-1.3	12.8	6.3	6.4	113.5	18.7	0.1	-1.4	17.5	7.4	4.2	5.1	1.7
Vietnam	-1.3	-1.6	32.9	-1.5	-1.3	-2.0	1.0	-1.3	-1.3	13.3	47.3	-1.7	-2.0	-0.8	-0.2	0.7	4.4	1.5
Bangladesh	-1.0	-1.1	14.1	-1.4	2.0	7.6	13.8	6.3	10.9	84.8	4.2	-0.3	0.0	2.9	-0.7	0.0	2.5	1.2
India	0.8	1.2	3.6	1.2	0.1	8.4	9.3	2.0	2.6	28.4	10.5	3.9	21.0	0.1	0.2	-0.2	0.2	-1.2
Nepal	-0.5	-2.2	1.0	3.8	0.9	5.0	0.2	5.0	2.6	-1.6	4.9	2.5	6.7	5.7	1.9	5.2	0.0	-2.9
Pakistan	2.3	8.8	0.8	0.9	2.0	15.4	6.4	1.2	4.3	-1.3	31.5	2.1	9.6	-0.4	-0.3	0.1	-0.1	0.2
SriLanka	-1.9	-2.3	-55.3	-7.9	-4.4	7.4	-1.6	-4.4	-4.8	167.4	16.5	0.6	1.9	-1.4	-0.3	1.1	2.3	-3.6
Rest America	1.9	0.1	78.2	2.8	-1.4	19.0	42.0	0.1	-0.7	34.9	25.9	-2.5	-3.1	-6.1	-3.9	0.4	0.3	-0.5
USA	-9.2	14.3	-70.3	-1.0	24.3	-4.5	4.1	6.0	5.9	-51.9	-29.0	2.8	2.7	8.2	3.9	0.1	1.2	1.2
Brazil	-1.3	-0.6	16.4	-0.3	0.1	6.8	39.0	-4.3	-4.6	54.5	46.3	0.6	-2.0	3.0	0.7	-0.7	-1.3	-2.4
Uruguay	-8.6	-18.1	68.7	6.4	10.2	18.1	76.8	0.4	-0.2	132.0	16.0	-0.4	-1.7	-5.9	0.0	-4.7	-11.2	-1.5
EU 25	-26.1	-15.4	-89.5	-38.2	-53.4	-42.1	-163.9	-28.1	-19.6	-300.0	-51.5	-32.7	-27.9	-29.4	-29.4	-20.6	-15.7	-10.4
Rest World	1.2	-7.5	41.0	7.1	8.6	10.6	28.1	1.8	-3.8	50.8	-64.9	-22.8	-13.5	0.0	-6.8	-10.7	-7.4	-0.4
Egypt	-0.7	-0.7	16.0	2.1	7.1	13.8	12.0	2.3	0.0	38.6	97.2	0.1	4.4	3.2	0.5	1.0	3.3	-1.7
Rest Africa	-2.5	-3.9	49.9	-0.7	0.6	11.3	11.8	1.7	7.6	89.6	47.1	6.2	3.6	11.6	2.4	0.3	2.8	-1.6
Cote d' Ivoire	0.6	-24.8	29.2	2.4	-1.0	-4.0	2.0	-17.4	-27.2	12.0	28.9	2.0	3.0	5.6	2.4	-10.3	-36.0	-31.7
Nigeria	-0.3	9.4	71.1	-0.3	-0.3	21.6	2.0	-0.1	10.1	5.9	9.0	0.0	-0.5	-0.3	0.0	3.1	45.3	3.3
Kenya	57.6	-16.9	61.5	4.1	7.9	-6.8	5.5	-2.4	-3.2	315.8	51.0	3.6	3.7	2.4	6.2	3.0	6.1	1.6
Mozambique	-1.1	3.1	49.0	-1.5	0.8	27.5	18.0	11.8	41.7	58.1	11.1	-0.1	2.0	14.8	-0.2	-1.5	0.5	-3.3
South Africa	26.1	5.2	83.1	6.8	37.7	21.2	14.4	2.1	7.3	138.2	83.4	1.0	1.0	10.0	5.7	1.5	5.3	3.7

Table 7. (Continued)

Scenario 1C																		
	Paddy rice	Processed rice	Wheat	Cereal grains	Veg, fruit, nuts	Plant-based fibers	Crops	Cattle etc	Meat: cattle etc	Meat products	Animal products	Raw milk	Dairy	Veg oils & fats	Oil seeds	Sugar cane	Sugar	Food products
Oceania	0.3	2.8	6.7	4.2	0.0	4.7	3.4	0.8	1.2	5.3	5.0	6.0	12.9	7.1	2.6	2.7	5.0	0.9
China	-0.8	-1.3	-3.2	-2.5	-1.4	-2.4	3.1	-3.9	-6.4	1.5	5.1	-0.6	0.6	-2.5	-1.9	-2.0	-3.7	-1.9
Rest E Asia	4.3	8.0	8.1	5.3	4.1	9.3	25.0	6.3	-4.9	16.1	9.6	2.8	14.6	24.3	0.6	2.7	9.0	2.5
Brunei	2.0	-1.2	97.5	30.7	6.1	28.0	26.3	20.6	8.8	38.9	18.5	0.5	20.9	13.5	0.5	6.2	19.3	3.9
Laos	0.1	0.0	14.9	3.3	-0.1	3.9	2.1	-0.1	-3.9	0.3	9.1	0.0	0.2	0.6	0.3	14.0	2.2	0.2
Singapore	47.3	66.7	1.6	6.9	-9.5	15.6	3.2	-0.3	10.9	17.1	6.9	2.4	12.9	11.6	5.9	-3.0	16.2	4.7
Rest S Asia	0.2	-0.7	4.0	0.1	-1.7	0.2	3.3	0.4	-1.4	8.7	5.2	0.4	0.1	-0.3	0.4	0.3	-1.9	-0.6
Rest SE Asia	0.4	0.6	51.6	1.7	0.4	3.4	6.0	1.7	1.9	25.3	1.3	0.0	-0.5	-0.5	-0.1	-0.7	3.9	0.8
Japan	-0.7	-1.0	15.6	3.2	-1.6	1.4	10.8	-0.2	-0.5	-5.1	-9.5	-2.3	-3.9	-20.5	-7.9	-1.8	-1.9	-1.8
Korea	-1.0	-1.5	1.2	2.3	-0.9	-2.8	-16.4	3.1	7.3	-0.7	0.9	-0.5	-0.8	1.5	-0.3	0.0	0.6	-2.1
Taiwan	0.4	-0.1	32.6	6.1	1.4	-20.8	11.9	3.6	2.5	29.0	19.7	3.7	16.8	1.9	2.0	3.0	4.8	-1.4
Cambodia	0.6	1.2	8.3	1.6	0.1	6.6	2.8	2.6	3.8	0.3	0.9	0.6	3.0	0.3	0.4	2.0	1.4	0.4
Indonesia	-18.1	-27.4	-117.2	1.9	5.1	7.9	3.6	-6.8	-6.7	41.4	-30.8	-15.4	-18.1	-0.3	0.1	-9.0	-10.2	-1.1
Malaysia	-3.2	-4.8	37.1	10.2	0.4	1.7	1.8	-1.6	-3.8	3.7	8.5	0.5	10.9	6.5	1.1	2.1	3.9	0.5
Philippines	-4.7	-6.7	36.6	-1.6	-5.2	3.4	0.0	-13.6	-14.2	-45.1	-6.0	-1.0	3.7	-3.7	-2.3	-1.7	1.8	-1.2
Thailand	1.5	2.2	15.1	5.4	0.8	-9.5	4.7	-1.7	-1.7	22.4	6.9	0.7	1.0	9.6	4.2	2.1	2.3	0.7
Vietnam	1.8	3.2	18.6	0.9	-1.2	-8.8	-2.0	-0.6	-0.6	0.9	15.2	-0.7	-0.1	1.2	0.0	0.2	4.2	0.8
Bangladesh	-0.5	-0.7	48.5	1.2	-0.1	1.3	6.4	-0.8	-0.9	18.5	3.9	-0.1	-0.4	0.9	-0.3	0.1	1.0	-1.5
India	-0.4	-0.4	-23.3	-10.2	-1.3	-6.6	-6.0	-11.7	-13.3	-17.9	-17.3	-4.5	-3.8	-17.2	-5.1	-1.4	-0.8	-15.2
Nepal	-2.0	-5.0	13.1	7.4	-4.1	-3.8	-8.9	6.2	3.3	-5.6	8.4	4.8	8.7	6.9	2.6	6.9	-2.5	-5.1
Pakistan	1.9	7.2	0.0	1.1	0.0	2.1	1.7	0.3	1.4	-1.0	10.8	0.9	4.6	1.4	0.0	0.0	0.1	0.3
SriLanka	-0.7	-0.9	10.8	9.9	-2.4	1.9	-0.2	2.5	2.7	6.5	8.4	0.5	1.9	1.1	0.4	1.0	2.5	-0.6
Rest America	2.0	0.0	7.1	0.2	3.8	1.0	12.8	-0.1	-0.6	-2.0	11.8	2.6	3.0	0.1	-0.4	0.2	0.3	-0.1
USA	-1.1	4.9	10.7	-7.8	-6.4	-8.8	-3.4	0.3	0.1	-3.7	12.0	-9.2	-15.4	-9.8	-5.9	-6.6	-9.4	-1.6
Brazil	-2.5	-0.8	-164.7	-5.6	0.2	-9.2	-27.9	4.0	6.5	3.4	-31.4	-2.0	-4.3	13.6	2.4	-1.3	-1.1	-2.9
Uruguay	-7.5	-16.0	136.4	7.6	0.4	-3.7	24.0	-1.1	-1.3	18.9	10.4	-0.6	-4.1	-2.5	0.8	-2.3	-5.6	-1.5
EU 25	-9.1	-4.1	-12.2	-7.0	-10.2	-3.1	-3.5	-1.4	-2.1	-10.7	-6.6	-2.3	-4.1	-6.3	-4.0	-3.1	-3.6	-1.8
Rest World	-2.9	-9.6	10.7	1.4	1.1	1.1	4.9	-4.3	-4.5	2.9	5.2	-2.6	-2.6	-2.1	-1.6	-1.0	-0.9	-0.4
Egypt	0.0	-0.1	6.0	2.1	2.2	2.0	4.0	-0.3	-1.6	2.2	41.6	0.1	4.5	1.1	0.3	0.3	1.4	-0.6
Rest Africa	-0.1	0.0	1.8	-0.3	0.0	0.8	4.3	0.2	1.8	19.3	17.7	1.2	2.2	6.3	1.1	-0.1	0.3	-0.5
Cote d' Ivoire	0.4	-5.9	12.9	1.2	-0.9	-3.2	-0.6	-5.1	-8.3	2.9	10.7	0.8	1.8	2.5	1.2	-3.3	-11.3	-9.8
Nigeria	-0.1	5.3	25.9	-0.1	-0.1	5.3	0.6	-0.1	0.9	1.9	3.3	0.0	-0.2	-0.1	0.0	1.1	17.5	1.6
Kenya	-1.0	-6.0	19.1	1.9	2.5	-4.5	1.9	0.3	0.2	15.0	16.7	1.4	1.6	1.2	8.8	1.2	2.4	0.8
Mozambique	-0.3	1.7	11.8	-0.5	0.1	6.4	8.4	2.8	10.1	13.9	4.5	0.3	3.7	8.5	0.4	-0.5	1.6	-2.4
South Africa	-0.1	0.8	3.7	2.1	4.4	1.4	0.9	0.0	1.9	5.4	9.8	-0.8	-1.2	-3.3	-1.7	-0.2	1.3	0.5

Table 7. (Continued)

Scenario 1D																		
	Paddy rice	Processed rice	Wheat	Cereal grains	Veg, fruit, nuts	Plant-based fibers	Crops	Cattle etc	Meat: cattle etc	Meat products	Animal products	Raw milk	Dairy	Veg oils & fats	Oil seeds	Sugar cane	Sugar	Food products
Oceania	-0.1	-0.2	1.1	0.1	-0.1	0.6	0.8	-0.1	0.1	0.4	-0.4	-0.2	-0.8	1.1	0.3	0.5	1.0	-0.2
China	0.0	0.0	0.6	0.1	0.1	-0.1	0.5	-0.2	-0.3	-0.6	0.2	0.1	0.1	0.0	0.0	-0.1	-0.2	0.1
Rest E Asia	-0.2	0.0	0.8	0.4	-0.3	0.6	1.4	0.7	-1.6	1.2	0.3	0.3	0.6	2.9	0.1	0.1	1.6	-0.2
Brunei	0.0	0.4	11.3	2.7	0.8	2.9	-1.1	1.7	-0.7	6.5	0.0	0.0	0.8	1.2	0.0	2.6	2.0	0.2
Laos	-0.1	0.0	2.1	0.2	-0.1	0.3	0.2	0.0	-0.7	0.1	0.3	0.0	0.1	0.1	0.0	4.0	0.1	0.0
Singapore	1.2	1.7	1.6	0.5	-0.5	2.1	0.3	0.4	0.0	1.9	0.1	0.5	0.8	1.5	0.9	0.5	2.7	-0.5
Rest S Asia	0.5	-0.4	2.4	0.7	-0.1	0.5	0.7	2.2	4.8	-1.7	1.3	-0.8	4.0	-18.8	-6.7	-2.4	-10.8	14.6
Rest SE Asia	0.0	0.0	1.7	0.0	0.0	1.0	0.6	0.0	0.0	1.0	0.1	0.0	0.0	0.0	0.0	0.5	0.6	-0.1
Japan	-0.1	-0.1	2.0	2.7	-0.3	1.1	1.4	0.1	0.1	-0.1	5.3	-0.8	-1.9	-2.7	-1.0	-0.4	-0.4	0.2
Korea	-0.1	-0.1	0.6	1.7	-1.7	-0.6	-3.3	0.0	0.0	0.8	0.8	0.1	0.3	0.7	0.1	0.1	0.2	-0.5
Taiwan	0.0	0.0	4.6	0.6	0.0	-1.5	0.8	0.0	-0.1	3.8	0.3	0.3	1.3	0.2	0.2	0.5	0.7	-0.9
Cambodia	0.0	0.0	1.6	0.1	-0.1	0.7	0.3	-0.2	-0.3	0.2	0.0	0.1	0.6	0.2	0.1	0.4	0.2	0.0
Indonesia	-0.5	-0.8	1.9	-0.2	0.6	-1.7	-0.2	-1.6	-1.7	-0.3	-2.5	-0.4	-0.8	0.0	0.0	-0.4	-0.6	-0.4
Malaysia	-1.6	-2.5	6.1	1.0	0.1	0.7	0.5	-0.2	-0.2	0.3	0.2	-0.1	-2.1	0.9	0.0	0.2	0.4	-0.7
Philippines	0.0	0.0	2.1	0.2	0.0	1.0	0.2	0.1	0.1	2.1	0.2	0.1	0.2	0.2	0.1	0.0	0.4	0.0
Thailand	0.2	0.3	5.9	0.4	-0.8	0.0	1.2	0.7	0.7	2.7	0.2	0.1	0.1	2.2	0.9	0.5	0.7	-0.4
Vietnam	0.0	0.0	2.3	0.2	-0.5	0.1	0.5	0.0	0.0	0.5	0.8	0.0	-0.1	0.5	0.0	0.0	0.6	-0.2
Bangladesh	0.0	0.0	1.9	0.0	0.0	0.6	0.6	0.2	0.3	1.2	0.1	0.0	-0.2	0.2	0.0	0.0	0.1	-0.2
India	0.0	0.0	0.3	0.2	0.0	0.6	0.3	-0.1	-0.1	0.7	0.1	0.0	-3.0	0.2	0.0	0.0	0.0	-0.1
Nepal	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Pakistan	0.0	0.0	-0.1	0.1	0.0	1.2	0.2	0.1	0.3	0.1	0.5	-0.5	-2.3	0.1	0.1	0.0	0.1	-0.5
SriLanka	0.0	-0.1	2.5	-0.1	0.0	0.6	0.0	0.0	0.0	1.8	0.2	0.0	0.1	0.1	0.1	0.1	0.4	-0.3
Rest America	0.3	-0.1	-8.1	-2.8	1.1	0.4	1.7	-0.1	-0.2	-3.2	1.0	-0.7	-1.0	-0.7	-0.5	-0.2	-0.2	-0.5
USA	-0.9	-0.2	2.2	0.5	-0.7	0.0	-0.8	0.1	0.1	-0.3	0.0	0.0	-0.6	0.1	0.1	-0.2	-0.2	0.1
Brazil	-0.2	-0.1	7.4	0.6	0.5	-0.4	-1.0	-0.1	-0.7	-0.5	-2.4	-0.6	-1.7	1.1	0.3	0.0	0.0	0.0
Uruguay	-0.4	-0.5	5.5	0.7	0.1	1.4	2.2	0.0	-0.1	4.5	0.2	-0.3	-1.3	0.7	0.1	0.5	1.1	-0.7
EU 25	0.7	-0.3	-3.5	-0.3	-2.5	-0.5	-5.3	-0.7	-0.5	-9.0	-0.9	-1.2	-2.1	-1.4	-0.9	-0.7	-0.9	-0.6
Rest World	-0.2	0.7	2.5	-0.1	0.7	-0.4	1.2	0.8	1.2	-0.1	0.2	0.3	2.1	-0.6	-0.3	-0.5	-0.7	0.2
Egypt	-0.1	-0.1	1.1	0.3	0.1	1.3	0.4	-0.1	-0.6	0.3	1.1	0.0	0.3	0.2	0.0	0.0	0.3	-0.2
Rest Africa	-0.2	-0.3	4.2	0.1	0.0	0.4	0.3	-0.1	-0.2	1.3	0.4	0.3	-0.2	1.0	0.2	0.0	0.3	-0.2
Cote d' Ivoire	0.0	-0.9	6.5	0.0	0.1	0.5	0.2	-0.4	-0.6	0.2	0.0	0.0	0.2	0.2	0.0	0.4	1.0	-0.9
Nigeria	0.0	-0.1	3.8	0.0	0.0	1.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.8	0.1
Kenya	0.8	-0.3	4.1	0.0	0.3	0.5	0.1	0.0	0.0	2.9	0.7	0.1	-0.2	0.2	0.7	0.0	0.2	0.0
Mozambique	-0.1	-0.5	2.5	-0.1	0.0	1.3	0.5	-0.2	-0.5	0.9	0.2	0.0	0.4	1.1	0.0	0.1	0.4	-0.8
South Africa	-1.4	0.2	3.4	0.1	-0.5	0.3	0.2	-0.1	0.0	-3.2	-2.3	-0.1	-0.3	0.3	0.1	0.0	0.3	0.1

Table 7. (Continued)

