

Climate Change Impact *and* Competitive Analysis

of Sri Lankan Listed Plantation and
Agriculture-related Companies



PLANTATION &
AGRICULTURE



CLIMATE
IMPACTS



FINANCIAL
PERFORMANCE



COMPETITIVE
ANALYSIS

US\$4.1 Bn

[R]

Cyclone Ditwah direct damage (about 4% of GDP) hit the tea districts hardest

-46% vs +34%

[R]

Typical FY26 gross profit change: tea estates vs palm-heavy groups

8 of 24

[E]

Companies that would make a loss in a severe climate year (our model)

2026-27

[R]

El Niño: dry spells now, heavy rain Oct - Dec, drought risk Q1 - 2027

Climate stress is already in the numbers. In FY26, Ditwah, long wet spells and a wage rise halved gross profit at tea-dependent estate companies (AGPL - 55%, HAPU - 59%, MADU - 61%) while palm led ELPL, NAMU and WATA grew profit 23 - 27%.

High fixed costs magnify the hit. Tea estates carry largely fixed labour costs on 4 - 19% gross margins, so a 6% crop loss can remove 20 - 50% of net profit.

History confirms it. In the 2016 drought (national tea -12% vs 2011-15 average) gross profit at five estate companies was 43% to over 100% below the next year.

Most resilient: WATA, NAMU, ELPL (palm margins, diversification), GRAN and SUN (pricing power, scale). **Most sensitive:** MADU, KAHA, HAPU, AGPL, KGAL, and coconut processor RAL.

Watch next: a possibly very strong El Niño lasting to Feb-2027, after Aug-2026 high-grown output hit a 34-year low on excess rain.

2 CURRENT CLIMATE & AGRICULTURAL SITUATION

Ditwah's losses linger as El Niño brings the next shocks



US\$4.1 Bn

Ditwah direct physical damage about 4% of GDP



US\$814 Mn

Agriculture damage: paddy, vegetables, livestock



1 Mn kg

Tea crop lost to Ditwah (estimate); Badulla, Nuwara Eliya, Kandy worst hit



-4.7 Mn kg

Jan–Aug 2026 tea output vs 2025 (172.2 vs 176.9 Mn kg)

[R]

2024



Drought → coconut output 2.68 Bn nuts (vs 3.35 Bn in 2022)

Nov-2025



Cyclone Ditwah: 600+ deaths, about 2 Mn affected

Jan-2026



Estate wage Rs 1,350 → 1,750/day (estate company pays Rs 200)

Jun-2026



NOAA declares El Niño; Met Dept: effects to Feb-2027

Aug-2026



High-grown tea 3.1 Mn kg lowest month in 34 years (excess rain)

Oct–Dec 2026



Heavy rain forecast for wet zone & hill country

2027



Drought risk Q1; coconut supply hit about 12 months later

[R]

Forecast – Department Of Meteorology

Weather is the swing factor in a shrinking tea crop

Sri Lanka tea production, Mn kg



2016 - drought

[H]

Output -12% vs 2011-15 average. The clearest climate event in the series.

2022 - policy shock

[H]

Fertiliser ban (-16%), not climate but shows how fixed cost estates react to volume loss.

2025 - 26 wet extremes

[R]

Ditwah and a record-wet August 2026 cut high-grown volumes; Q1-2026 fell in all elevations.

Long run

[E]

World Bank, ADB: +2.9 - 3.5°C by 2090s (high emissions), days above 35°C from about 20 to 100+.

[H] - Historical data

[R] - Reported data from company annual report

[E] Estimated data from senfin Research

3 OVERVIEW OF LISTED COMPANIES

24 listed companies across four climate business models



High - grown tea estate companies

AGPL • HPL • MASK • TPL • BOPL • UDPL • MADU • KOTA

Own estates in Nuwara Eliya/Badulla, labour-heavy, exposed to landslides and heavy rain



Low/mid-grown tea & rubber

BALA • KAHA • KGAL • HAPU • KVAL

Ratnapura, Kegalle, Galle, rubber tapping days lost to rain, flood prone basins



Palm - led diversified

ELPL • NAMU • WATA

Low-country oil palm earns 35–51% gross margins, cushioning tea and rubber

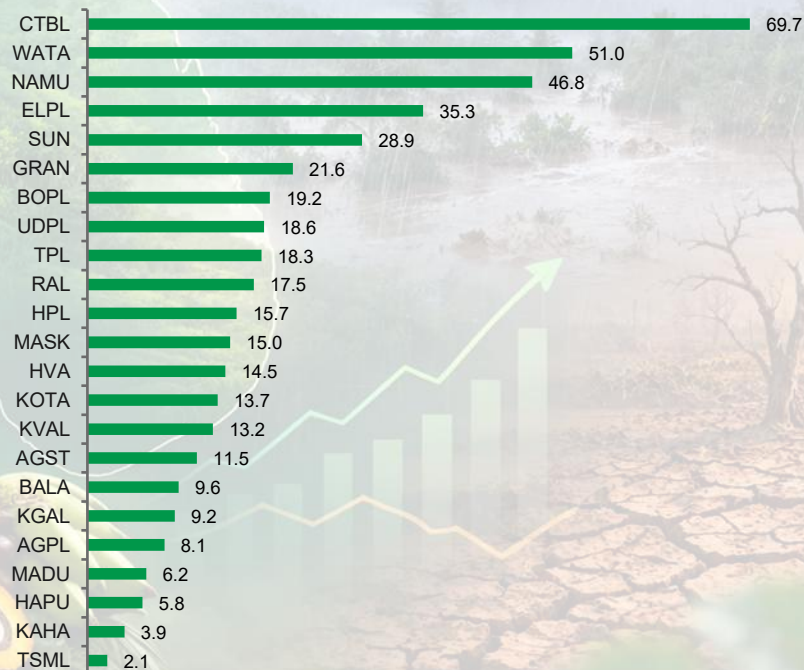


Agri - manufacturing & services

TSML • RAL • GRAN • AGST • HVA • CTBL • TESS

Buy crops or sell farm inputs; climate hits them through raw-material costs and farmer demand