Scenario 2																		
	Paddy rice	Processed rice	Wheat	Cereal grains	Veg, fruit, nuts	Plant-based fibers	Crops	Cattle etc	Meat: cattle etc	Meat products	Animal products	Raw milk	Dairy	Veg oils & fats	Oil seeds	Sugar cane	Sugar	Food products
Oceania	-3.9	-7.6	15.4	8.0	19.8	-22.1	-4.1	-1.4	4.1	-4.6	-10.3	-3.9	-14.8	-4.6	9.0	-4.1	-8.6	-7.2
China	-0.3	-0.6	-4.4	-2.5	0.6	1.3	-16.8	0.0	-0.3	1.4	12.6	-0.3	1.1	0.9	-1.3	0.4	1.2	-2.7
Rest E Asia	-8.2	-14.7	-32.8	-9.4	53.1	-2.3	126.0	-4.3	-11.3	69.2	6.1	-2.8	-4.1	-6.7	-1.9	2.1	-0.6	-8.7
Brunei	-9.5	3.4	-234.0	-57.1	13.3	-21.4	-34.4	-4.2	1.5	-40.4	-73.9	0.1	-9.5	-6.3	-1.5	-7.6	4.6	-8.2
Laos	1.5	1.2	-44.7	-0.4	-1.4	-135.7	-98.2	2.6	98.6	3.4	-9.1	-0.2	12.6	11.8	1.9	41.5	-1.0	1.4
Singapore	-8.1	-3.5	-25.5	-18.2	5.7	-37.4	-36.2	-11.2	-13.6	-11.2	8.4	-8.1	-2.2	-1.6	-4.4	-9.2	-7.2	-24.1
Rest S Asia	2.4	4.4	-4.3	1.1	-21.7	36.7	-3.0	1.9	17.1	23.0	-5.4	0.0	8.0	16.4	-2.2	0.7	7.8	10.1
Rest SE Asia	1.1	1.8	-23.2	-1.7	-1.4	-18.8	-64.2	2.5	2.6	-0.4	-4.0	0.7	2.4	2.2	-0.6	0.0	4.3	-3.6
Japan	2.8	3.4	-1007.8	-149.4	-19.2	-13.0	14.5	5.5	5.9	47.6	-21.9	3.5	21.5	24.1	6.8	1.7	3.6	13.7
Korea	20.1	14.4	69.2	-584.6	-13.2	643.6	-518.2	31.7	67.7	24.6	97.7	36.1	77.4	73.6	36.8	27.7	54.6	193.9
Taiwan	-1.9	4.4	-163.0	14.0	-35.6	1.8	19.6	6.5	3.4	137.1	58.4	2.4	20.0	7.0	3.0	4.9	10.1	0.0
Cambodia	3.0	5.6	-45.0	-16.5	-2.6	-55.4	-63.1	6.5	9.1	0.1	8.3	1.7	6.5	5.2	-2.7	1.6	6.0	-1.4
Indonesia	0.2	0.4	-51.5	-8.9	3.7	-10.4	-7.2	4.0	4.1	0.8	5.6	-3.6	2.9	0.1	0.1	0.5	2.5	-2.0
Malaysia	0.6	1.2	1.2	3.3	4.1	-5.9	-4.0	6.0	21.3	3.6	-11.4	0.1	-14.7	3.5	0.4	1.7	4.4	-8.4
Philippines	-1.5	0.5	-40.3	-7.3	6.7	13.5	-16.0	0.2	0.4	-8.2	3.5	-0.3	-0.2	0.9	0.0	-0.3	1.6	-2.5
Thailand	1.0	0.8	-15.4	-26.0	-0.5	496.7	-182.5	5.3	5.4	-7.7	-11.1	-1.1	-0.9	4.9	3.2	4.8	11.8	6.9
Vietnam	-3.1	-3.8	53.9	-28.0	-4.7	-32.8	-17.6	-1.1	-1.1	-1.7	35.6	-11.1	5.1	6.9	0.9	1.2	6.2	-12.6
Bangladesh	1.3	1.4	-42.4	-1.0	-30.4	2.8	4.4	4.7	6.5	23.6	-34.0	0.0	0.7	3.4	-1.1	-0.7	0.0	2.8
India	0.4	-0.5	-6.2	4.4	-18.5	4.9	6.0	4.3	4.7	8.1	-19.7	-1.6	16.1	7.4	0.9	1.1	3.2	6.7
Nepal	7.2	37.7	-5.5	-12.7	-32.1	81.9	19.0	-6.3	10.2	55.0	-32.3	-10.8	-14.8	-4.5	-2.3	-14.8	22.2	77.5
Pakistan	-2.6	-6.4	-14.9	-1.4	3.1	-5.9	1.3	-0.4	-1.9	2.0	-19.4	0.2	0.6	1.1	0.3	0.0	0.5	-0.6
SriLanka	-1.2	-1.4	-100.1	-93.5	-76.2	14.8	0.8	-10.2	-10.9	16.9	48.6	0.5	0.1	-0.5	0.4	0.3	-0.1	2.2
Rest America	-9.9	-0.5	47.1	-13.0	30.6	-18.0	-3.5	-1.1	-1.4	-10.9	-25.7	-0.8	-2.4	-3.3	0.6	-0.4	-1.2	-2.3
USA	16.9	-13.4	27.5	3.2	22.0	-13.6	-3.5	-1.6	-1.7	-9.3	3.7	-1.2	-2.8	-3.4	-0.2	-0.8	-1.7	-3.6
Brazil	-0.3	-0.8	-103.9	44.5	1.7	-15.0	12.4	-3.0	-4.6	-7.8	-4.3	-0.7	-2.0	-10.4	-2.4	-0.1	-0.3	-0.6
Uruguay	-9.9	-5.6	-181.3	-14.5	33.6	-3.6	14.3	-0.4	0.1	-33.1	-5.2	5.1	-4.5	-1.6	12.9	0.4	0.5	-0.2
EU 25	-12.6	-9.1	74.8	0.3	-24.5	-8.3	-0.4	-1.8	-3.4	0.0	-0.5	1.0	0.1	-1.1	0.6	-0.7	-1.5	-3.1
Rest World	7.3	72.6	-82.2	-2.0	-9.6	18.0	12.4	10.0	15.0	2.1	-24.1	0.0	4.7	12.2	3.0	2.3	5.7	7.4
Egypt	0.2	0.0	-13.5	0.0	1.4	-8.7	-1.7	1.3	3.0	-0.4	-100.6	0.0	-0.5	0.2	-0.8	-0.2	-0.3	-0.5
Rest Africa	3.2	5.1	-142.9	1.0	-10.5	21.3	-2.4	4.0	6.0	10.5	-10.0	-0.6	2.7	8.1	-1.2	1.9	12.1	7.8
Cote d' Ivoire	1.3	8.2	-251.3	-1.3	-23.6	-1.1	-0.8	1.5	2.9	-1.0	20.9	0.4	0.1	8.3	2.3	0.1	0.9	1.6
Nigeria	0.1	-4.3	-141.8	0.1	-0.2	-2.8	0.0	0.1	-0.6	-1.1	0.0	-0.2	0.2	0.3	-0.5	-0.8	-3.9	-2.0
Kenya	29.9	-20.5	914.2	-2.0	-10.4	-16.0	-0.1	-4.8	-5.6	144.7	47.1	1.1	0.4	-1.5	2.3	0.5	0.0	1.8
Mozambique	1.1	5.3	-122.4	2.1	-6.9	-4.8	-11.5	1.7	1.6	-1.4	17.8	0.3	3.3	7.8	-4.5	1.6	3.5	12.5
South Africa	-29.3	-6.1	-149.3	3.5	52.2	-10.4	-11.7	-1.5	-3.0	-26.3	-97.6	-0.5	-1.4	-2.5	-0.2	-0.6	-2.1	-4.9

Figure 1. Structure of the GTAP Standard Model. *Source:* GTAP model, Purdue University.

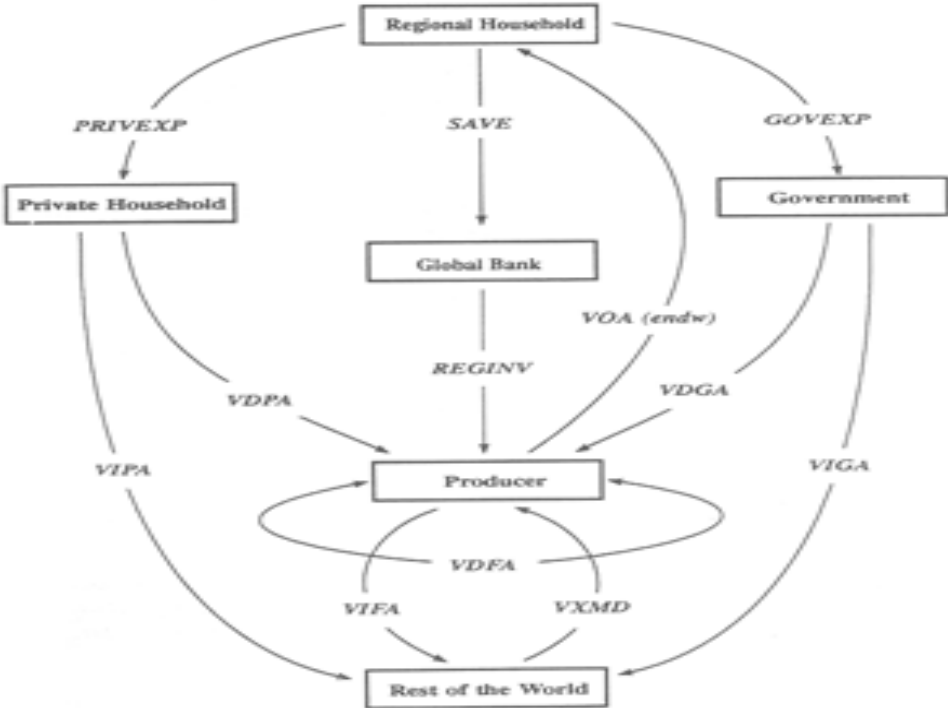


Figure 2. Changes in GDP, Scenario 1. *Source:* Authors' own work based on GTAP Database and model. See Table 3 for the detailed numbers.

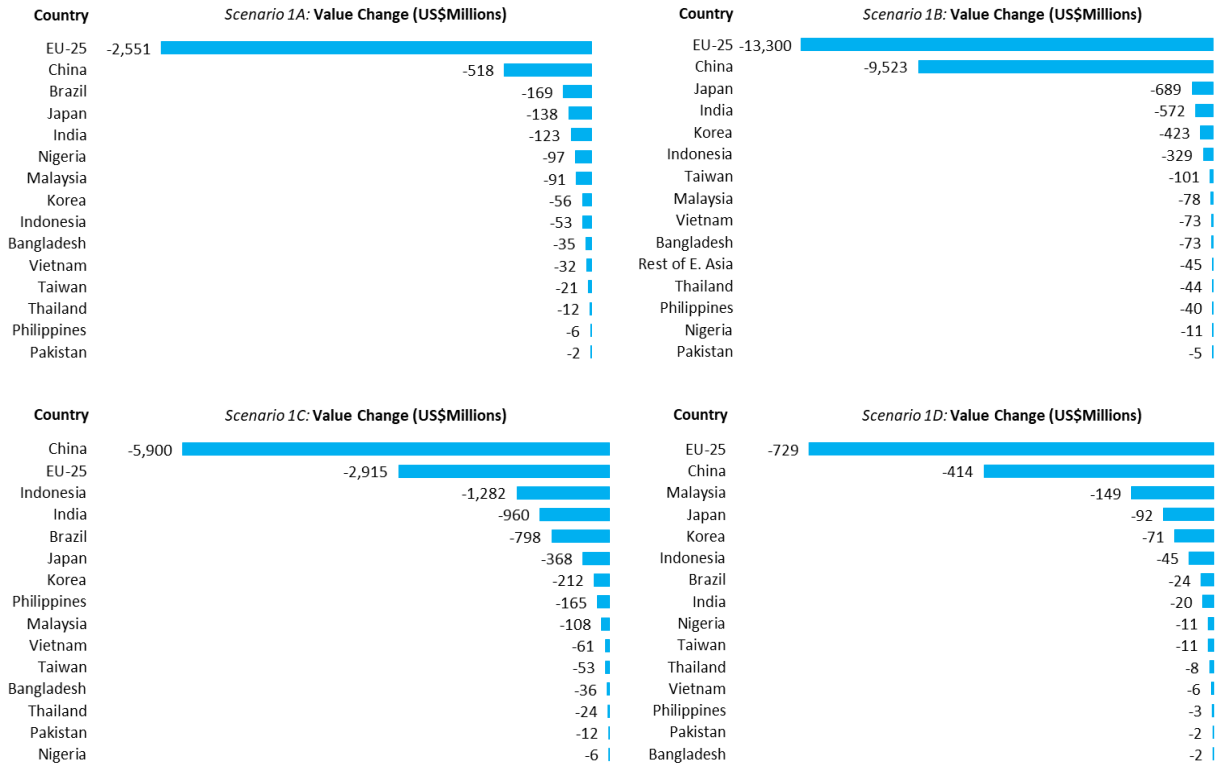


Figure 3. Changes in GDP, Scenario 2. *Source:* Authors' own work based on GTAP Database and model. See Table 3 for the detailed numbers.

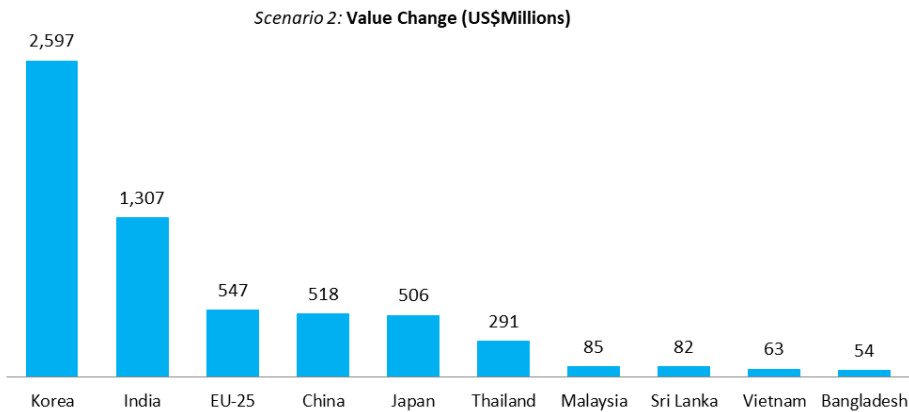


Figure 4. Changes in CPI, Scenario 1B. *Source:* Authors' own work based on GTAP Database and model. See Table 3 for the detailed numbers.

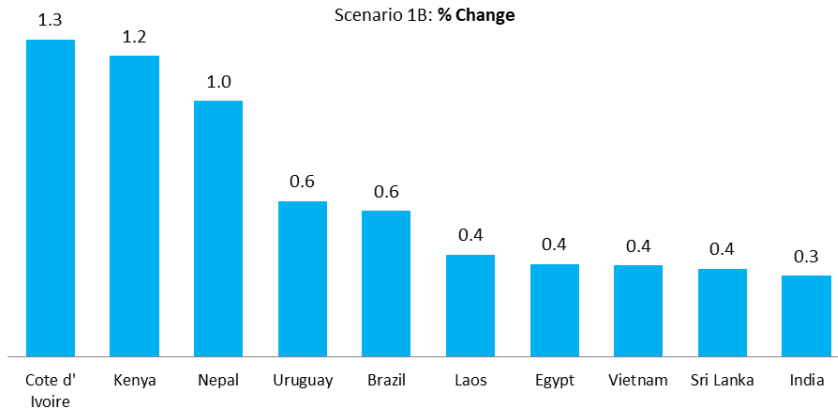


Figure 5. Changes in Consumption, Scenario 1A. *Source:* Authors' own work based on GTAP Database and model. See Table 3 for the detailed numbers.

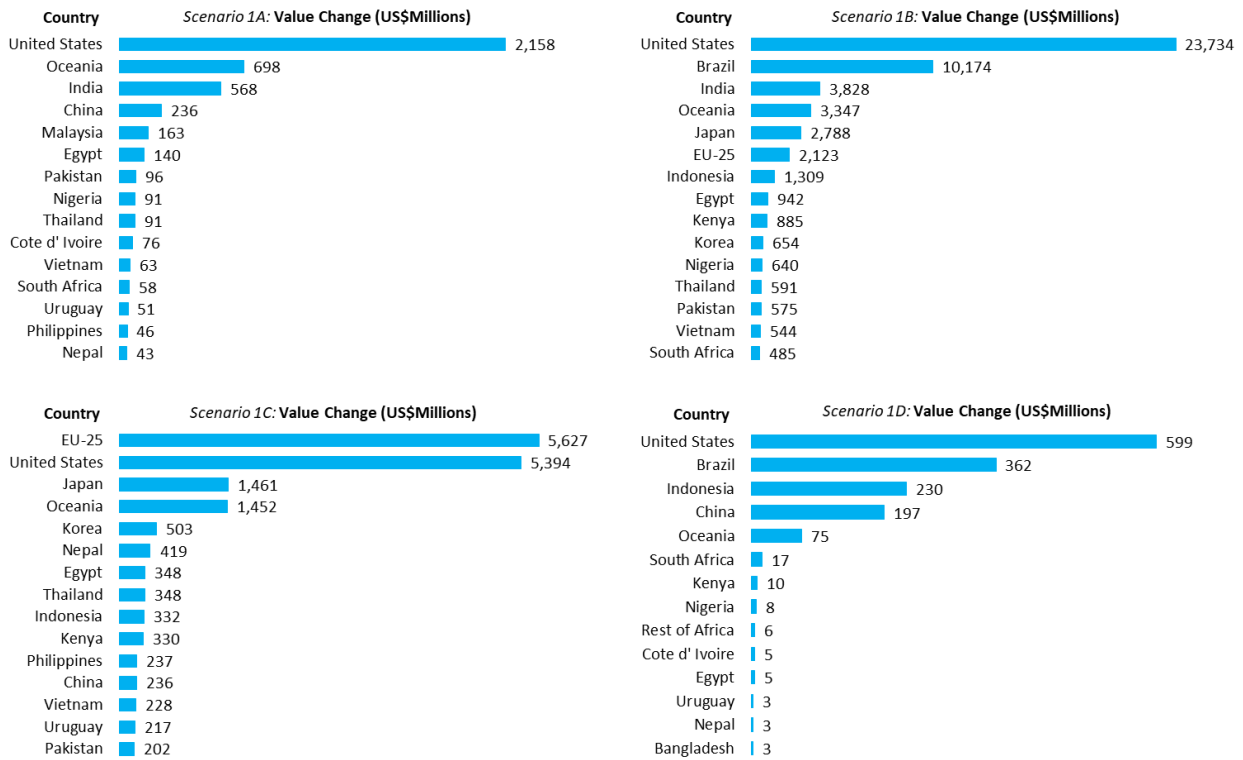


Figure 6. Impact on carbon dioxide emissions under Scenario 1A. *Source:* Authors' own work based on GTAP Database and model.