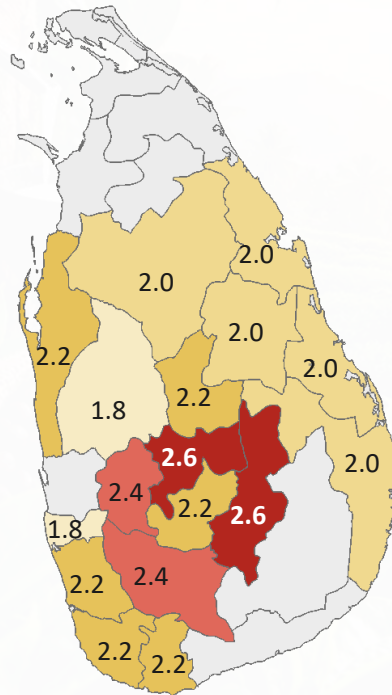
FY26 gross margin, % the size of each company's shock absorber



Nearly every plantation district is hazard-prone

Reading the map

- **Red core, 2.4–2.6 (Badulla, Kandy, Ratnapura, Kegalle):** all in NBRO's 10 landslide-prone districts and hardest hit by Ditwah. Excess rain and landslides dominate; Uva also faces dry spells.
- **Nuwara Eliya, 2.2:** high landslide and excess-rain risk, but low flood and drought ratings keep it out of the red.
- **Southwest wet zone, 2.2 (Galle, Matara, Kalutara):** Gin, Nilwala and Kalu river flooding; rain cuts rubber tapping days.
- **Dry zone and coconut triangle, 1.8–2.2 (Kurunegala, Puttalam, NCP/East):** drought and water stress; Ditwah also flooded 58,000 ha of eastern paddy.
- **El Niño 2026–27:** Met Dept expects below-normal rain in the north, east and parts of Uva now, then heavier rain in Sabaragamuwa, Kandy, Nuwara Eliya, Galle and Matara.



Overall hazard score (3 = High)



Grey = district not rated

Highest scores · hazards rated High

- 2.6 Badulla**
landslide, excess rain, Ditwah
- 2.6 Kandy**
landslide, flood, excess rain, Ditwah
- 2.4 Ratnapura**
landslide, flood, excess rain
- 2.4 Kegalle**
landslide, excess rain

Map base: d-maps.com

[E]

4 GEOGRAPHIC EXPOSURE ANALYSIS

Hill-country and Ratnapura/Badulla footprints score highest

High (9) · 2.31–2.60		Medium (12) · 1.90–2.28		Low (3) · 1.80–1.88
MADU 2.60 Badulla 100%	BALA 2.50 Ratnapura 50%, Badulla 50%	HPL 2.28 N. Eliya 80%, Kandy 20%	MASK 2.28 N. Eliya 80%, Badulla 20%	SUN 1.88 Colombo 80%, Galle 20%
AGPL 2.38 N. Eliya 55%, Badulla 45%	HAPU 2.38 Badulla 50%, Ratnapura 35%	ELPL 2.26 Galle 60%, N. Eliya 25%	TSML 2.25 Galle 50%, Matara 25%	TESS 1.80 Gampaha 100%
KGAL 2.37 Kegalle 55%, Badulla 30%	KAHA 2.35 Ratnapura 60%, N. Eliya 25%	KOTA 2.20 N. Eliya 60%, Kalutara 40%	TPL 2.20 N. Eliya 65%, Matara 25%	HVA 1.80 Colombo 100%
NAMU 2.34 Galle 40%, Badulla 35%	UDPL 2.34 N. Eliya 60%, Badulla 30%	WATA 2.20 Galle 60%, Kalutara 25%	BOPL 2.20 N. Eliya 85%, Kalutara 15%	
KVAL 2.31 N. Eliya 55%, Kegalle 30%		RAL 2.14 Kurunegala 45%, Kandy 30%	CTBL 1.99 Colombo 50%, N. Eliya 25%	
		AGST 1.92 Dry zone 60%, Kurunegala 40%	GRAN 1.90 Colombo 50%, dry zone 50%	

[E]

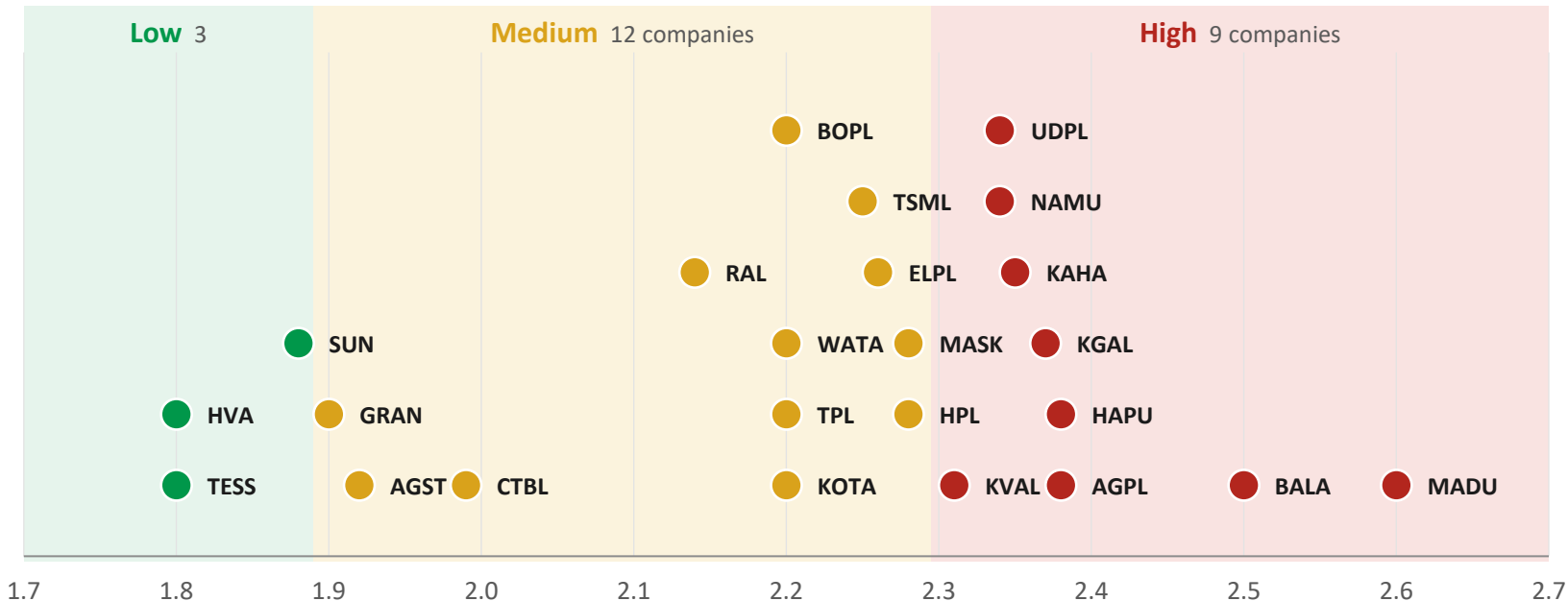
We estimated each district's weight from where annual reports place estates. Geography is one input: final exposure (page 20) also counts crop sensitivity and business model. **Method: Appendix, pages 28–29.**

[E] Estimated data from senfin Research

4 GEOGRAPHIC EXPOSURE ANALYSIS

Hill-country and Ratnapura/Badulla footprints score highest

Geographic hazard score by company (scale 1–3; higher = more exposed)



[E]

We estimated each district's weight from where annual reports place estates. Geography is one input: final exposure (page 20) also counts crop sensitivity and business model. Method: Appendix, pages 28–29.

[E] Estimated data from senfin Research

5 CROP-SPECIFIC CLIMATE RISKS

How each crop responds to drought and heavy rain

Crop	Drought	Heavy rain & floods	Commercial exposure
 Tea	High: flushing stops; yields –12% with a lag (2016)	High: lost plucking days; high-grown –16% (Aug-26)	Medium: smallholders supply about 70%; factories (TSML) hit first
 Rubber	Medium: longer wintering, lower latex flow	High: tapping days lost, leaf disease; FY26 crop –9% to –15%	High: costs exceed price (ELPL Rs 1,301 vs Rs 926/kg)
 Palm oil	Medium: bunch yields fall 6–24 months later	Low: harvest and transport disruption, low country	Low: prices track imports, 50%+ margins
 Coconut	High: output falls about 12 months later, lasts up to 3 years	Low: minor direct effect; low-lying groves flood	High: processors hit by spikes (nut about Rs 182, Apr-25)
 Rice & maize	High: Yala paddy –27% to –41% by 2060s; maize falls	High: Ditwah flooded 58,000 ha of paddy	Medium: drives feed costs (GRAN), fertiliser demand (AGST)
 Agri manufacturing	Medium: scarcer supply raises input costs, cuts volumes	Medium: logistics and factory downtime (KVAL about 1 week)	Medium: pass-through strong for GRAN/SUN, weak for HVA

Risk rating: High Medium Low *Indicative, based on the impacts cited*

Method: Appendix, pages 30–31.

High-grown tea estate companies: excess rain and landslides

Company	Crops & key locations	FY26 climate evidence [R]	Exposure	Key vulnerability [E]
AGPL	Tea 100% · Nuwara Eliya & Haputale (Badulla)	Crop -2% to 6.2 Mn kg, gross profit -55%, net profit -61% after Ditwah + wage	High	8.1% gross margin - little buffer
HPL	Tea 100% · Hatton, Lindula, Watawala	Ditwah damaged fields at peak, still crop +5.4%, net profit +1%	High	Single crop, single district, premium price helps
MASK	Tea 100% · Maskeliya, Talawakelle, Bandarawela	Gross profit -39%, selling price Rs 1,051 vs production cost Rs 855/kg	High	Price-cost gap narrows fast if crop falls
TPL	Tea + 3 mini-hydros · Talawakelle, Deniyaya	Crop loss Rs 103 Mn (low-grown -17.4%), hydro loss Rs 18 Mn	High	Hydro itself is rain dependent
BOPL	Tea + oil palm · Bogawantalawa/Dickoya	Crop +3%, net profit -46% on costs & tax	High	Palm diversifies about 15% of crop
UDPL	Tea (Uva) + rubber, coconut · Uda Pussellawa	Selling price -6%, Ditwah disrupted logistics	High	Cash-rich, now owns smallholder factories
MADU	Tea · Madulsima/Passara (Badulla)	Badulla among worst-hit, tree losses Rs 5 Mn, net profit -79%	High	Interest cost Rs 506 Mn exceeds gross profit Rs 273 Mn
KOTA	Tea + rubber + palm · Talawakelle & Horana	Prolonged wet weather cut tea & rubber, gross profit -15%	High	High debt, new equity Rs 761 Mn

Low/mid-grown, rubber and palm-led groups

Company	Crops & key locations	FY26 climate evidence [R]	Exposure	Key vulnerability [E]
BALA	Tea + rubber · Balangoda, Uva	Rubber –15% (weather + leaf disease), net profit –19%	High	Rubber is the most weather-sensitive crop
KAHA	Tea + rubber · Kahawatte, Pelmadulla	Ditwah hit mid-grown tea; loss Rs 75 Mn	High	Already loss - making
KGAL	Rubber 54%, tea, coconut, palm · Kegalle	Tea –5%, rubber –14%, net profit –76%	High	Rubber - heavy mix
HAPU	Tea + rubber · Passara, Rakwana	Estate crop –9%, rubber –10%, net profit –41%	High	5.8% gross margin
KVAL	Tea, rubber + Mabroc exports · Nuwara Eliya, Kegalle	About 1 week lost to Ditwah, rubber –9%	Medium	Export arm dilutes crop risk
ELPL	Tea 57%, palm, rubber, hydro · Galle, Nuwara Eliya	Tea +2%, hydro damaged, net profit +27%	Medium	Diversified, debt free
NAMU	Palm 66%, tea, rubber · Galle, Matara, Uva	Tea-bush damage 5.7 ha, net profit +23%	Medium	47% gross margin
WATA	Palm oil (+ dairy) · Udugama (Galle)	Palm gross margin 57.5%, net profit +24%	Medium	Drought lag risk on palm