(a) *Plant-based sector*

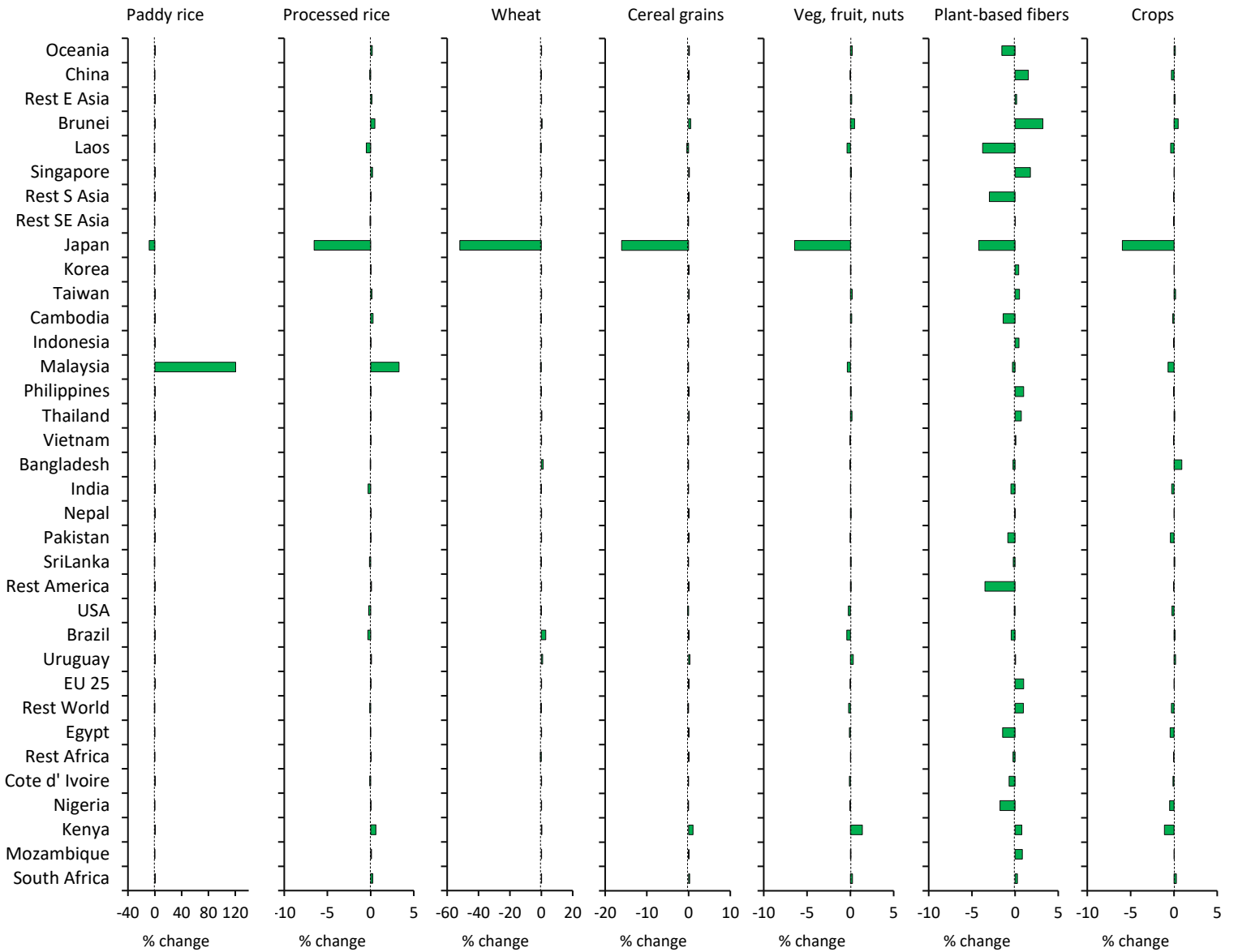


Figure 6. (Continued)
(b) Animal-based sector

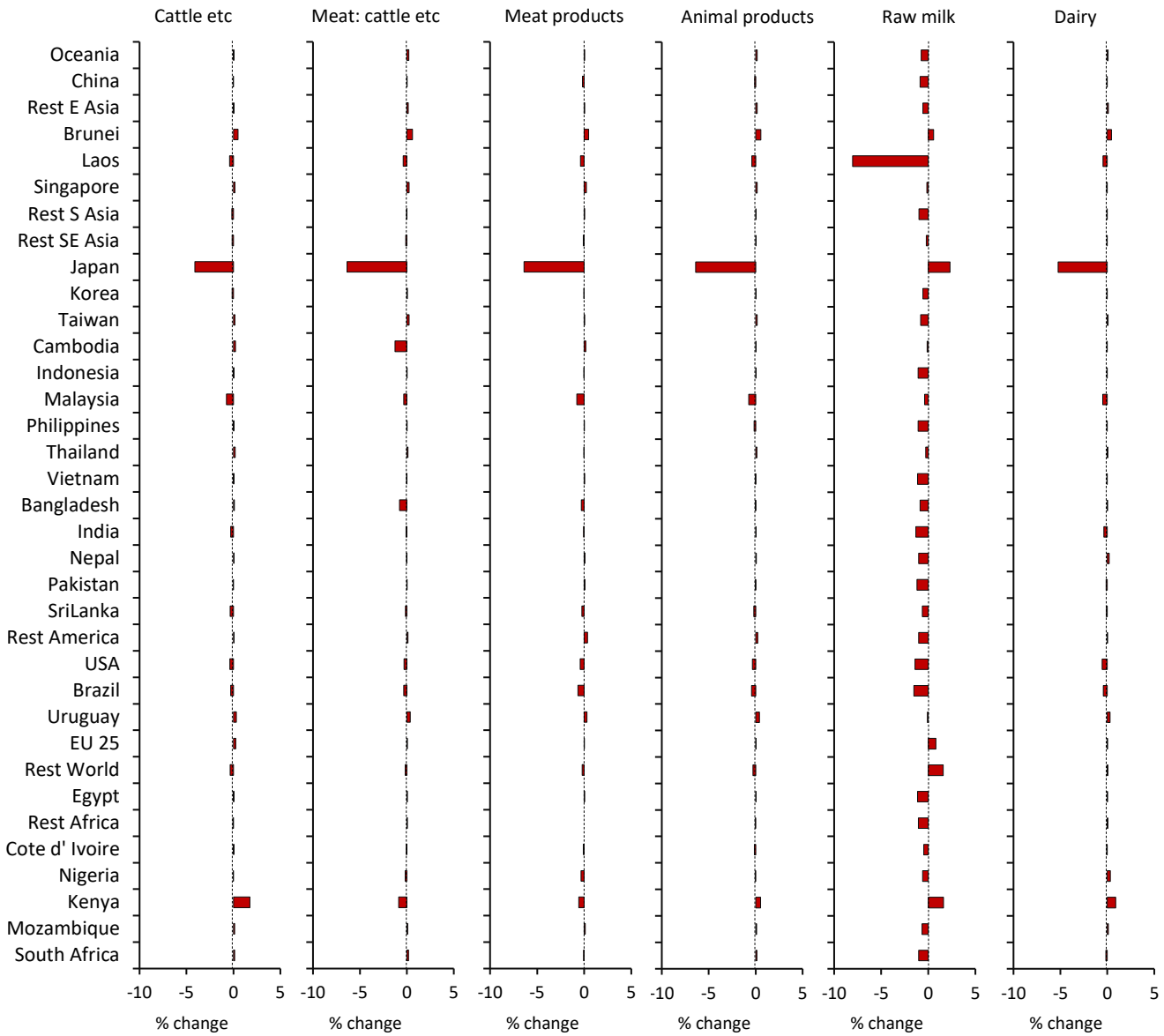


Figure 6. (Continued)
 (c) *Fats, sugars and food products*

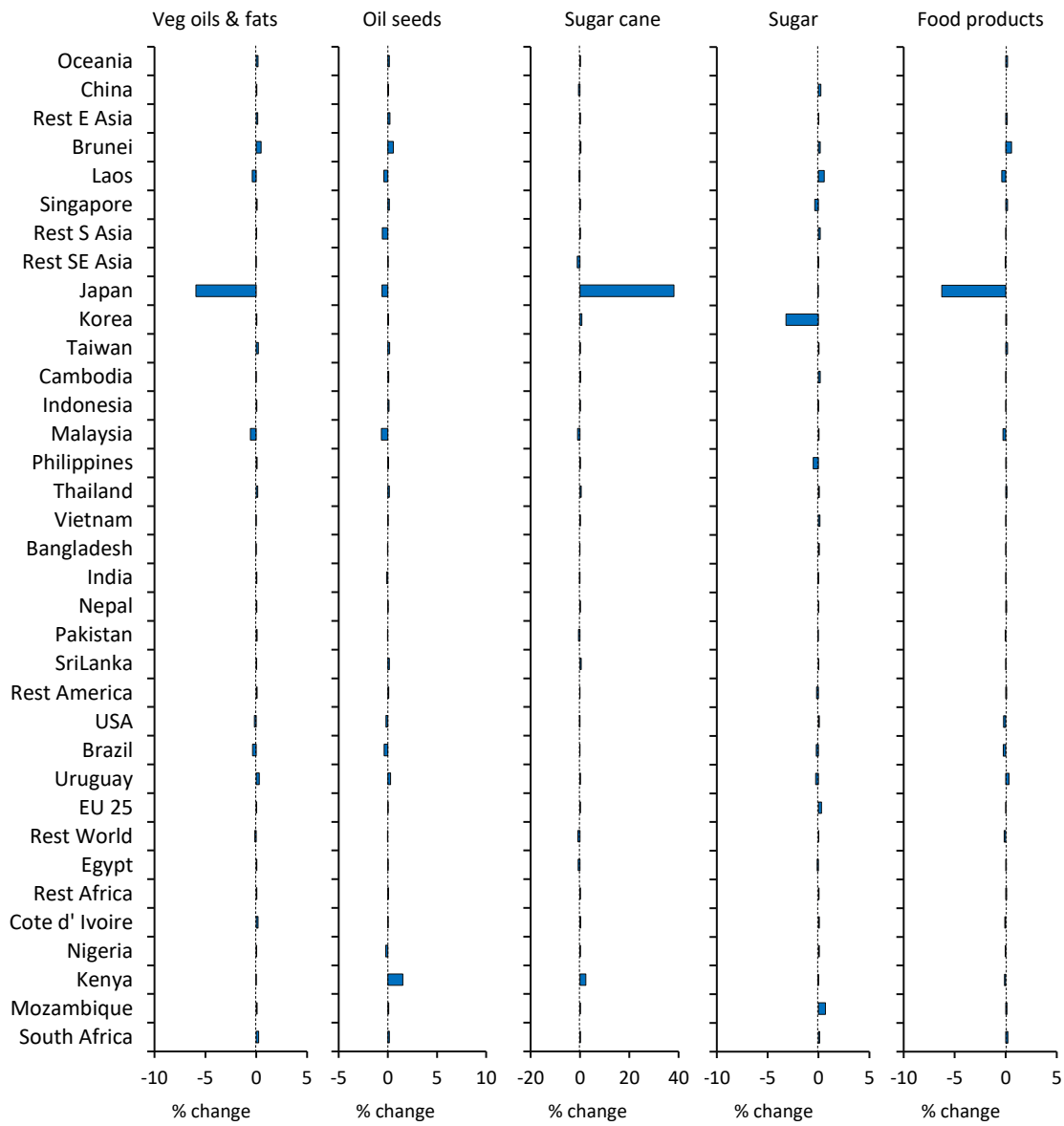


Figure 7. Impact on carbon dioxide emissions under Scenario 1B. *Source:* Authors' own work based on GTAP Database and model.