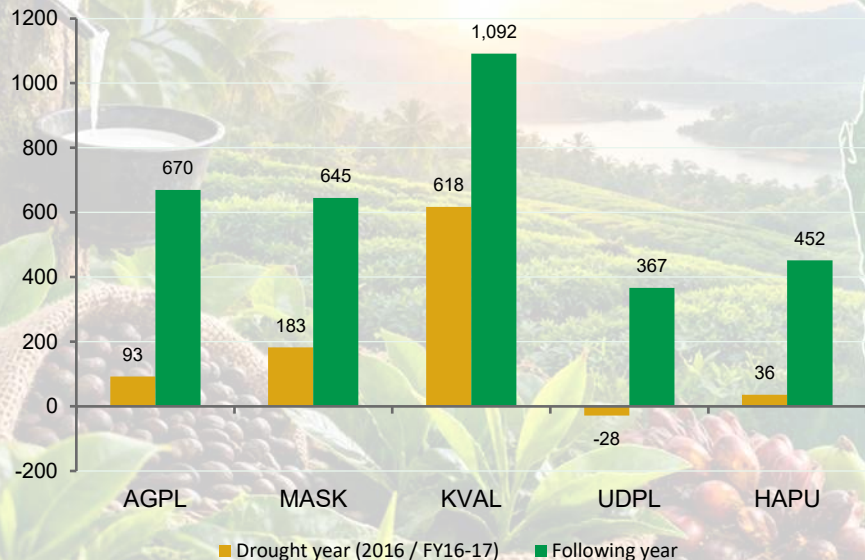
Agri-manufacturers: exposure via supply and prices

Company	Crops & key locations	FY26 climate evidence [R]	Exposure	Key vulnerability [E]
TSML	Tea factories on smallholder leaf · Galle, Matara	Ditwah supply disruption, 2% gross margin	High	Leaf volume and price both move against it
RAL	Coconut products · coconut triangle, Kandy estates	FY25 loss on 2024 drought → FY26 net profit Rs 510 Mn as supply recovered	High	El Niño hits 2027 nut supply
GRAN	Feed, chicks, poultry · Mutwal, dry zone maize	Local maize +21.7%, net profit +31%	Medium	Imports and pricing power protect it
AGST	Fertiliser, crop care · island wide	Fertiliser demand +26% on good rains, crop care –11%	Medium	Demand falls in drought/flood seasons
HVA	Tea exports (Heladiv)	Near breakeven: net profit Rs 7 Mn	Medium	Auction price spikes squeeze margin
SUN	Healthcare, consumer, palm & dairy	Palm net profit Rs 2.6 Bn, group net profit –2%	Low	Agri <15% of revenue
CTBL	Tea broking & warehousing	Ditwah removed about 1 Mn kg from auctions, net profit recovered	Low	Commission tracks value, not only volume
TESS	Agri inputs (very small)	Revenue Rs 25 Mn	Low	Too small to matter

7 HISTORICAL FINANCIAL IMPACT

Small weather-driven crop losses cause large profit swings

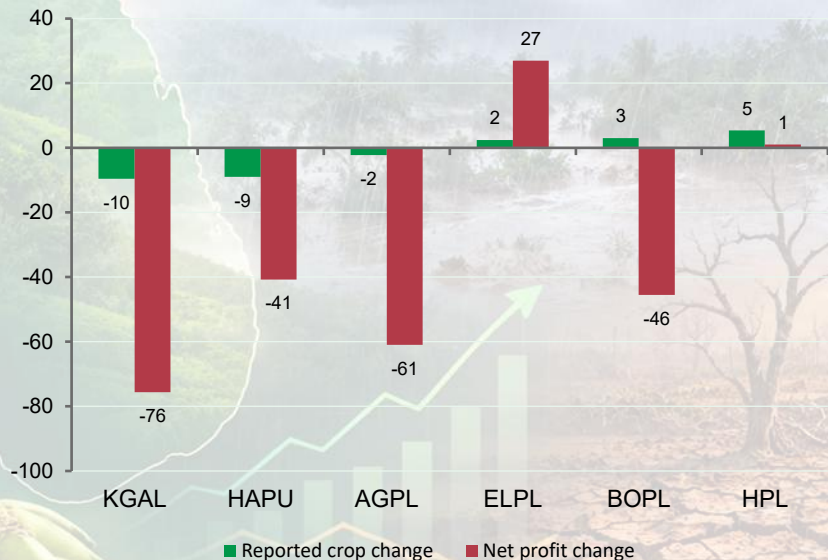
Gross profit, Rs Mn - 2016 drought vs next year



[H]

Gross profit was 43% (KVAL) to over 100% (UDPL) lower in the drought year. Part of the rebound reflects 2017 record prices, itself a result of the shortage.

FY26: crop change vs net profit change, %



[R]

KGAL crop change weights tea (-5%) and rubber (-14%) by revenue. Net profit also reflects the Jan 2026 wage rise, lower auction prices and tax, so not all is climate.

7 HISTORICAL FINANCIAL IMPACT

How a climate event flows through to earnings



Climate event



Production



Revenue



Gross profit



Net profit

HAPU FY26 (reported)

[R]

Ditwah + wet weather

Estate tea -9%, rubber -10%

Rs 4,485 Mn (-9.7%)

Rs 261 Mn (-59%)

Rs 201 Mn (-41%)

TPL FY26 (reported, SLFRS S2)

[R]

Ditwah, low grown weather

Low grown -17.4%

Crop loss Rs 102.9 Mn

+ Rs 17.9 Mn hydro loss

Net climate cost about 3.6% of revenue

AGPL (moderate stress)

[E]

Wet year / dry spell

-6.0%

-4.1% (Rs -303 Mn)

-33% vs base

-45% (Rs -140 Mn)

AGPL (severe stress)

[E]

2016-type drought / Ditwah type flood

-15.0%

-10.2% (Rs -757 Mn)

Gross loss

Loss of Rs 50 Mn

Historical/reported (green) → estimated future (amber).

AGPL estimates. Method: Appendix, pages 30-33.