(a) *Plant-based sector*

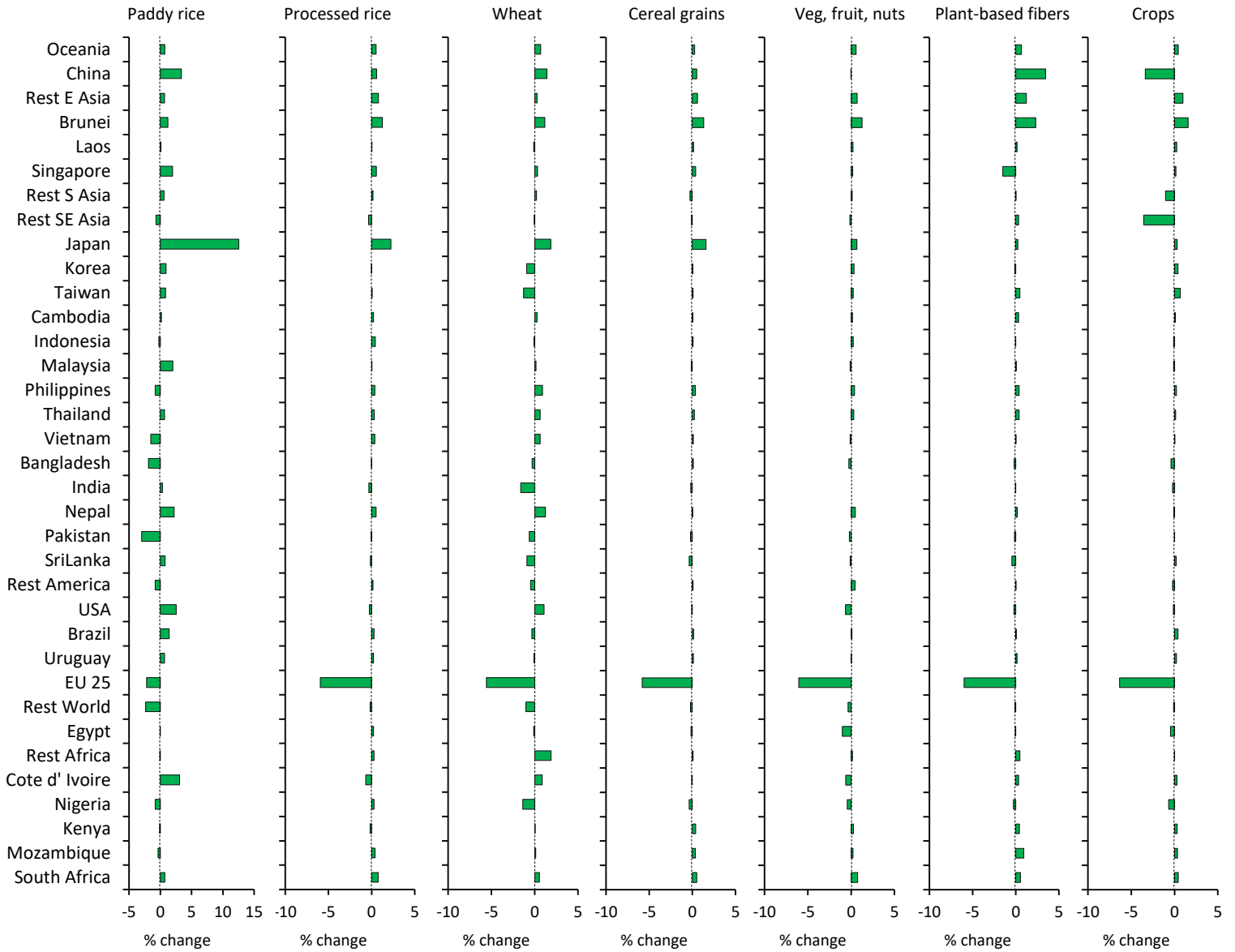


Figure 7. (Continued)
(b) Animal-based sector

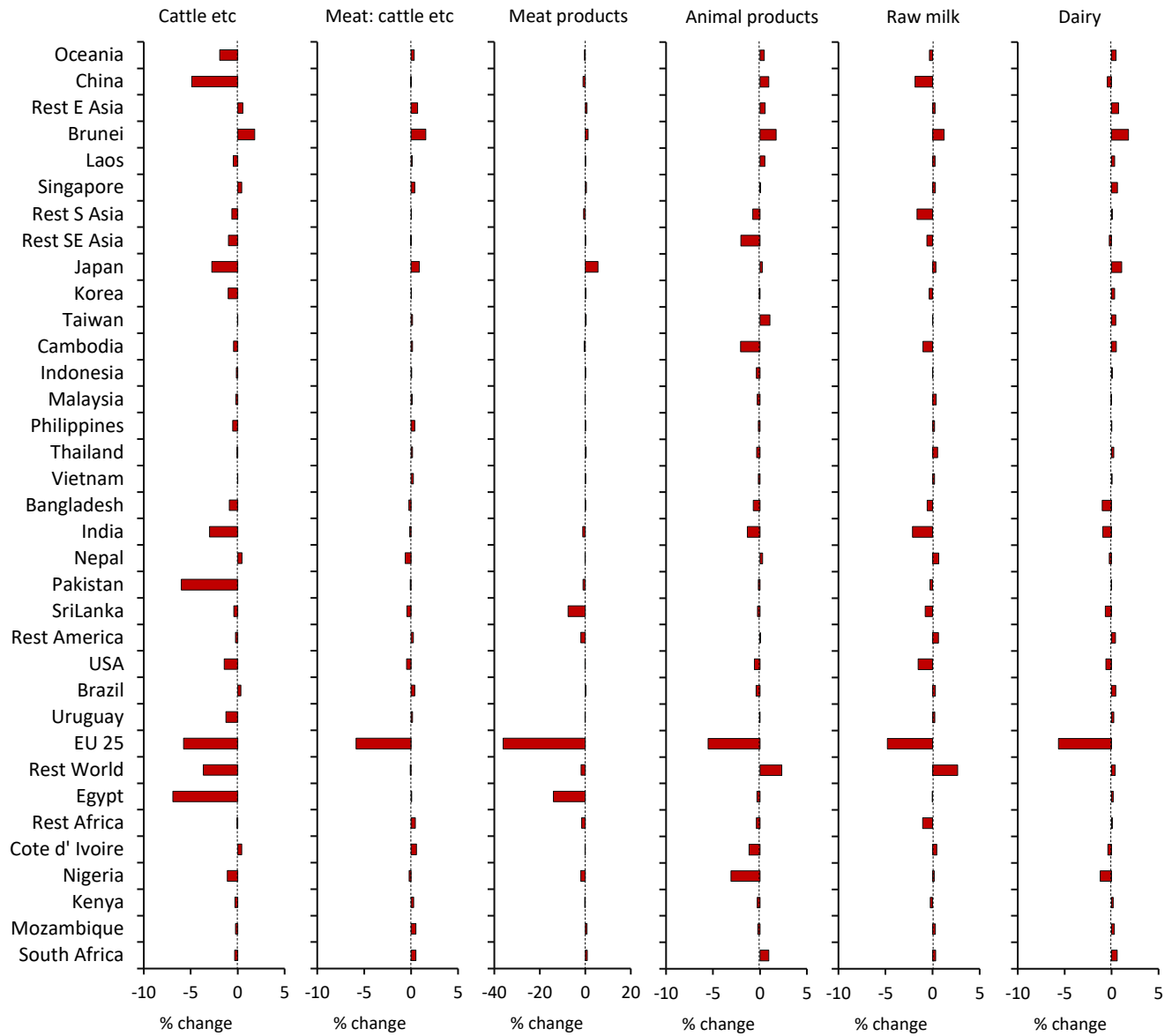


Figure 7. (Continued)
 (c) *Fats, sugars and food products*

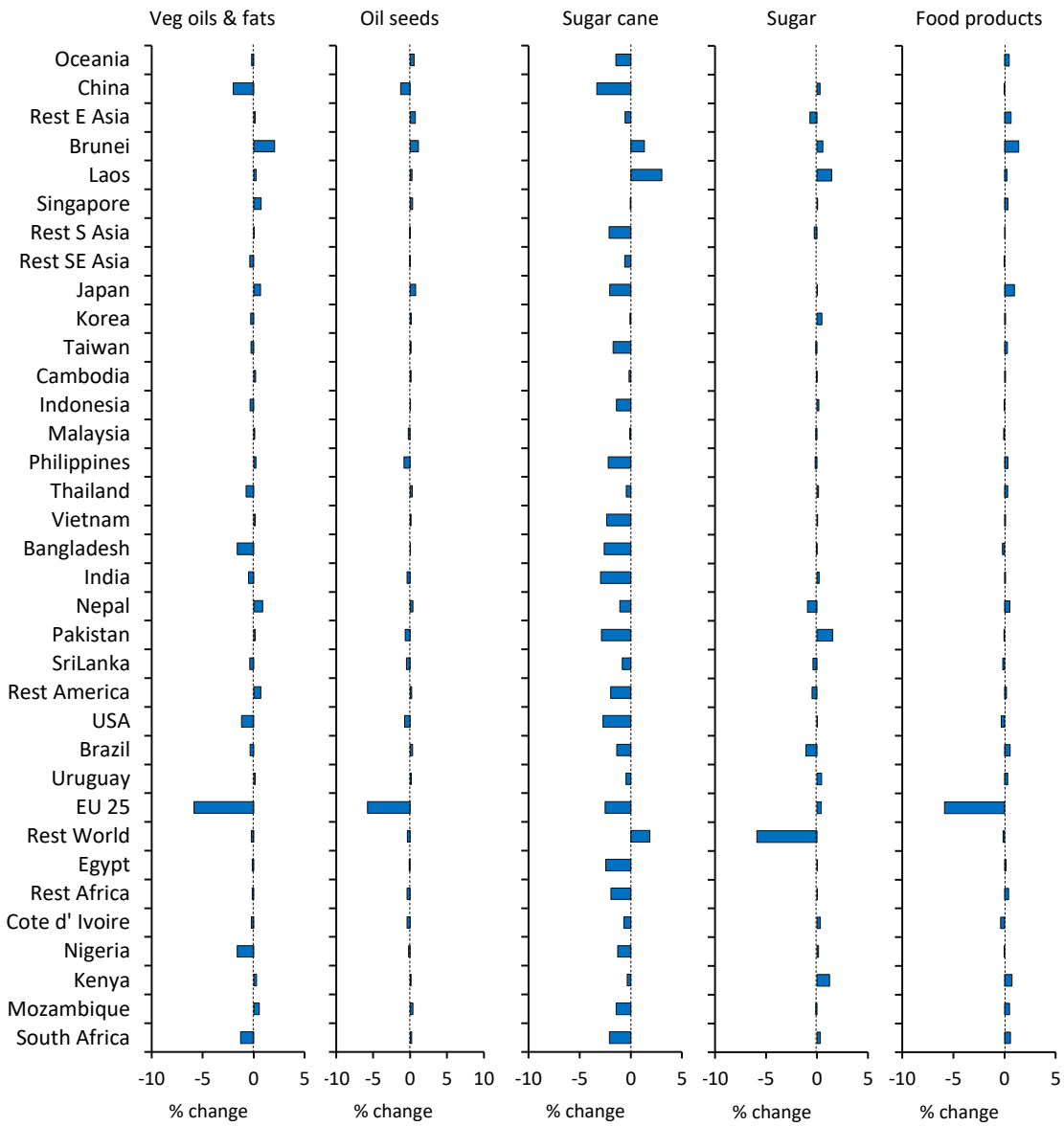


Figure 8. Impact on carbon dioxide emissions under Scenario 1C. *Source:* Authors' own work based on GTAP Database and model.

(a) *Plant-based sector*

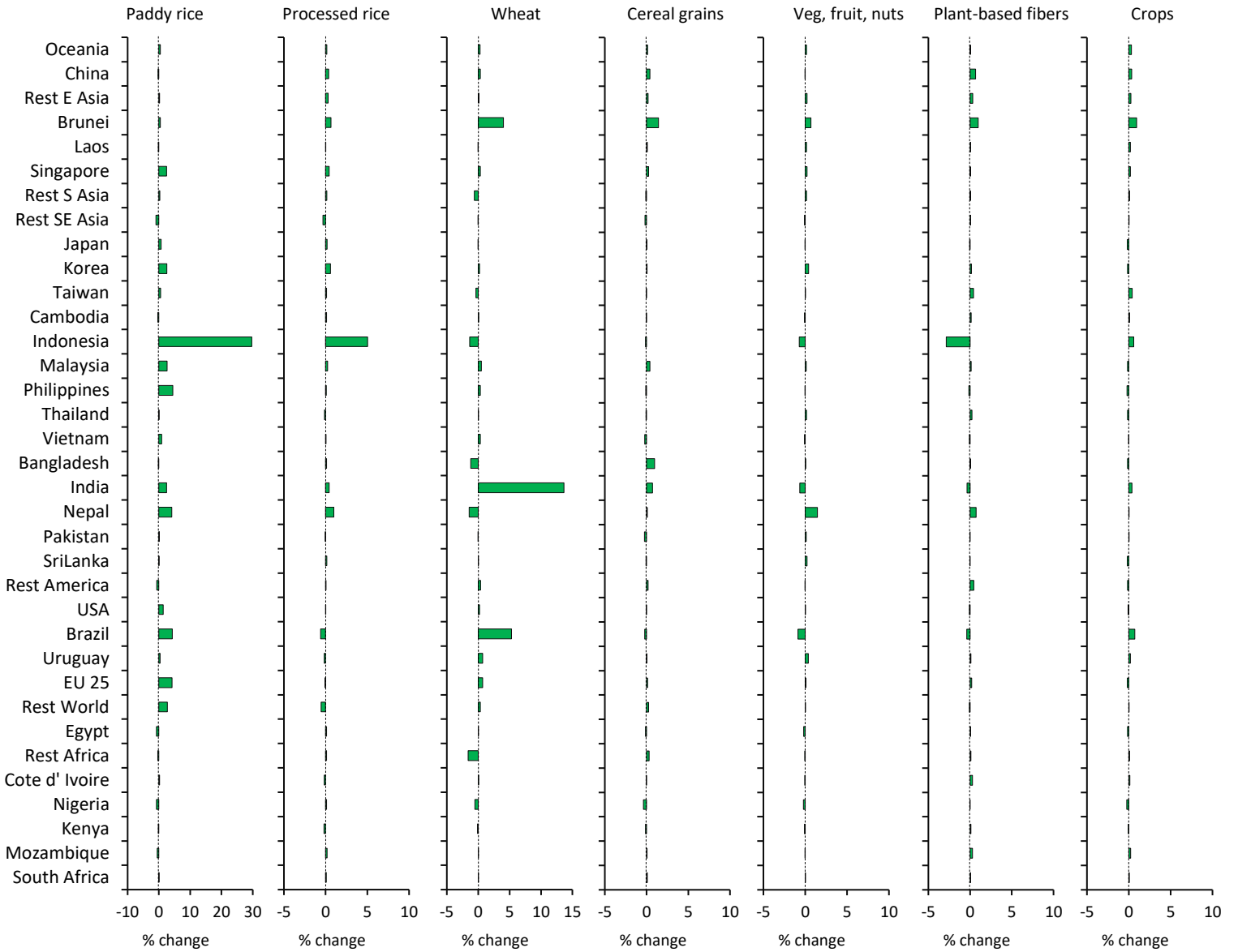


Figure 8. (Continued)
(b) Animal-based sector

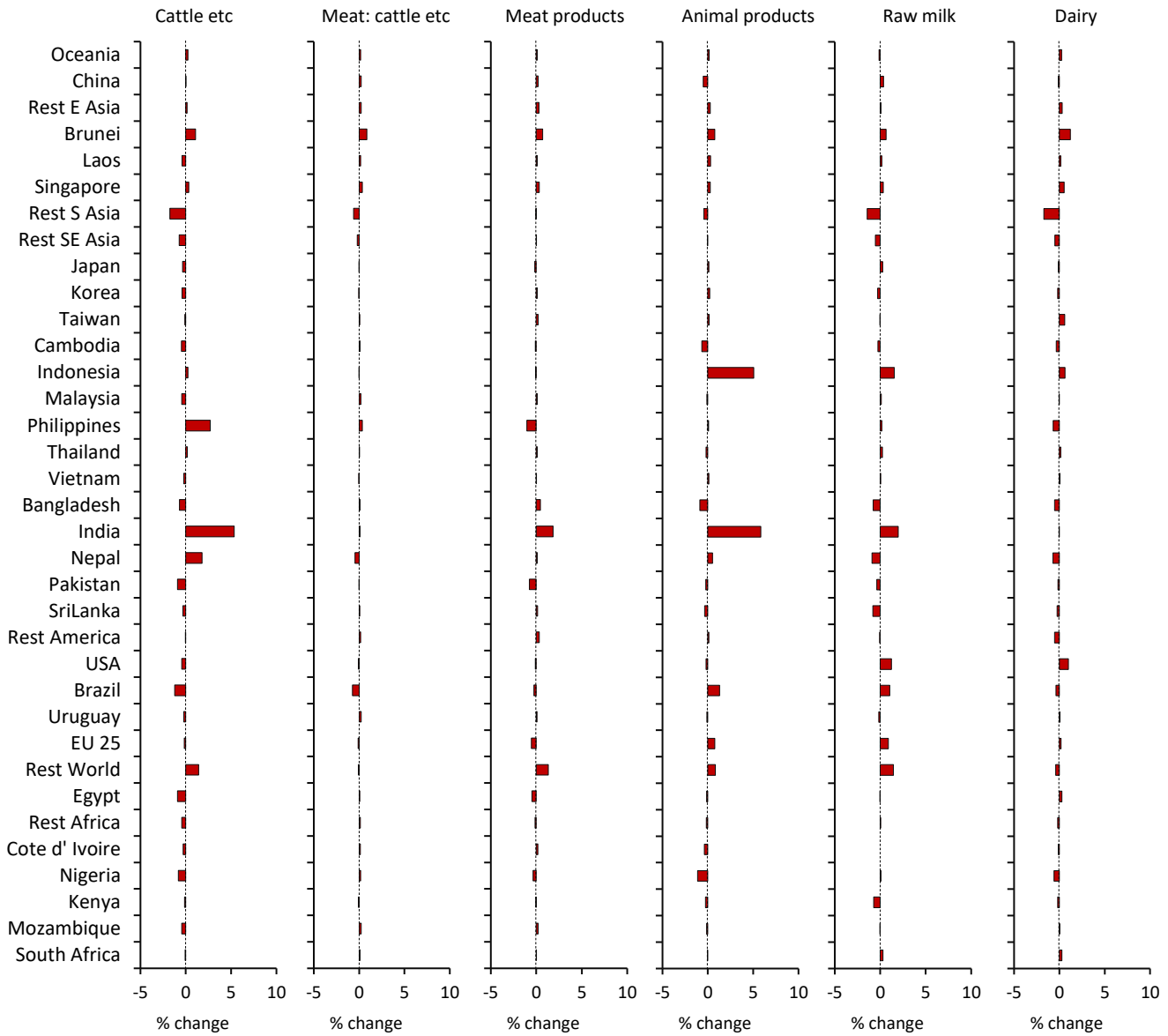


Figure 8. (Continued)
 (c) *Fats, sugars and food products*

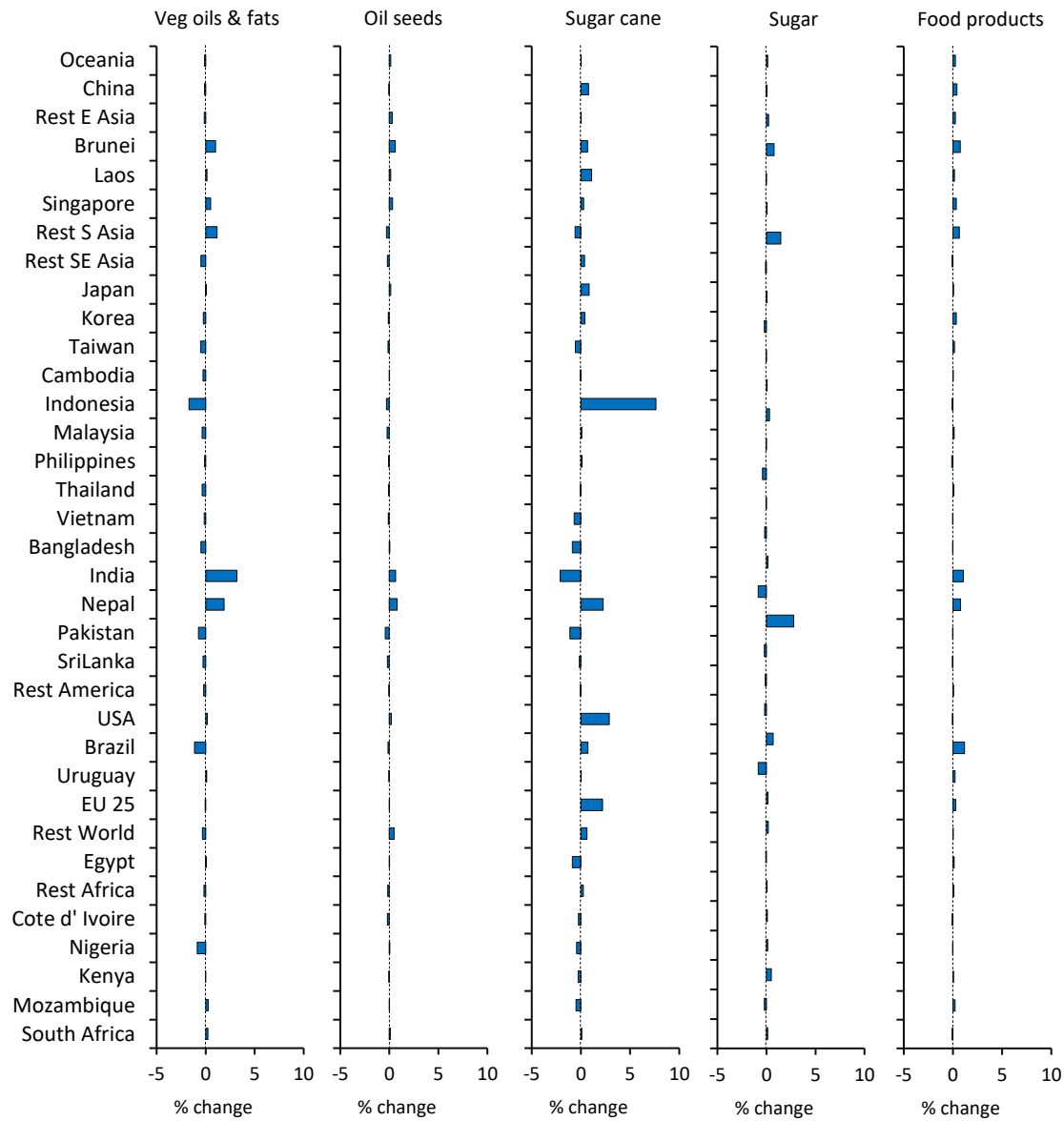


Figure 9. Impact on carbon dioxide emissions under Scenario 1D. *Source:* Authors' own work based on GTAP Database and model.