[R] - Reported data from company annual report

[E] Estimated data from senfin Research

8 REVENUE & PROFIT SENSITIVITY ANALYSIS

Scenario design: shocks based on Sri Lankan history

Driver	Base	Moderate stress	Severe stress	Price offset	Based on
Tea volume	FY26	-6%	-15%	30%	FY26 weather hit estates -2% to -9%, 2016 drought -12%, TPL low grown -17%
Rubber volume	FY26	-10%	-22%	20%	FY26 KVAL -9%, HAPU -10%, BALA -15%, KGAL -14%
Palm oil volume	FY26	-5%	-12%	10%	Drought lag, wet-zone location limits exposure, prices track imports
Coconut supply	FY26	-8%	-20%	50% (x2.5 input cost)	National -20% 2022 → 24, nut prices roughly doubled
Maize supply	FY26	-8%	-20%	x1.0 input cost	Rain-fed dry zone, imports cap price
Agri-input demand	FY26	-5%	-12%	0%	Crop care revenue -11% in FY26 weather hit areas
Extra climate cost	—	0.5% of exposed revenue	1.5% of exposed revenue	—	TPL FY26 Ditwah costs + write offs about Rs 40 Mn (0.5%)

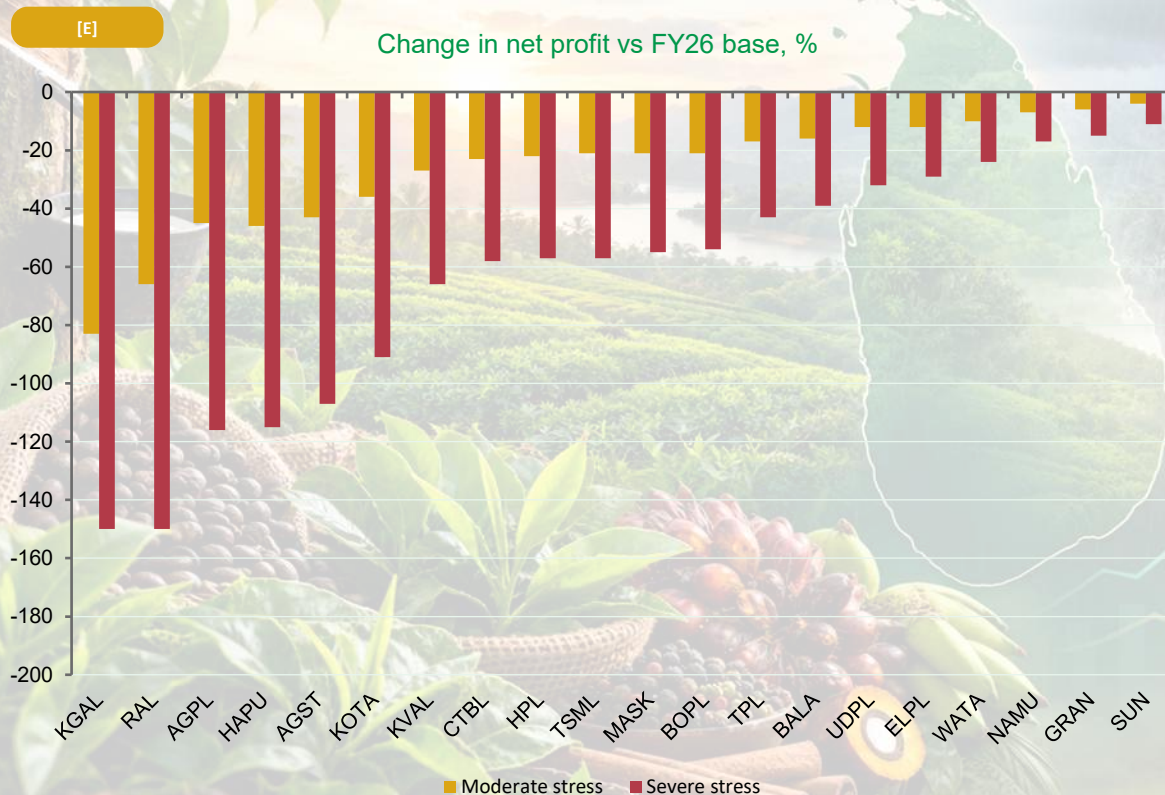
Model mechanics

- Crop revenue falls with volume, partly offset by higher prices. Only variable costs fall with volume (30–35% of cost of sales for estates, 75–85% for processors and traders); the rest is fixed labour.
- Processors pay more for scarce inputs and pass part on (RAL 60%, GRAN 50%, HVA 50%).
- The base is FY26 actual results, which already include Ditwah; impacts are on top of that year. Tax at 30% on the change.

[E]

8 REVENUE & PROFIT SENSITIVITY ANALYSIS

Single-crop tea and rubber estates lose most profit



Reading the results

- Moderate stress cuts tea estate revenue about 4% but net profit 12–46%, because most costs are fixed.
- Severe stress pushes AGPL, KGAL, HAPU, RAL and AGST into losses.
- Palm-led WATA, NAMU and ELPL lose 17–29% of net profit even when severe.
- GRAN and SUN fall ≤15%.
- Not shown (tiny or negative base): KAHA, MADU and HVA losses would deepen to Rs -307, -158 and -27 Mn.

Bars capped at -150%. Estimates show sensitivity to shocks; they are not forecasts.

Method: Appendix, pages 30–34.

Revenue and profit under each scenario (Rs Mn)