(a) *Plant-based sector*

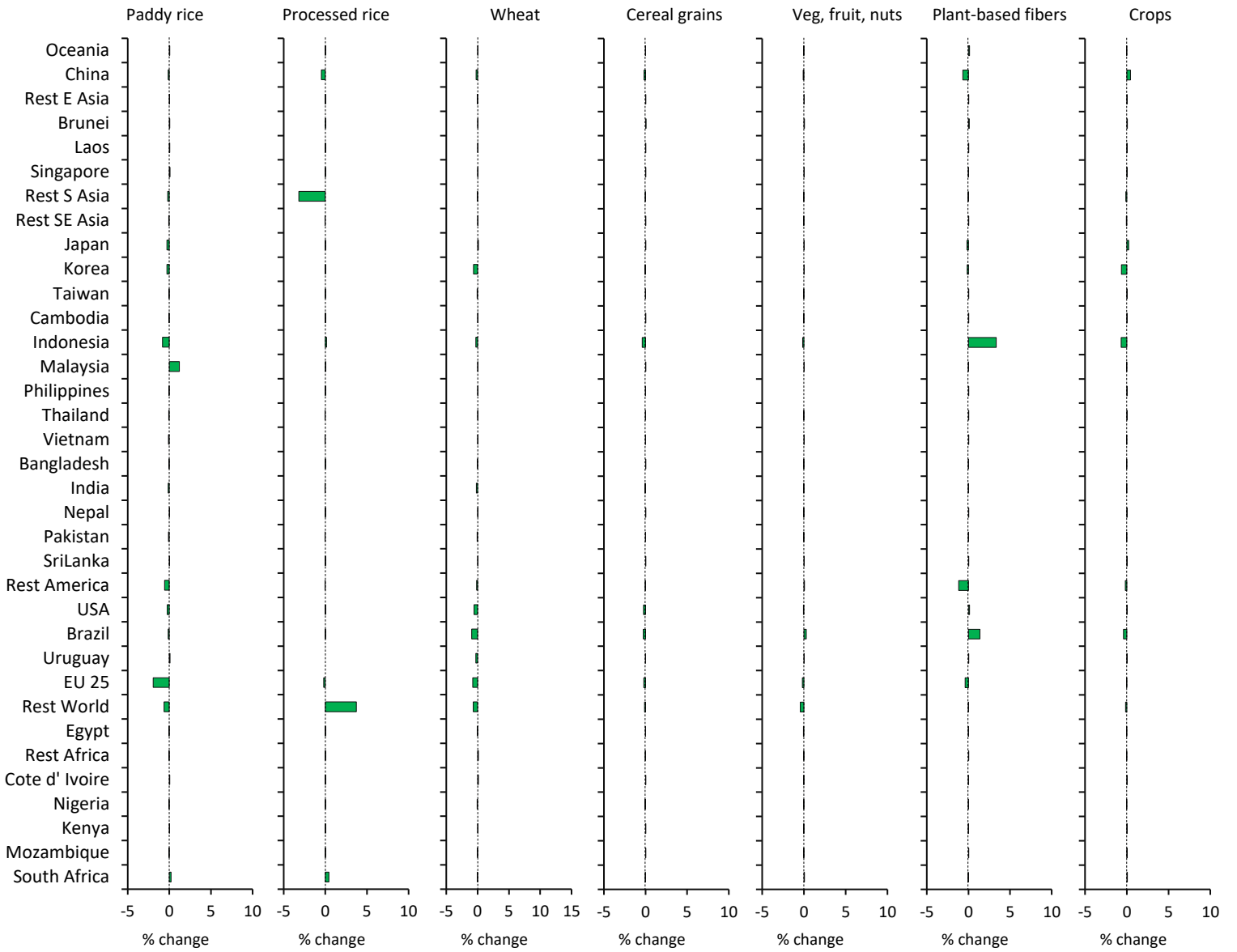


Figure 9. (Continued)
(b) Animal-based sector

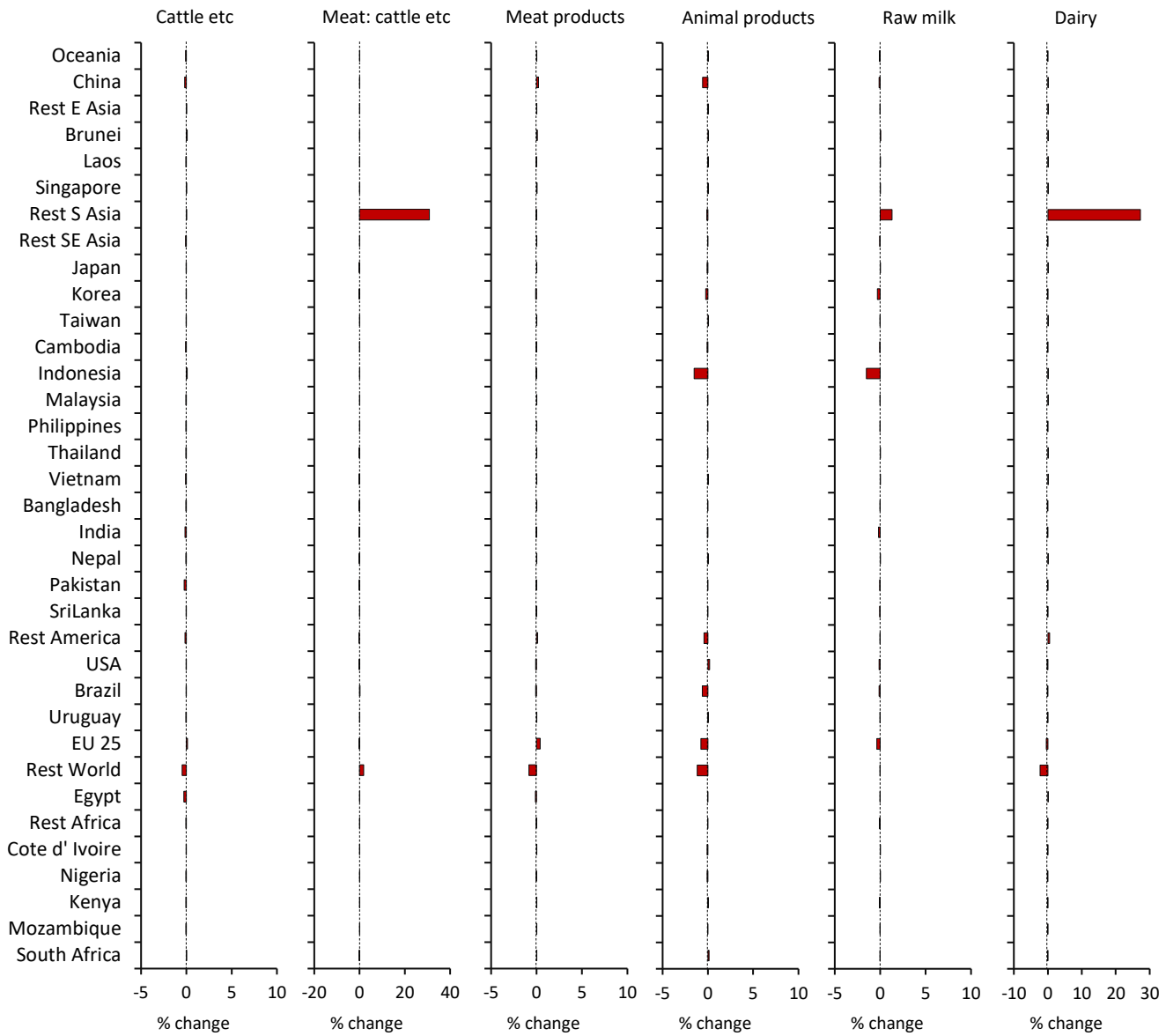


Figure 9. (Continued)
 (c) *Fats, sugars & food products*

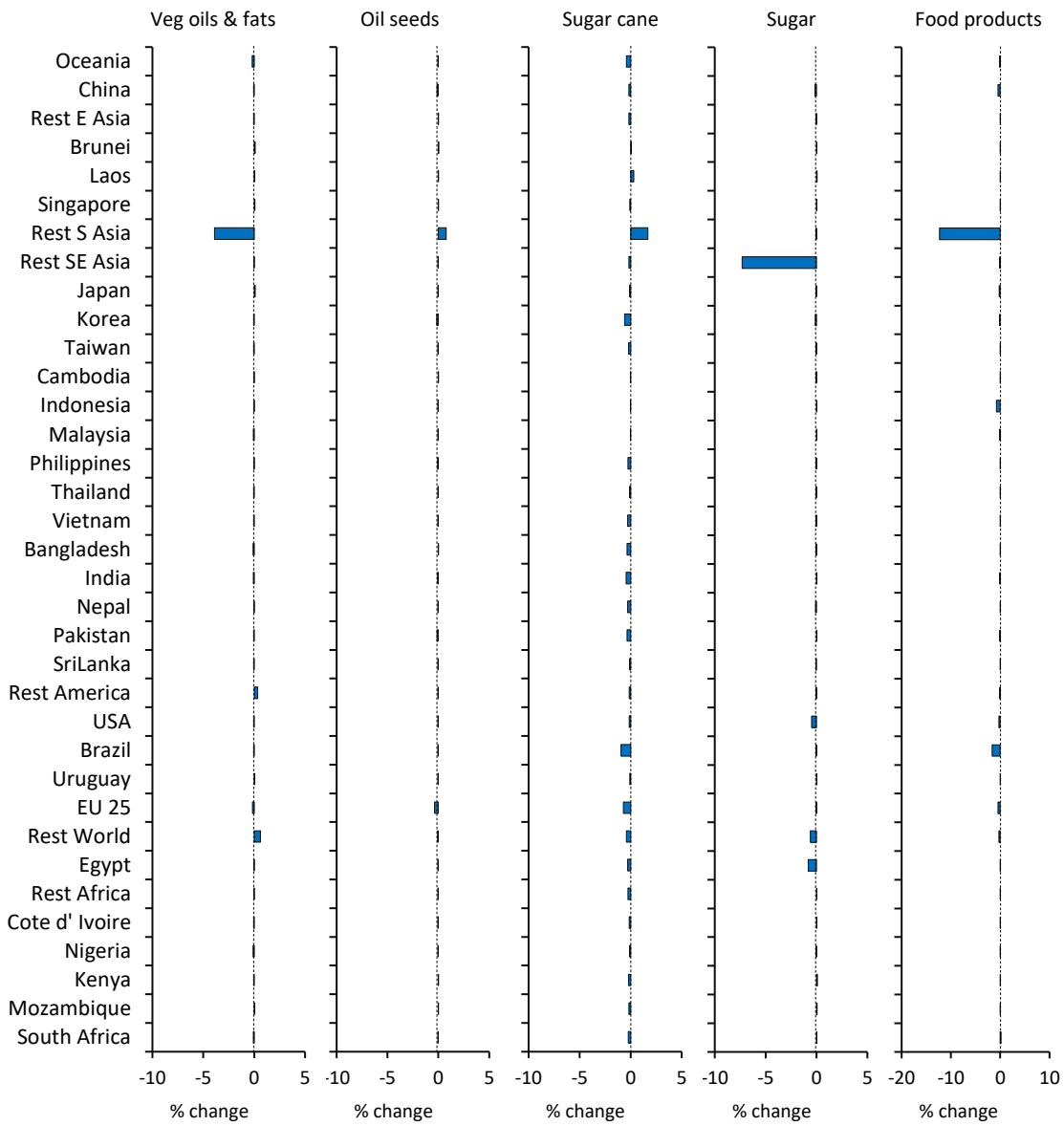


Figure 10. Impact on carbon dioxide emissions under Scenario 2. *Source:* Authors' own work based on GTAP Database and model.

(a) *Plant-based sector*

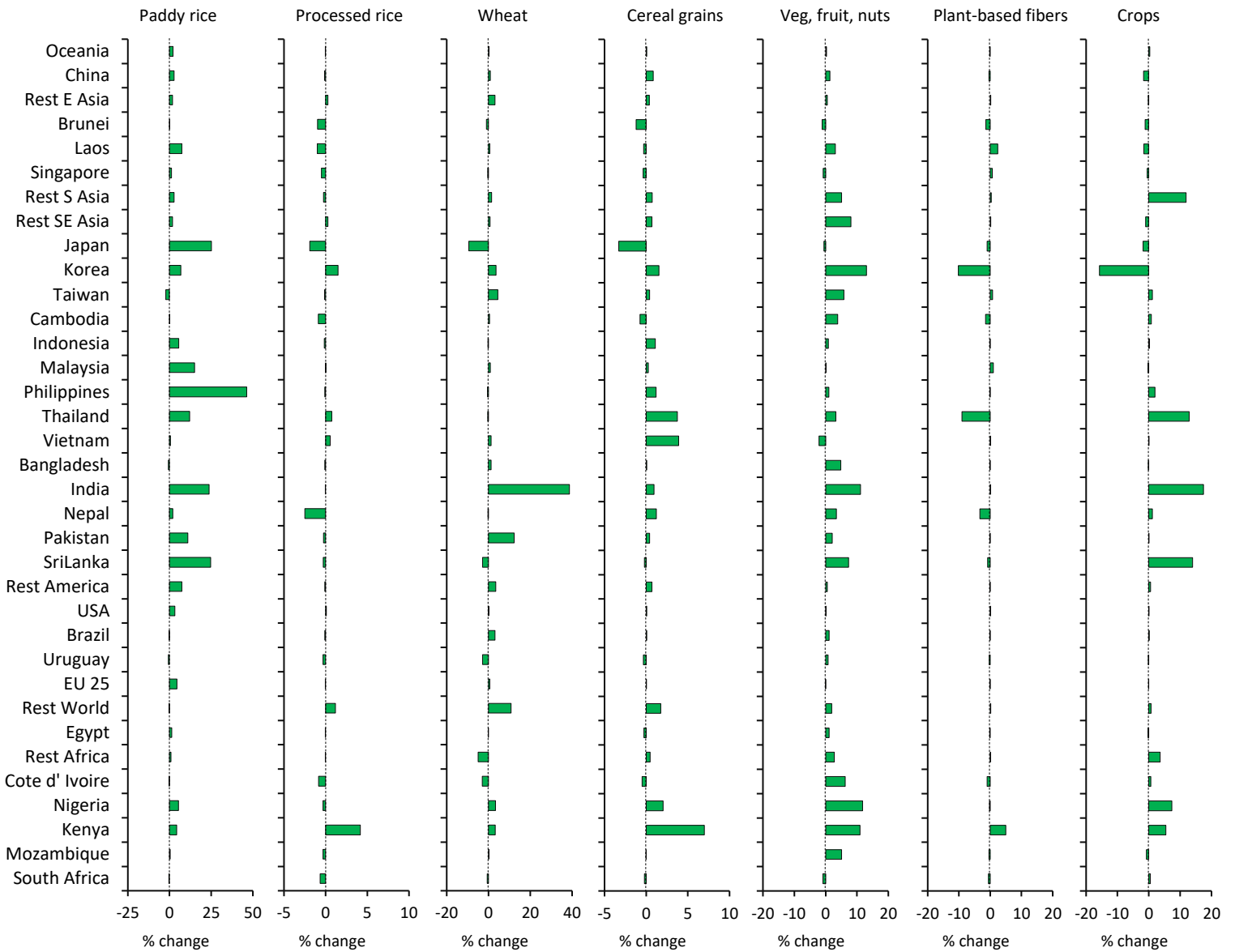


Figure 10. (Continued)
(b) Animal-based sector

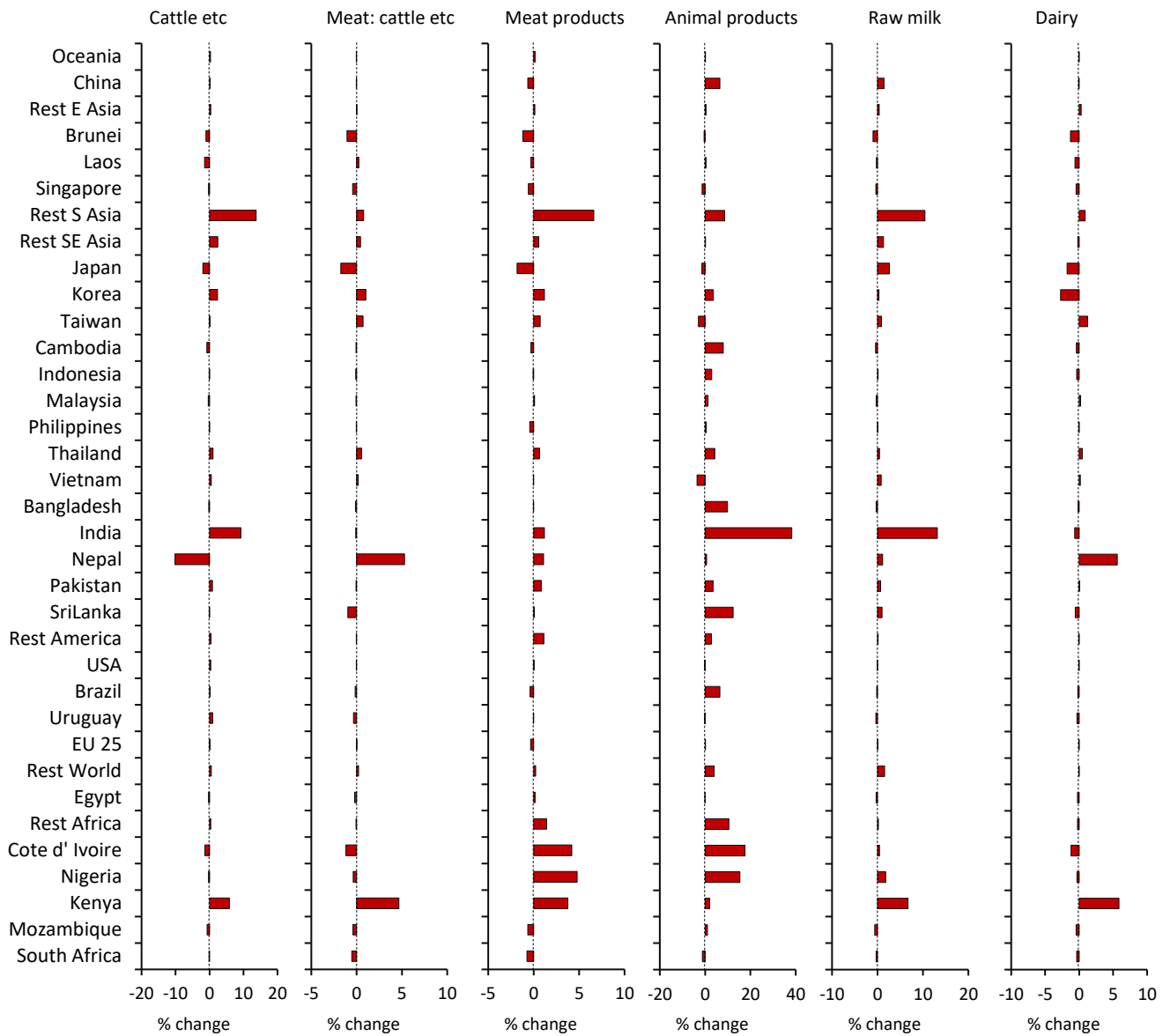


Figure 10. (Continued)
 (c) *Fats, sugars & food products*

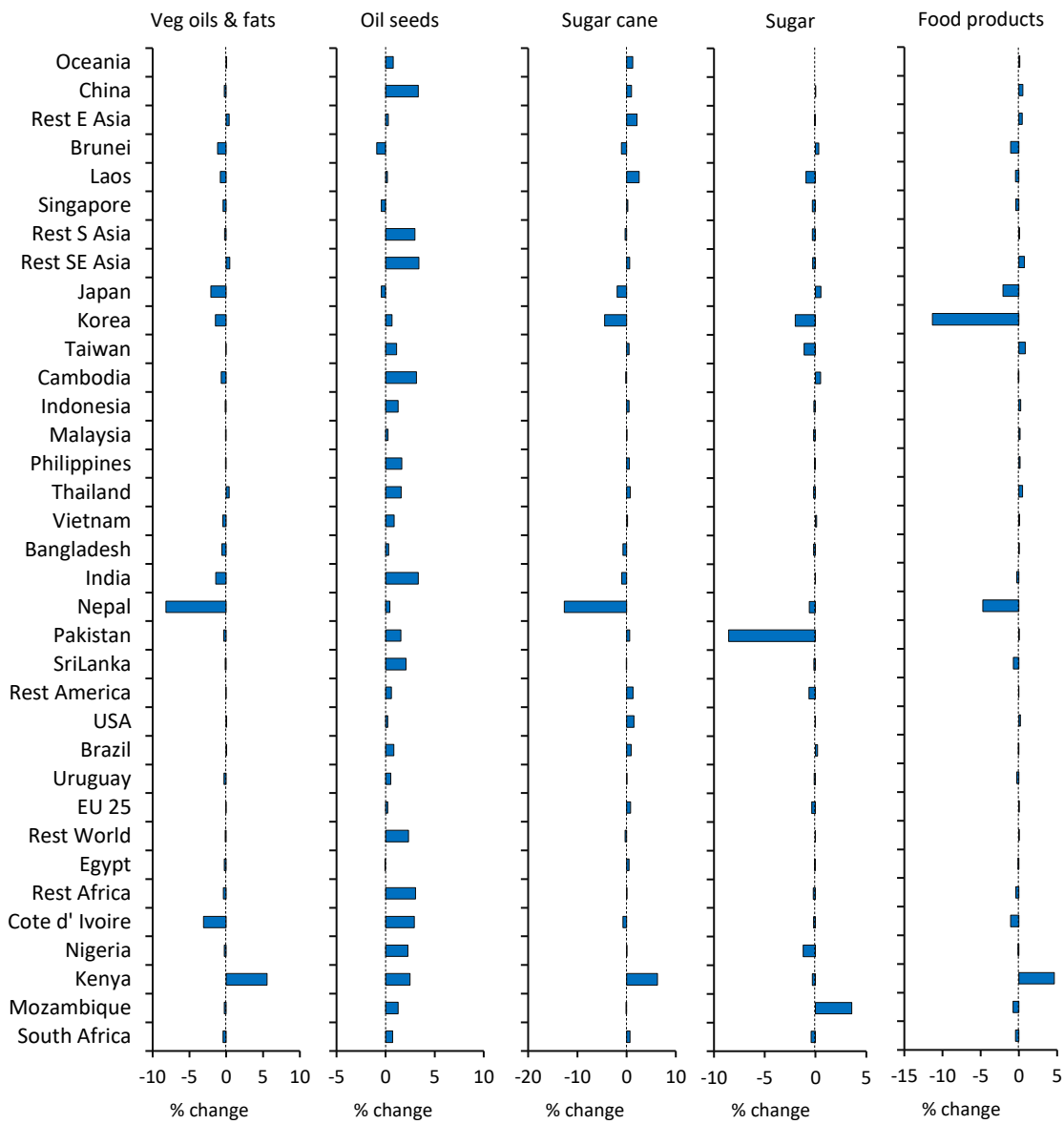


Figure 11. Impact on total non-CO₂ emissions under Scenario 1A. *Source:* Authors' own work based on GTAP Database and model.

(a) *Plant-based sector*

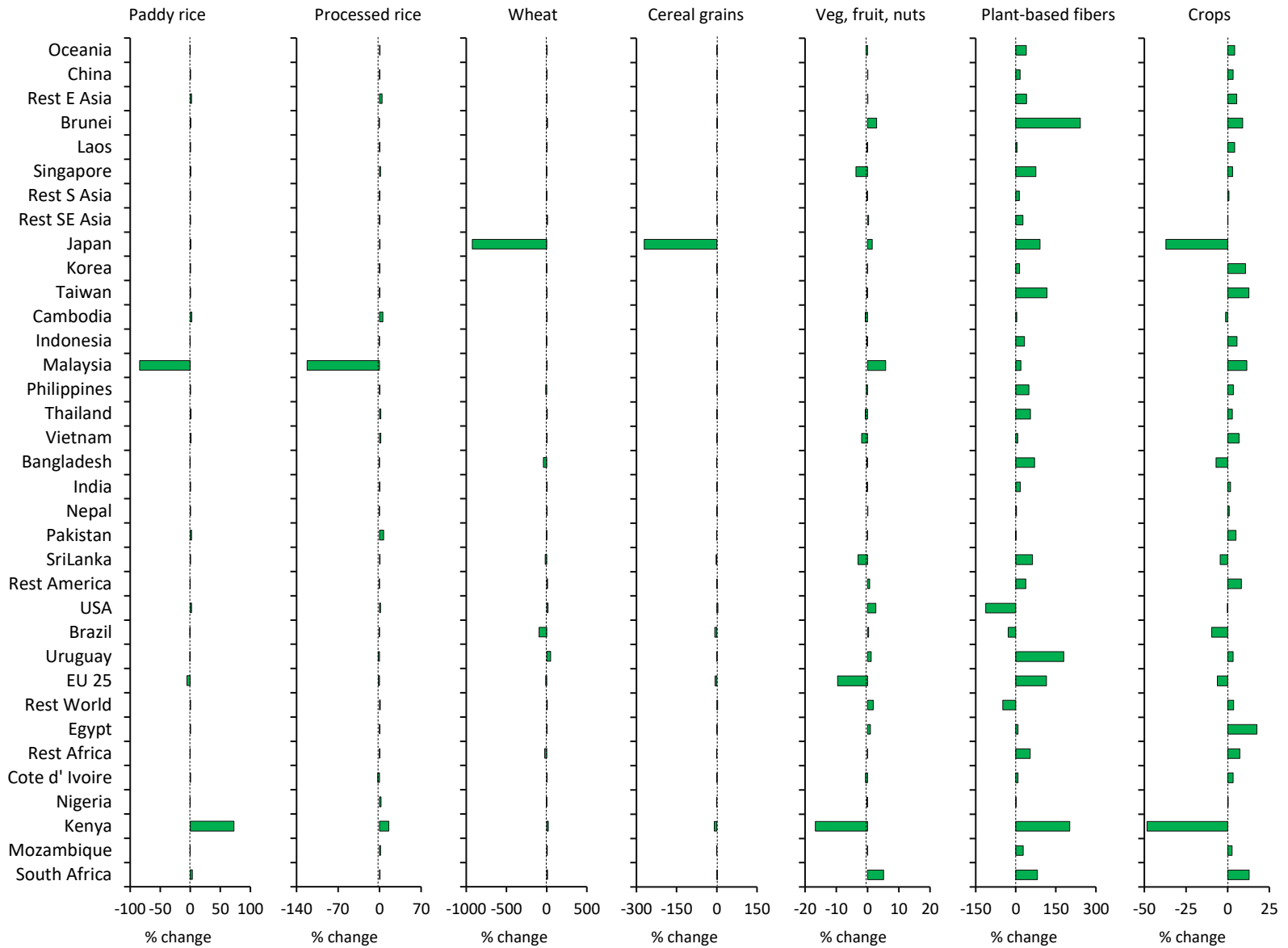


Figure 11. (Continued)
(b) Animal-based sector

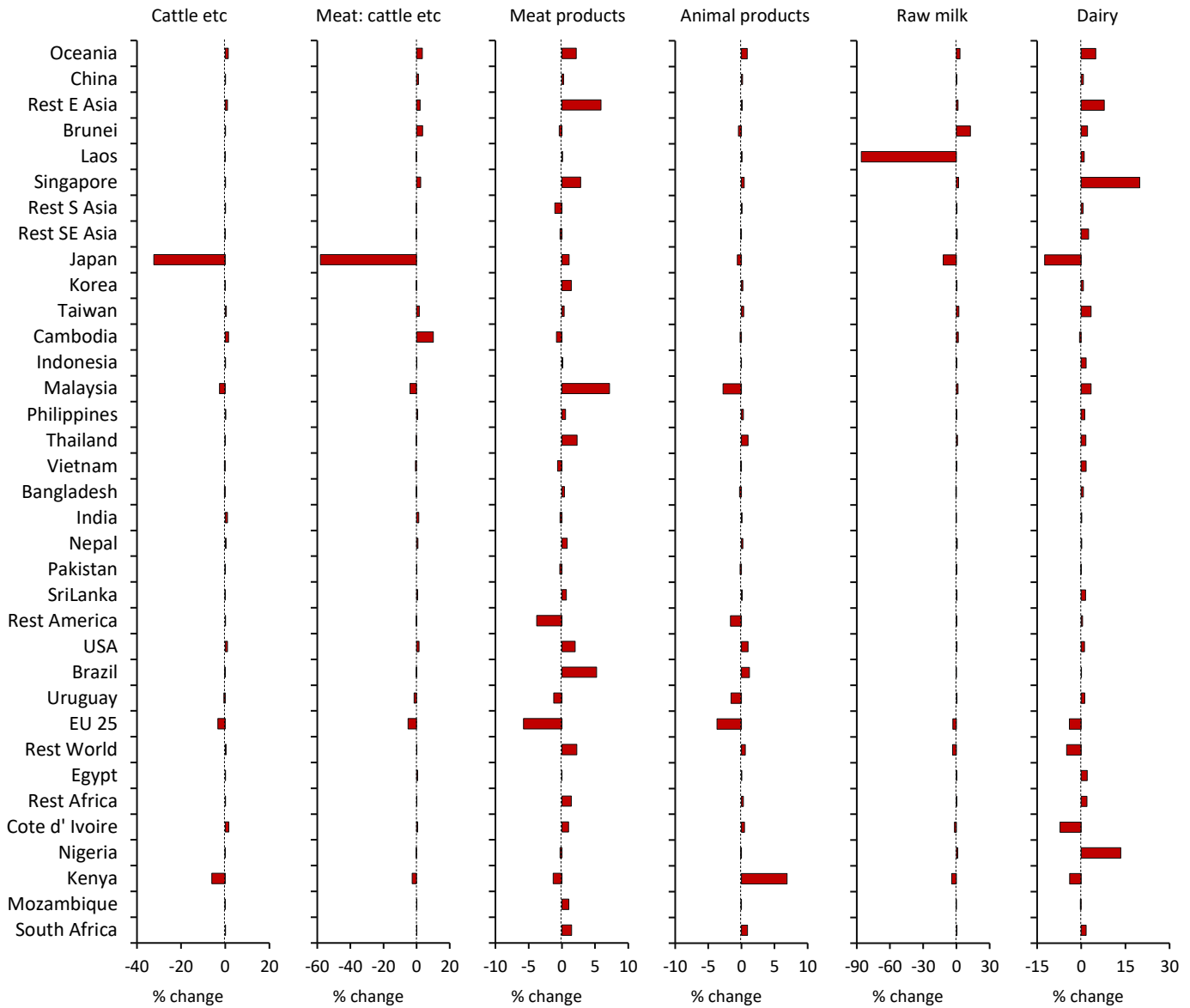


Figure 11. (Continued)
 (c) *Fats, sugars and food products*

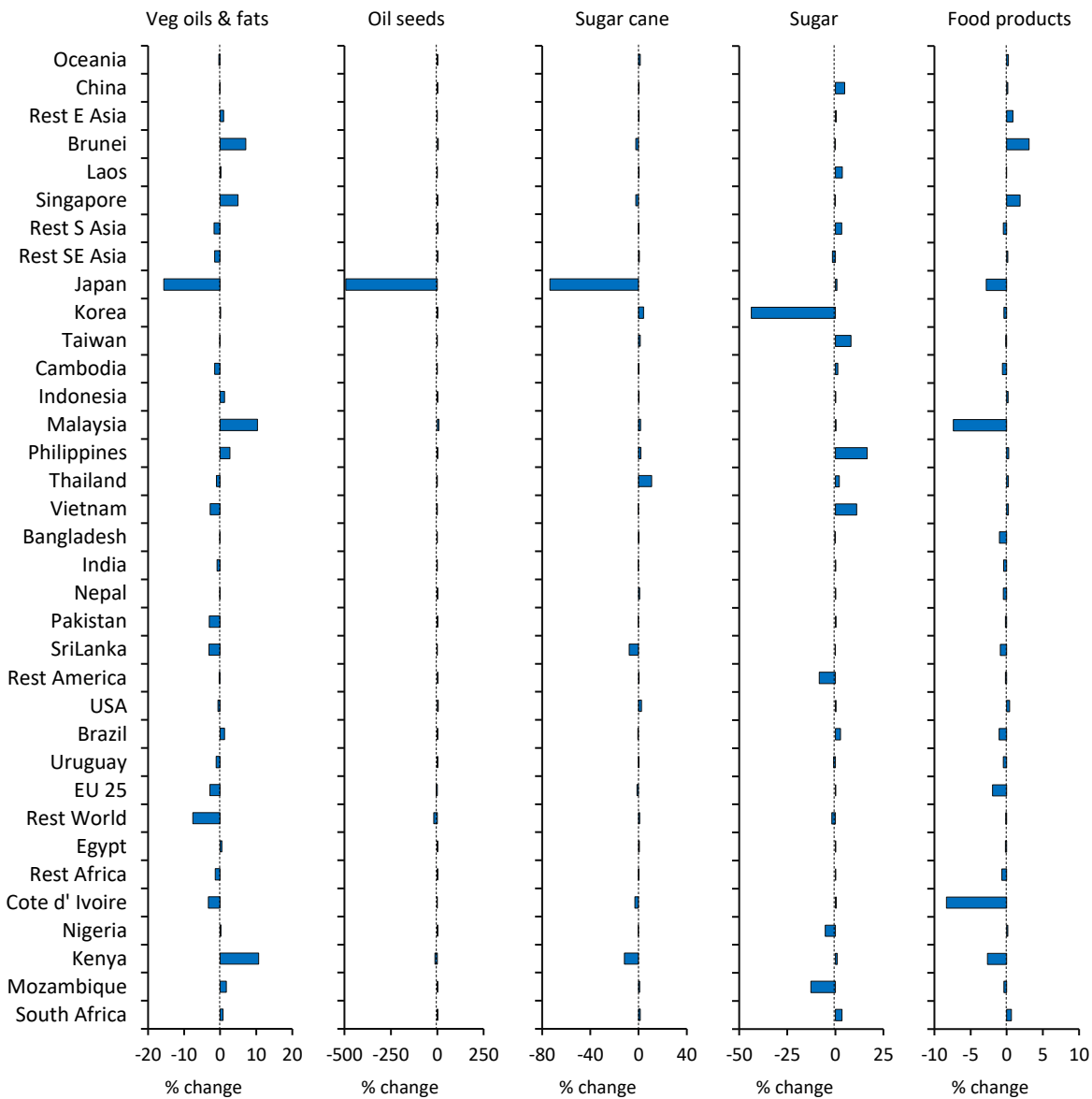


Figure 12. Impact on total non-CO₂ emissions under Scenario 1B. *Source:* Authors' own work based on GTAP Database and model.