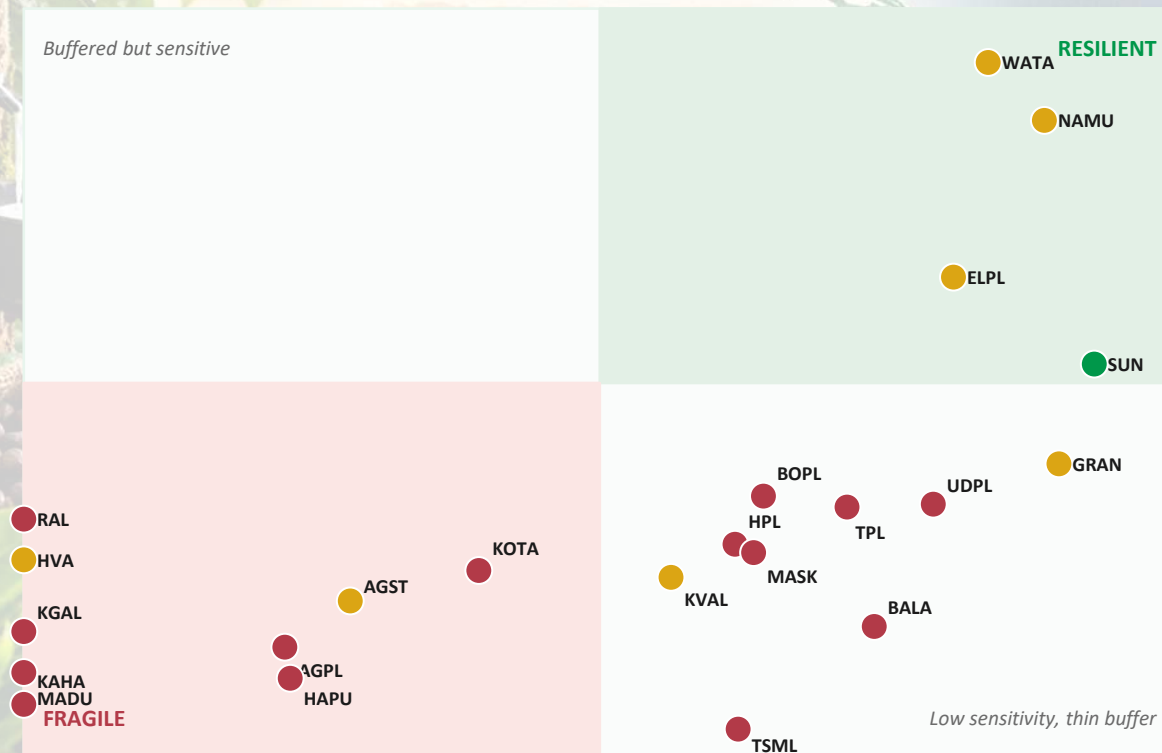
Co.	Base profit	Revenue change (mod / sev)	Profit (mod)	Profit (sev)	Co.	Base profit	Revenue change (mod / sev)	Profit (mod)	Profit (sev)
AGPL	312	-4.1% / -10.2%	172	-50	UDPL	551	-4.2% / -10.4%	483	377
BALA	597	-4.7% / -11.3%	503	362	WATA	2,330	-4.0% / -9.5%	2,097	1,761
ELPL	1,688	-4.0% / -9.7%	1,492	1,199	BOPL	568	-4.1% / -10.2%	449	263
HPL	726	-4.1% / -10.2%	565	309	HAPU	201	-4.5% / -11.0%	109	-31
KAHA	-75	-4.5% / -11.0%	-167	-307	TSML	166	-4.2% / -10.5%	130	71
KGAL	126	-6.1% / -13.9%	22	-122	RAL	510	+5.5% / +13.8%	174	-341
KOTA	348	-4.6% / -11.0%	222	32	AGST	197	-3.5% / -8.4%	112	-15
KVAL	839	-1.7% / -4.1%	616	287	GRAN	4,120	+1.1% / +2.7%	3,873	3,493
MADU	52	-4.1% / -10.2%	-29	-158	SUN	5,036	-0.5% / -1.3%	4,815	4,501
MASK	658	-4.1% / -10.2%	518	296	TESS	16	-3.0% / -7.2%	16	16
NAMU	1,880	-4.4% / -10.6%	1,748	1,558	HVA	7	+0.6% / +1.5%	-6	-27
TPL	926	-4.0% / -10.0%	770	524	CTBL	136	-2.9% / -7.3%	104	57

[E]

Red = loss. Revenue rises for RAL, GRAN, HVA under stress because higher input prices are partly passed on profit still falls.

Resilience map: margin cushion vs profit at risk

FY26 gross margin (0–55%)



What separates winners

- Crop mix: palm oil's 35 - 57% margins absorb shocks.
- Pricing power: GRAN and SUN pass costs on.
- Balance sheet: debt-free ELPL/UDPL can fund recovery.
- Fragile cluster: thin margin tea & rubber estates in Badulla, Ratnapura and Kegalle.

Dot colour = climate exposure (red High, amber Medium, green Low).

[E]

← More sensitive Severe-stress net profit impact (% , capped at -150%) Less sensitive →

x-axis: model output (Severe stress), y-axis: FY26 reported gross margin. CTBL (70% gross margin, service model) and TESS omitted for scale.

Method: Appendix, page 36.

[E] Estimated data from senfin Research

9 COMPETITIVE / RESILIENCE ANALYSIS

Resilience factors compared across companies

Co.	Geo spread	Crop mix	Integr.	Pricing	Balance sheet	Water / renew.	Disclosure
AGPL	Med	Low	Low	Low	Med	Med	Med
BALA	Med	Med	Low	Low	Med	Low	Low
ELPL	High	High	High	High	High	High	High
HPL	Low	Low	Med	Med	Med	Med	Low
KAHA	Med	Med	Low	Low	Low	Low	Low
KGAL	High	High	Low	Low	Med	Low	High
KOTA	High	Med	Low	Low	Med	Med	Med
KVAL	High	Med	High	Med	Med	High	High
MADU	Low	Low	Low	Low	Low	Low	Low
MASK	Med	Low	Low	Low	Med	Med	High
NAMU	High	High	High	High	High	Med	High
TPL	High	Low	Med	Med	High	High	High

Co.	Geo spread	Crop mix	Integr.	Pricing	Balance sheet	Water / renew.	Disclosure
UDPL	Med	Med	Med	Low	High	Low	Low
WATA	Med	Med	High	High	High	High	Med
BOPL	Med	Med	Low	Med	Med	Med	Med
HAPU	Med	Med	Low	Low	Med	Low	Low
TSML	Med	Low	Med	Low	Low	Low	Low
RAL	Med	Low	High	Med	Med	Med	Low
AGST	High	Med	Low	Low	Low	Low	Low
GRAN	Med	Med	High	High	High	Low	High
SUN	High	High	High	High	High	Med	Med
TESS	Low	Low	Low	Low	Med	Low	Low
HVA	Med	Low	Med	Low	Low	Low	Low
CTBL	High	Low	Low	Med	Med	Low	Low

[E]

Green = strength. Based on segment mix, estate spread, processing links, margins, debt levels, hydro/RSPO/irrigation and climate disclosure depth. **Method: Appendix, page 36.**

10 CLIMATE RISK COMPARISON MATRIX

How companies compare on climate risk

Company	Main crops / products	Key locations	Exposure	Main climate risk	Output change (mod / sev)	Revenue change (mod / sev)	Profit change (mod / sev)	Resilience measures
AGPL	Tea	Nuwara Eliya, Badulla	High	Excess rain, landslides	-6% / -15%	-4.1% / -10.2%	-45% / -116%	Mechanisation, renewables
BALA	Tea, rubber	Ratnapura, Badulla	High	Rain → tapping loss, disease	-7% / -16%	-4.7% / -11.3%	-16% / -39%	Low debt
ELPL	Tea, palm, rubber, hydro	Galle, Nuwara Eliya	Medium	Floods, hydro outage	-6% / -14%	-4.0% / -9.7%	-12% / -29%	Diversified, debt-free
HPL	Tea	Nuwara Eliya	High	Prolonged rain, Dittwah	-6% / -15%	-4.1% / -10.2%	-22% / -57%	Soil conservation, premium teas
KAHA	Tea, rubber	Ratnapura	High	Floods, landslides	-7% / -16%	-4.5% / -11.0%	-123% / -309%	Limited
KGAL	Rubber, tea, coconut	Kegalle	High	Rain → tapping loss	-8% / -19%	-6.1% / -13.9%	-83% / -196%	Coconut & palm growth
KOTA	Tea, rubber, palm	Nuwara Eliya, Kalutara	High	Wet weather, landslides	-7% / -16%	-4.6% / -11.0%	-36% / -91%	New equity, precision agri
KVAL	Tea, rubber, exports	Nuwara Eliya, Kegalle	Medium	Flooding, power loss	-7% / -16%	-1.7% / -4.1%	-27% / -66%	Export arm, reporting
MADU	Tea	Badulla	High	Landslides, Uva dry spells	-6% / -15%	-4.1% / -10.2%	-156% / -403%	Weak
MASK	Tea	Nuwara Eliya, Uva	High	Rain variability, drought	-6% / -15%	-4.1% / -10.2%	-21% / -55%	Risk framework
NAMU	Palm, tea, rubber	Galle, Matara, Uva	Medium	Floods, palm drought lag	-6% / -13%	-4.4% / -10.6%	-7% / -17%	Palm JV, diversification
TPL	Tea, hydro	Nuwara Eliya, Deniyaya	High	Excess rain, hydro	-6% / -15%	-4.0% / -10.0%	-17% / -43%	Hydro, SLFRS S2, premium

[E]

Exposure: High / Medium / Low combines geography, crop sensitivity and business model. Red profit = loss-making under severe stress. **Method: Appendix, pages 30–35.**

[E] Estimated data from senfin Research

10 CLIMATE RISK COMPARISON MATRIX

Climate risk comparison matrix (continued)

Company	Main crops / products	Key locations	Exposure	Main climate risk	Output change (mod / sev)	Revenue change (mod / sev)	Profit change (mod / sev)	Resilience measures
UDPL	Tea, rubber, coconut	Nuwara Eliya, Uva	High	Rain, landslides	-6% / -16%	-4.2% / -10.4%	-12% / -32%	Cash, TSML integration
WATA	Palm oil, dairy	Galle, Kalutara	Medium	Drought lag, floods	-5% / -12%	-4.0% / -9.5%	-10% / -24%	RSPO, water mgmt
BOPL	Tea, palm	Nuwara Eliya	High	Excess rain, drought	-6% / -15%	-4.1% / -10.2%	-21% / -54%	Palm, carbon positioning
HAPU	Tea, rubber	Badulla, Ratnapura	High	Landslides, floods	-7% / -16%	-4.5% / -11.0%	-46% / -115%	Limited
TSML	Bought-leaf tea	Galle, Matara	High	Smallholder supply loss	-6% / -15%	-4.2% / -10.5%	-21% / -57%	UDPL group
RAL	Coconut products	Coconut triangle	High	Drought → nut prices	-8% / -20%	+5.5% / +13.8%	-66% / -167%	Own estates, rainwater
AGST	Fertiliser, crop care	Island wide	Medium	Demand loss in drought/flood	-5% / -12%	-3.5% / -8.4%	-43% / -107%	Product mix
GRAN	Feed, poultry	Colombo, dry zone maize	Medium	Maize drought, heat	-8% / -20%	+1.1% / +2.7%	-6% / -15%	Imports, pricing power
SUN	Healthcare, consumer, palm	Colombo, low country	Low	Palm & tea inputs	-5% / -12%	-0.5% / -1.3%	-4% / -11%	Diversification
TESS	Agri inputs	Gampaha	Low	Demand	-5% / -12%	-3.0% / -7.2%	-2% / -4%	—
HVA	Tea exports	Colombo	Medium	Auction price spikes	-6% / -15%	+0.6% / +1.5%	-183% / -480%	Brand
CTBL	Tea broking	Colombo	Low	Lower volumes	-6% / -15%	-2.9% / -7.3%	-23% / -58%	Price offset

[E]

Exposure: High / Medium / Low combines geography, crop sensitivity and business model. Red profit = loss-making under severe stress. Method: Appendix, pages 30–35.

[E] Estimated data from senfin Research

Financial vulnerability comparison

Company	Revenue exposure	Production exposure	Cost exposure	Climate risk	Financial sensitivity	Adaptation capacity	Reasoning
AGPL	High	High	High	High	High	Medium	8.1% gross margin, 6% crop loss erases about 45% of net profit
BALA	High	High	High	High	Medium	Medium	Rubber –15% in 2025, low debt cushions
ELPL	Medium	Medium	Medium	High	Low	High	Palm & JV earnings, zero debt, Rs 3.5 Bn investments
HPL	High	High	High	High	Medium	Medium	Single crop, premium pricing, 15.7% gross margin
KAHA	High	High	High	High	High	Low	Loss-making, 3.9% gross margin, accumulated losses
KGAL	High	High	High	High	High	Medium	Rubber - heavy, net profit –76% in FY26
KOTA	High	High	High	High	High	Medium	13.7% gross margin, finance cost Rs 311 Mn
KVAL	Medium	Medium	Medium	Medium	Medium	High	Trading arm dilutes crop risk, strong reporting
MADU	High	High	High	High	High	Low	Finance cost exceeds gross profit
MASK	High	High	High	High	Medium	Medium	Price-cost gap Rs 200/kg
NAMU	Medium	Medium	Low	Medium	Low	High	47% gross margin from palm
TPL	High	High	Medium	High	Medium	High	Hydro hedge, best quantified disclosure

[E]

For adaptation capacity, green = strong. Ratings are our judgement from reported margins, debt levels, crop mix and adaptation investments. **Method: Appendix, page 35.**

Financial vulnerability comparison (continued)