(a) *Plant-based sector*

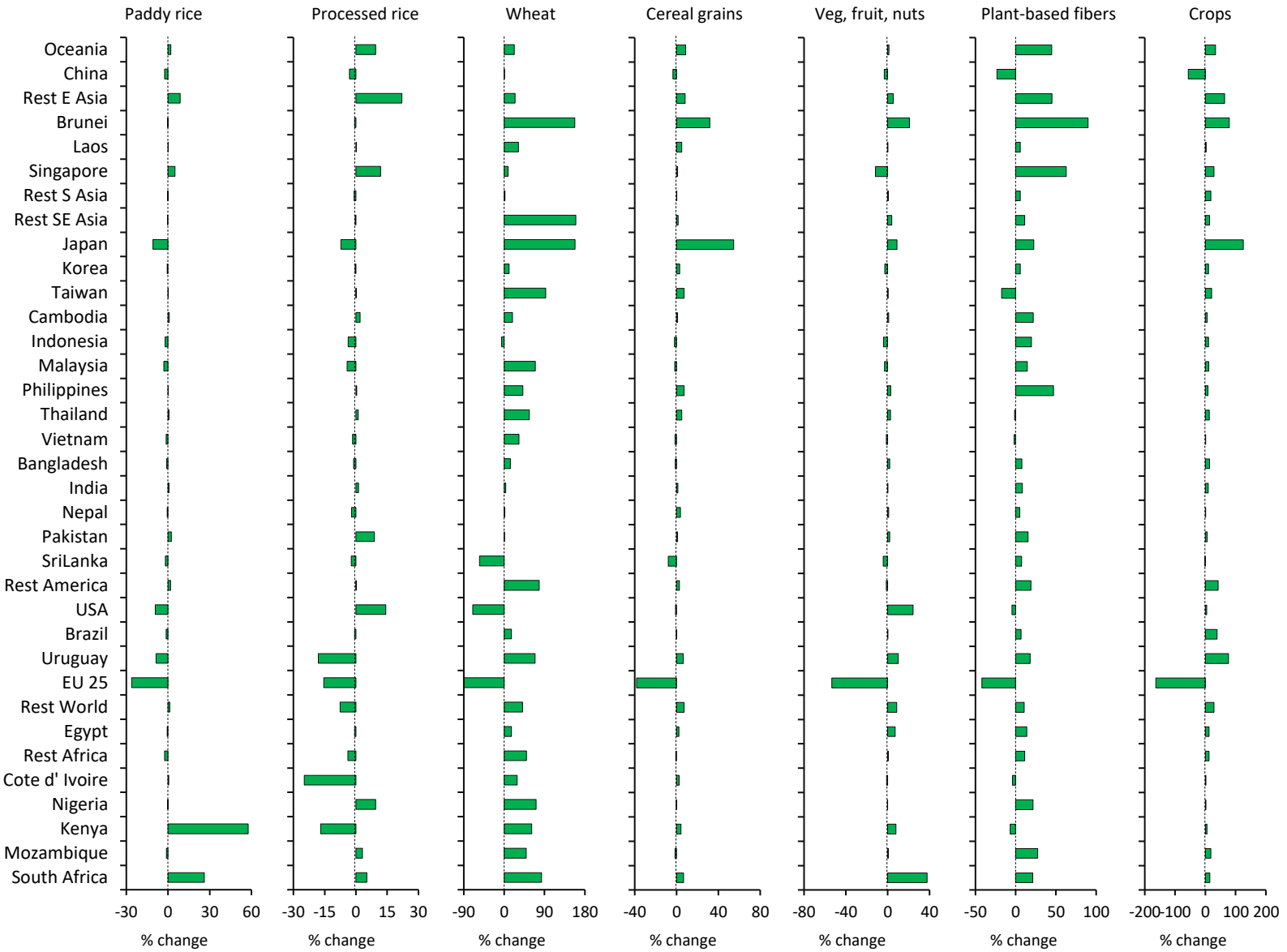


Figure 12. (Continued)
(b) Animal-based sector

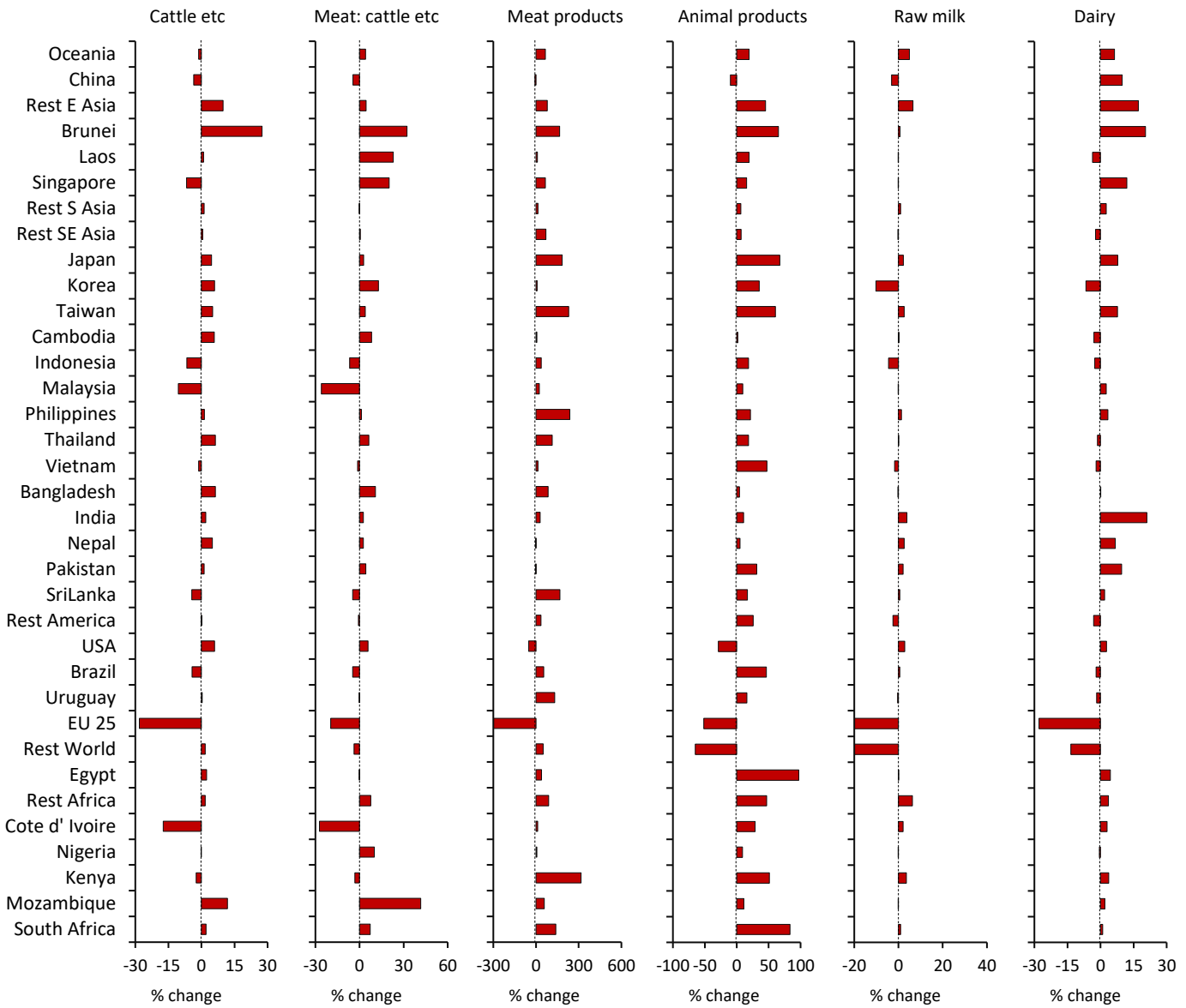


Figure 12. (Continued)
 (c) *Fats, sugars and food products*

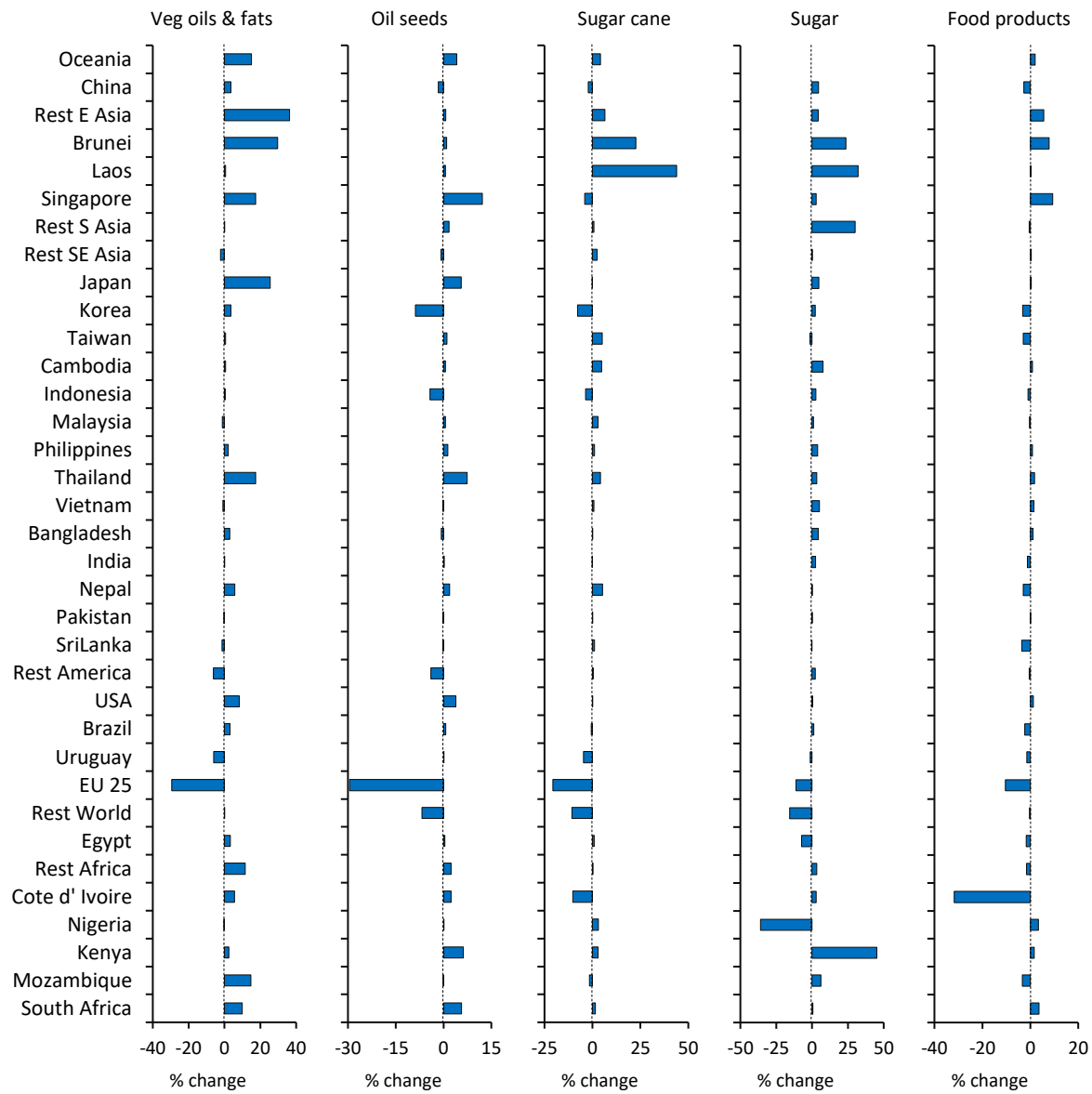


Figure 13. Impact on total non-CO₂ emissions under Scenario 1C. *Source:* Authors' own work based on GTAP Database and model.

(a) *Plant-based sector*

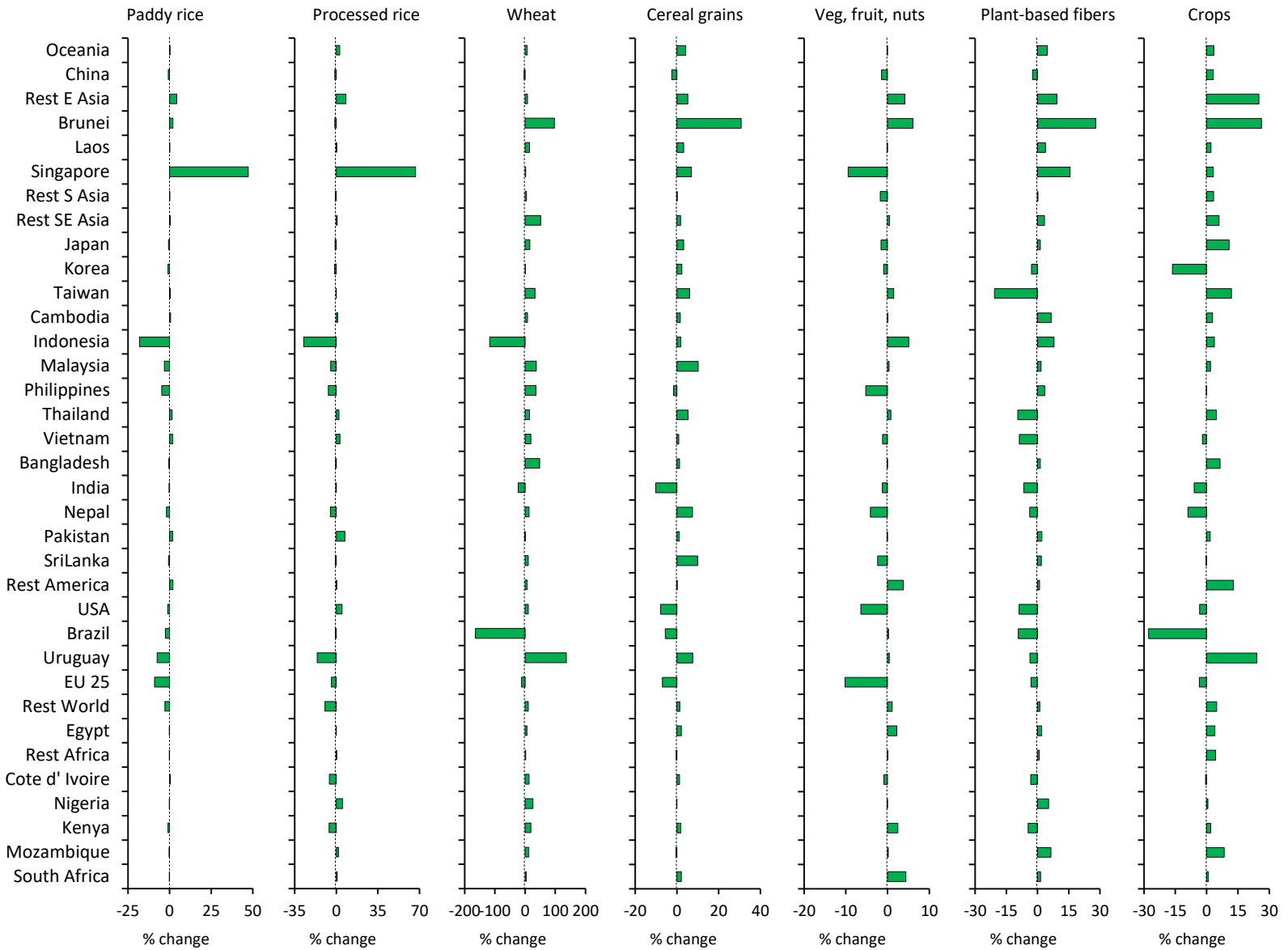


Figure 13. (Continued)
(b) Animal-based sector

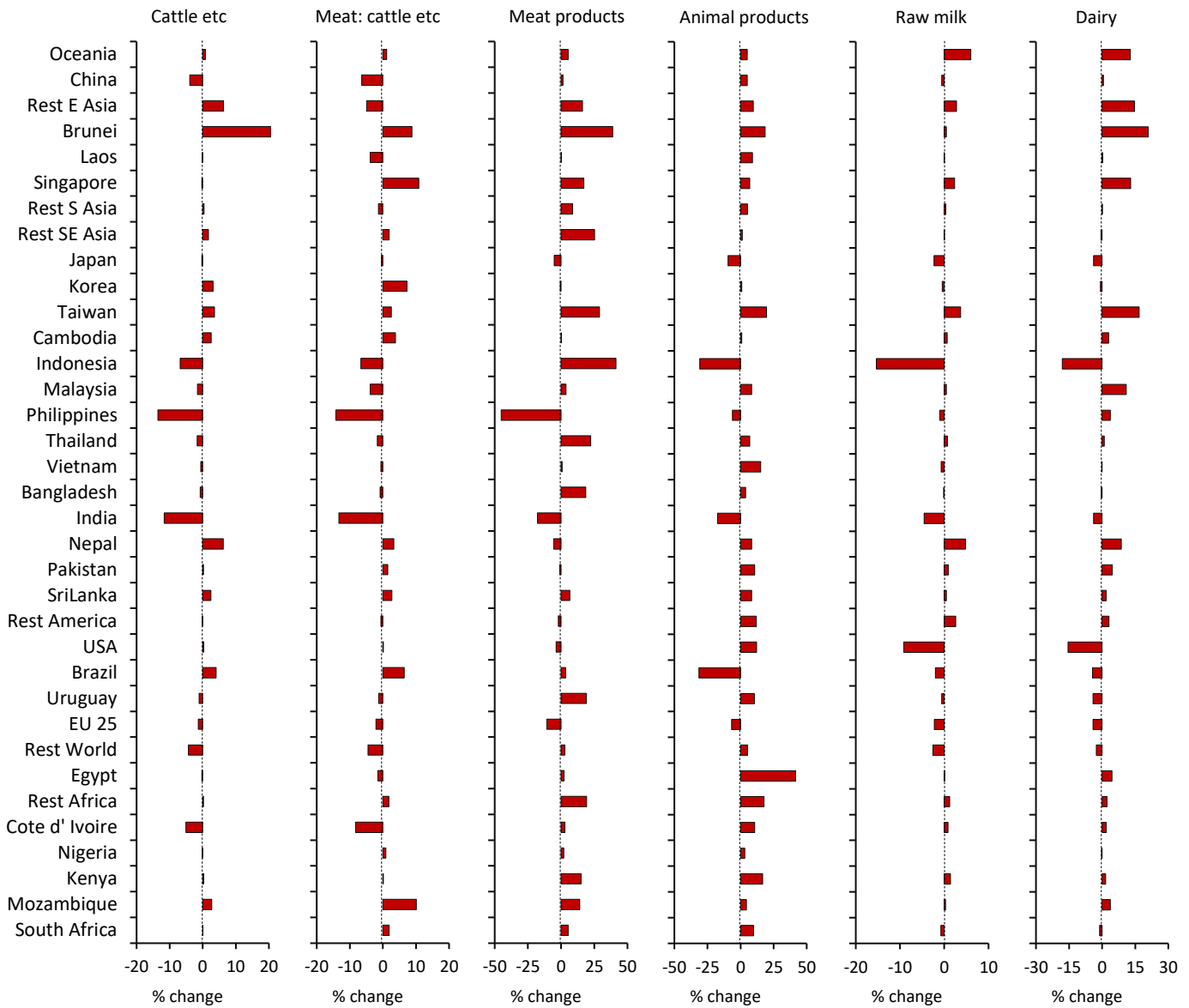


Figure 13. (Continued)
 (c) *Fats, sugars and food products*

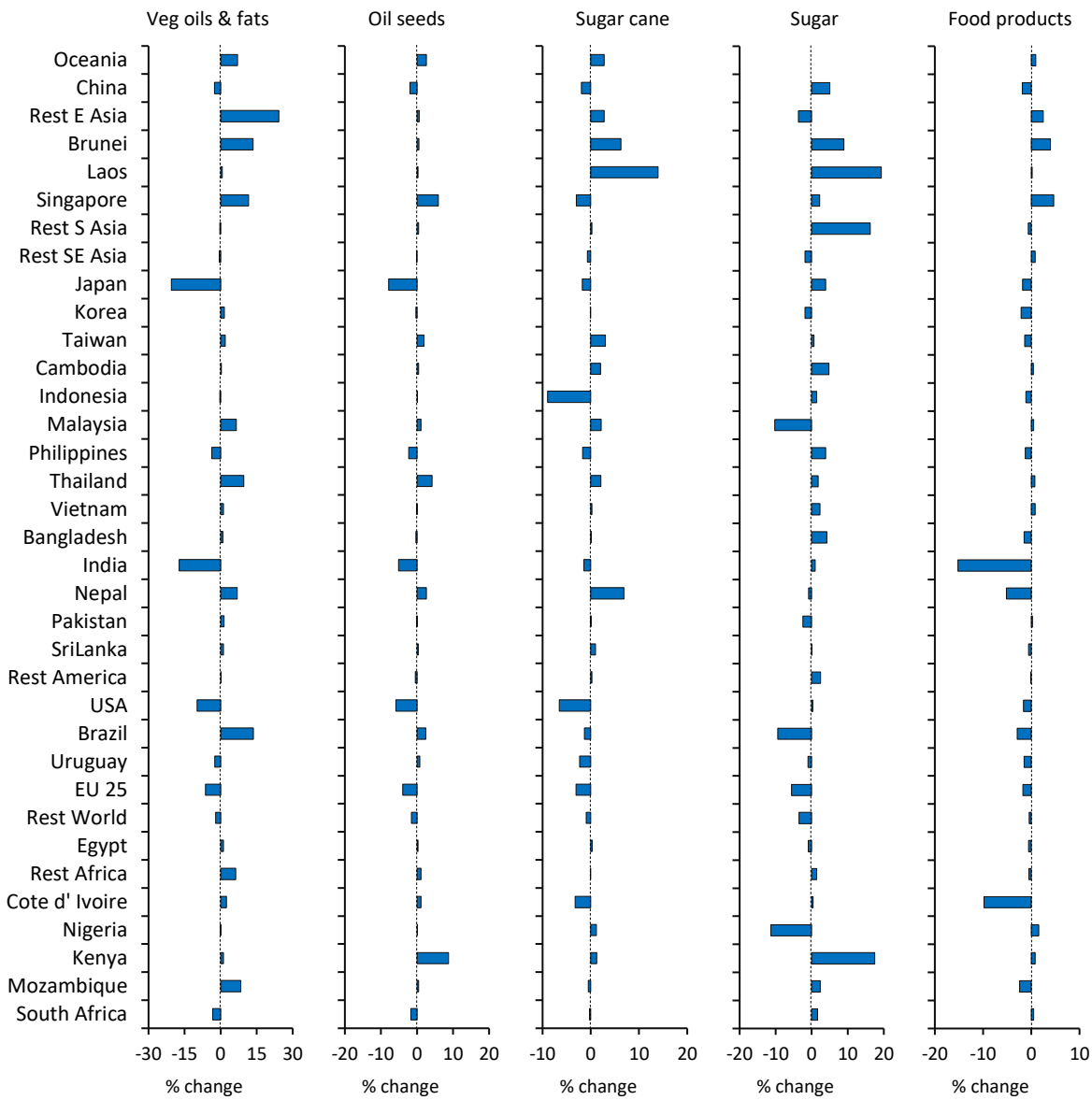


Figure 14. Impact on total non-CO₂ emissions under Scenario 1D. *Source:* Authors' own work based on GTAP Database and model.