Company	Revenue exposure	Production exposure	Cost exposure	Climate risk	Financial sensitivity	Adaptation capacity	Reasoning
UDPL	High	High	High	High	Medium	Medium	18.6% gross margin, net finance income
WATA	Medium	Medium	Low	Medium	Low	High	51% gross margin, RSPO, Sunshine backing
BOPL	High	High	High	High	Medium	Medium	19% gross margin, palm diversification
HAPU	High	High	High	High	High	Low	5.8% gross margin, crop -9% → net profit -41%
TSML	High	High	High	High	Medium	Low	2% gross margin, group support
RAL	Medium	High	High	High	High	Medium	FY25 loss on nut shortage
AGST	Medium	Low	Medium	Medium	High	Low	Thin margin, high finance cost
GRAN	Low	Low	Medium	Medium	Low	High	21.6% gross margin, pricing power
SUN	Low	Low	Low	Low	Low	High	Agri <15% of revenue
TESS	Low	Low	Low	Low	Low	Low	Too small to matter
HVA	Medium	Low	High	Medium	High	Low	Near-breakeven, weak pricing power
CTBL	Low	Low	Low	Low	Medium	Medium	Commission tracks auction value

[E]

For adaptation capacity, green = strong. Ratings are our judgement from reported margins, debt levels, crop mix and adaptation investments. **Method: Appendix, page 35.**

11 KEY RISKS FOR EQUITY INVESTORS

What this means for investors



Profits most at risk

[E]

MADU, KAHA, HAPU, AGPL, KGAL, RAL: thin margins or already loss-making; severe stress means losses



Most climate-sensitive crops

[R]

Pure tea: AGPL, HPL, MASK, MADU, TPL.
Rubber-heavy: KGAL, BALA



Best geographic spread

[R]

ELPL, KVAL, TPL, KOTA, NAMU - hill country plus low country



Strongest supply-chain resilience

[E]

GRAN (imports, integration)
SUN, WATA/NAMU/ELPL (own palm + processing)



Lasting cost increases

[E]

All tea estate companies: wage Rs 1,750/day (estate companies pay +Rs 200), about +9% to full-year production cost, plus rehabilitation and insurance



Could gain from higher prices

[E]

Producers whose crop survives a regional shock: western slope estates if Uva dries out, palm producers if El Niño lifts vegetable oil prices, CTBL via higher auction values

Wage cost estimate assumes labour about 60 - 65% of tea cost of production and Rs 200 on a Rs 1,350 base (+14.8% wage).

Method: Appendix, pages 32 and 35.

[R] - Reported data from company annual report

[E] Estimated data from senfin Research

Key climate-related risks and what investors should monitor

1

El Niño 2026 - 27

Dry spells now, heavy rain Oct – Dec, drought risk Q1 - 2027. Tea and coconut supply hit into 2027.

2

Landslide & flood recurrence

Ditwah showed one event can close estates for a week and damage hydro, roads and housing.

3

Steadily rising costs

Higher wages, rehabilitation, insurance premiums (flagged by NAMU) and working capital.

4

Hydro dependence

TPL and ELPL hydro earnings fall in drought and are damaged in floods.

5

Disclosure & regulation

New climate reporting rules (SLFRS S1/S2), EU deforestation rules for rubber exports, uncertain estate lease terms.

What to watch

Weather

Met Dept seasonal outlooks, NOAA El Niño index, NBRO landslide warnings, reservoir levels

Volumes

Tea Board monthly production by elevation, rubber output, CBSL coconut output

Prices

Colombo auction selling price by elevation, rubber (RSS/crepe) prices, nut auction price, palm oil import price

Company

Quarterly crop & selling price vs cost, weather write offs, insurance cost, SLFRS S2 scenario figures

Policy

Wage board decisions, fertiliser prices/subsidy, palm expansion ban, lease extensions

12 OUTLOOK AND CONCLUSION

Fixed costs turn small climate losses into large profit falls at tea and rubber estates



Historical / reported

2016 drought: gross profit 43% - 100%+ lower at five estate companies.
FY26: Ditwah and wet weather cut crops 2% - 17%, Weather hit estates saw net profit fall 41% - 76% while palm led groups rose 23% - 27%.



Current exposure

Hill - country tea (Nuwara Eliya, Badulla) and Ratnapura/Kegalle rubber sit in NBRO landslide districts, El Niño brings drought now and flood risk in Q4.

Method: Appendix, pages 28–29 and 35.



Estimated future impact

Moderate stress: –12% to –46% net profit for most tea estate companies, severe: 8 of 24 companies loss-making.
Palm, GRAN and SUN lose ≤29%. Adaptation spend and wages raise the cost floor.

Method: Appendix, pages 30–34.

Valuation implication: investors should value single-crop, thin-margin estates lower and reward diversification, pricing power, balance sheet strength and credible adaptation investment.

Location risk: how each company's exposure score is built

1. Score each district

Each district gets 1 (Low), 2 (Medium) or 3 (High) on five hazards: landslide, flood, drought, excess rain and Cyclone Ditwah damage. Based on NBRO landslide maps, World Bank damage data and the Met Dept El Niño outlook.

2. Average the five scores

2.3 or more = High; 1.9 to 2.29 = Medium; below 1.9 = Low.

3. Weight by where the company operates

Each district score × the share of estates, output or suppliers there (up to three districts).

4. Adjust for the business

The final rating also reflects crop sensitivity and business model. RAL's locations score Medium, but it is rated High because coconut shortages raise its nut costs.

Worked example: Agarapatana (AGPL)

Hazard score (1–3)	Nuwara Eliya	Badulla
Landslide	3	3
Flood	1	2
Drought / water stress	1	2
Excess rain	3	3
Ditwah 2025 damage	3	3
District score (average)	2.2	2.6
Share of AGPL estates	55%	45%
Weighted score	1.21	1.17

AGPL score = 1.21 + 1.17 = 2.38 → High

APPENDIX

District hazard ratings

District	Landslide	Flood	Drought / water	Excess rain	Ditwah 2025	Overall
Nuwara Eliya	High	Low	Low	High	High	2.2
Badulla	High	Med	Med	High	High	2.6
Kandy	High	High	Low	High	High	2.6
Ratnapura	High	High	Low	High	Med	2.4
Kegalle	High	Med	Low	High	High	2.4
Matale	High	Med	Med	Med	Med	2.2
Kalutara	Med	High	Low	High	Med	2.2
Galle	Med	High	Low	High	Med	2.2
Matara	Med	High	Low	High	Med	2.2
Kurunegala	Low	Med	High	Low	Med	1.8
Puttalam	Low	High	High	