(a) *Plant-based sector*

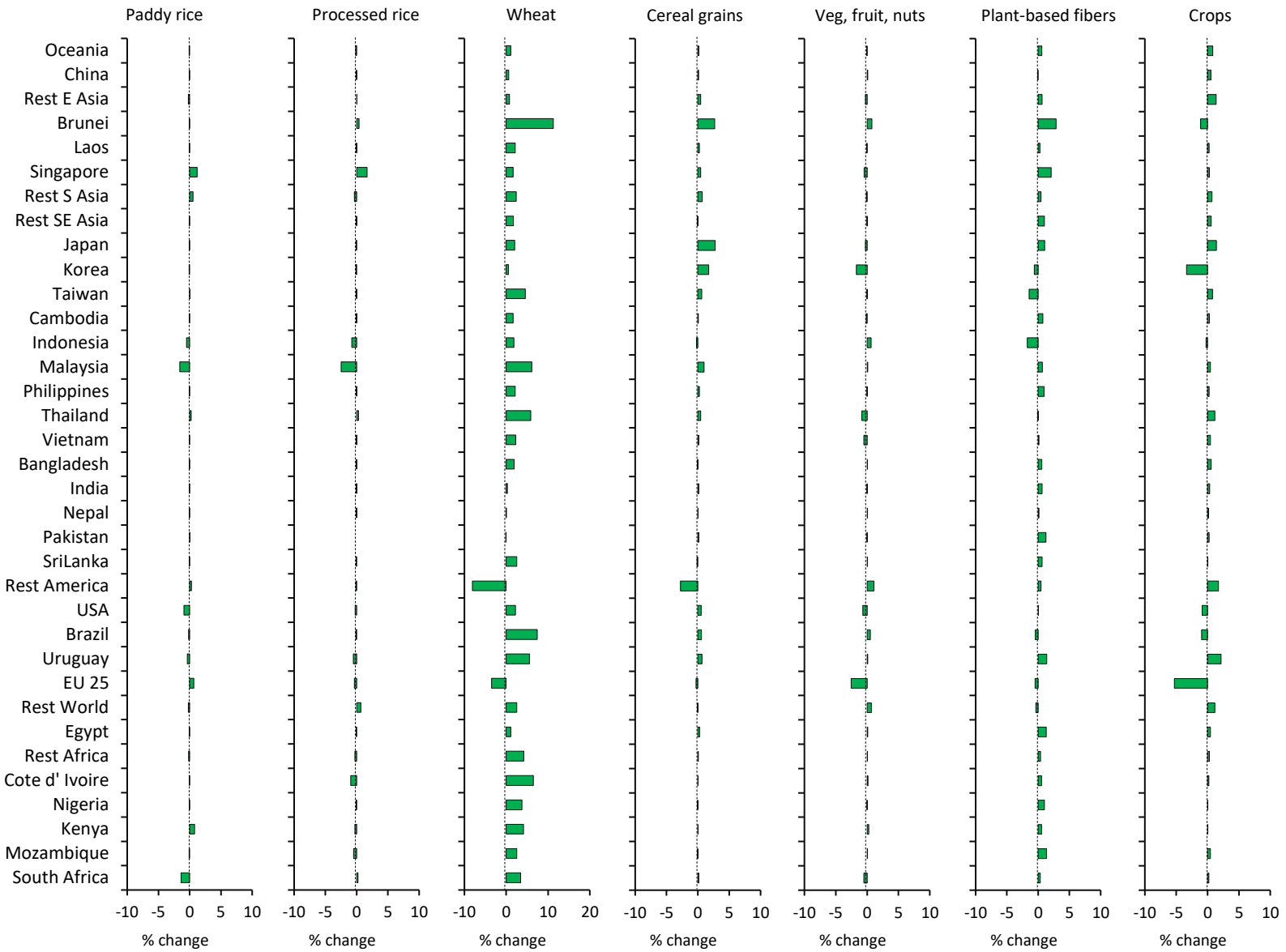


Figure 14. (Continued)
(b) Animal-based sector

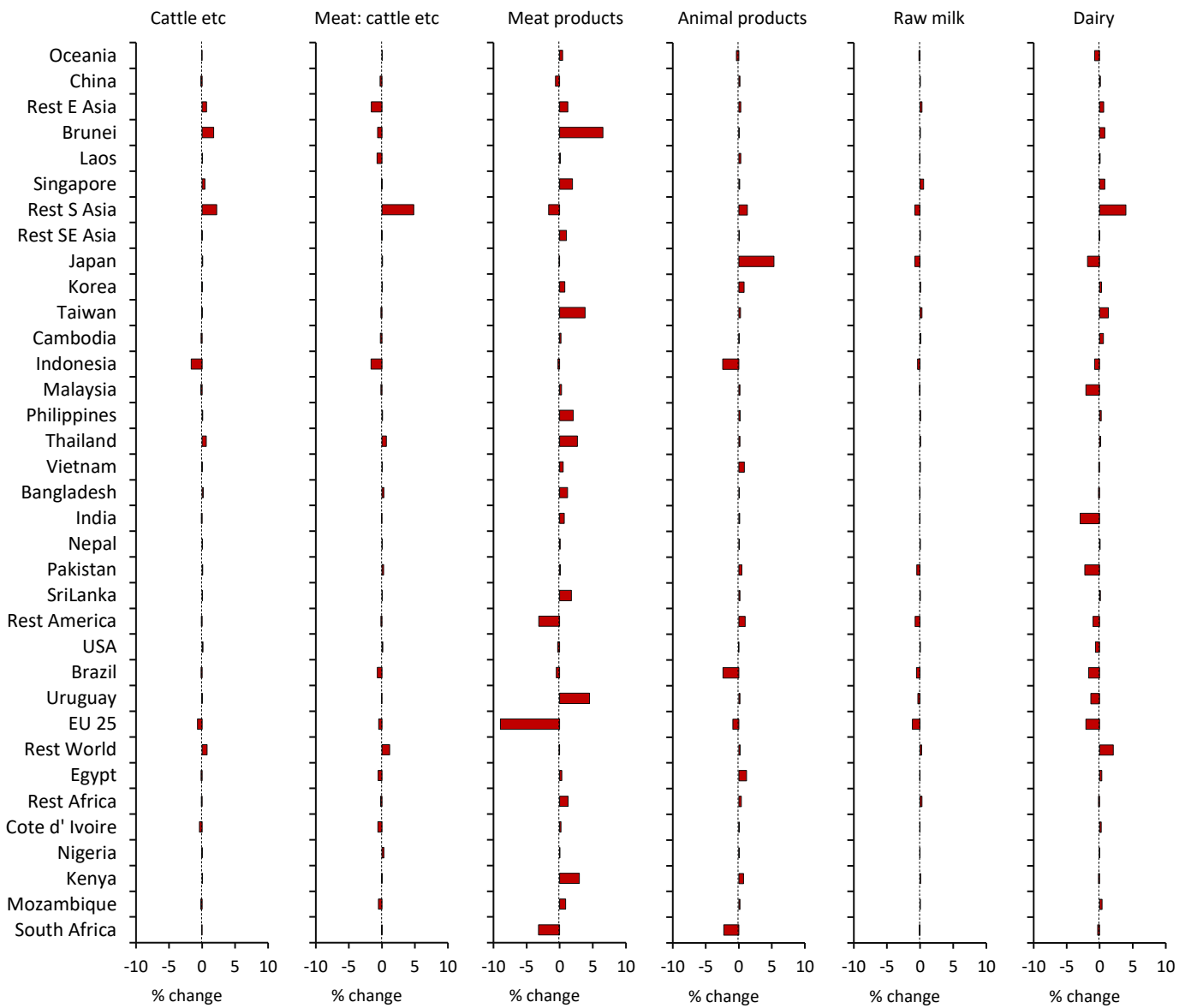


Figure 14. (Continued)
(c) Fats, sugars & food products

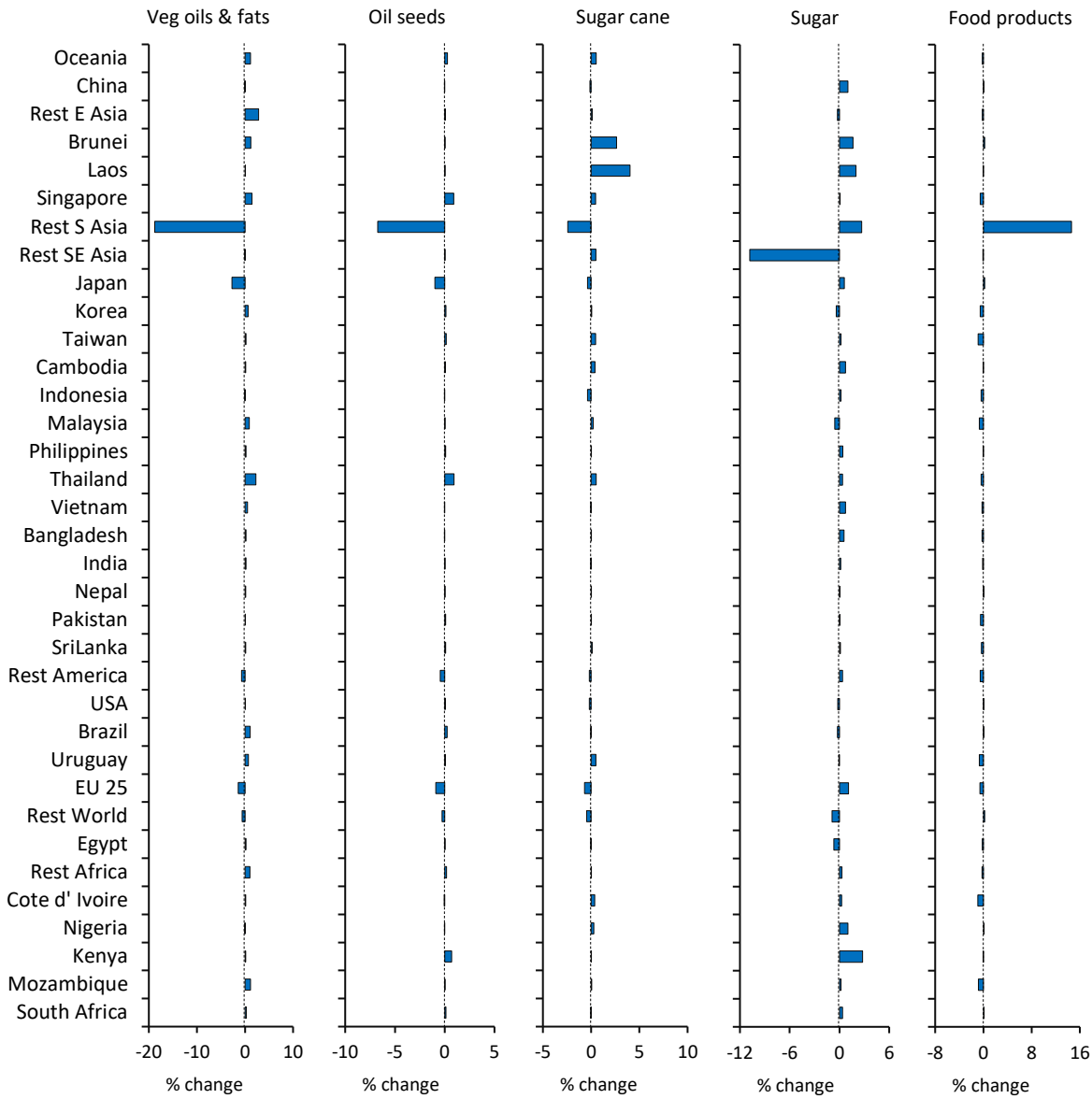


Figure 15. Impact on total non-CO₂ emissions under Scenario 2. *Source:* Authors' own work based on GTAP Database and model.

(a) *Plant-based sector*

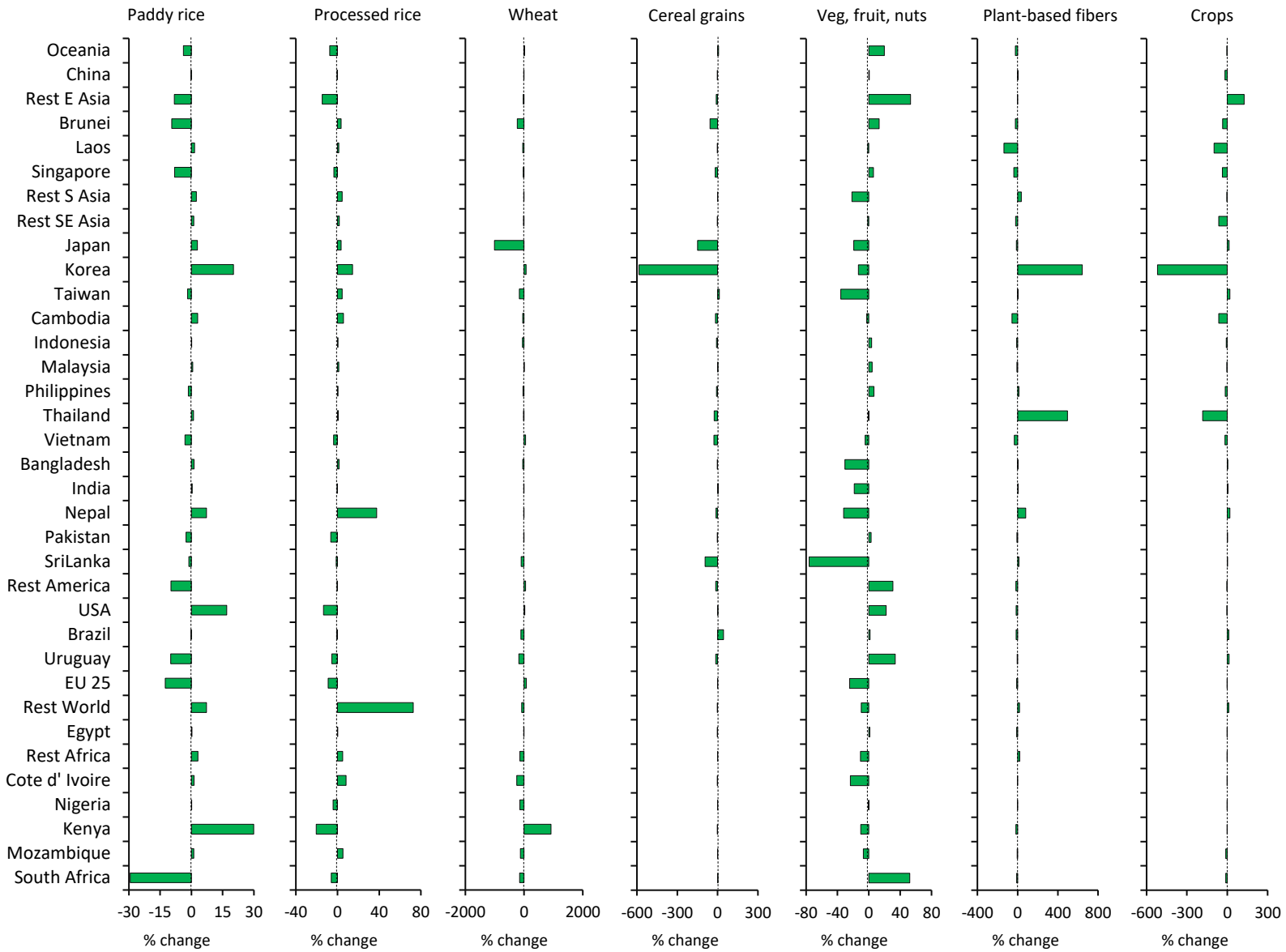


Figure 15. (Continued)
(b) Animal-based sector

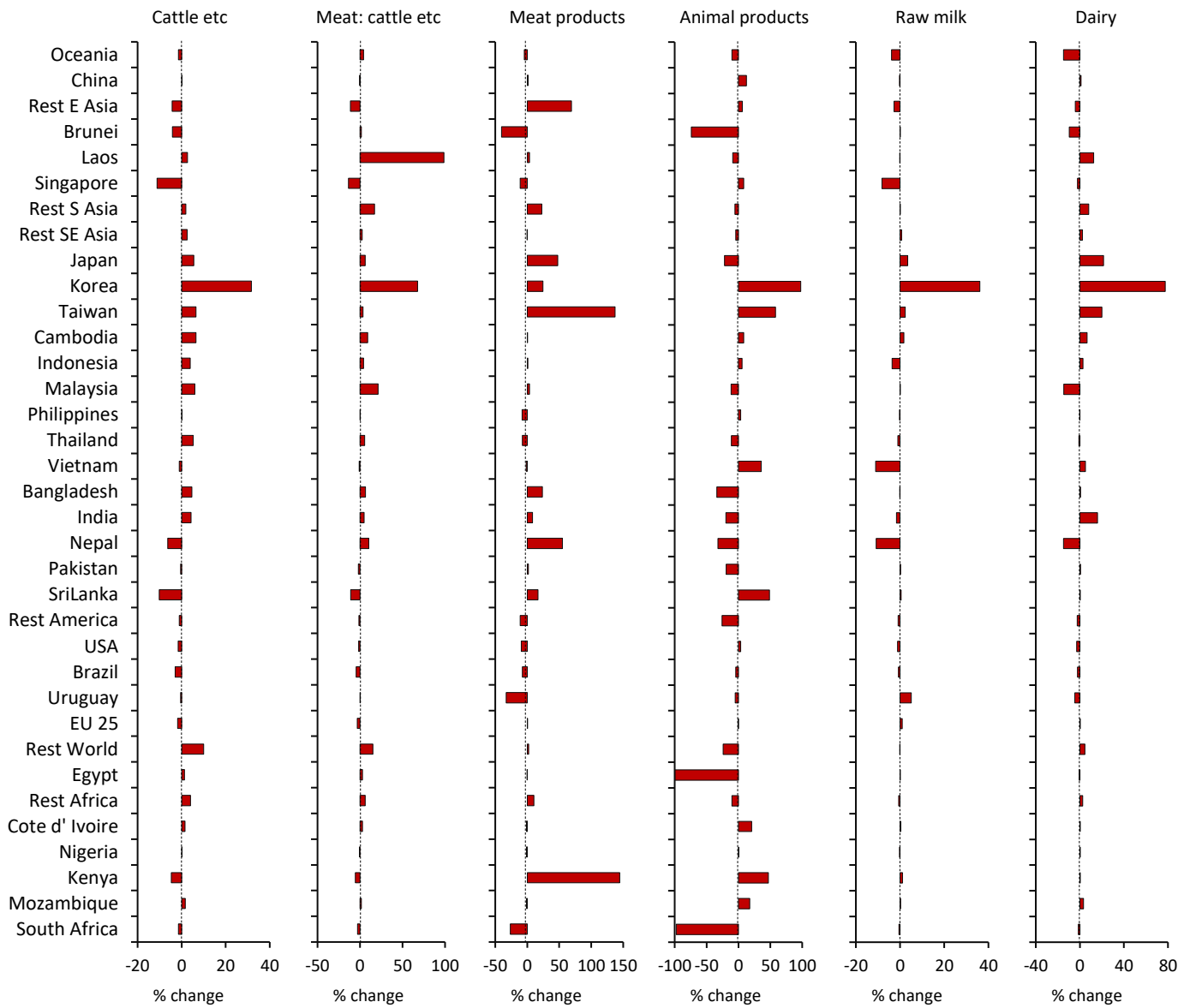


Figure 15. (Continued)
 (c) *Fats, sugars & food products*

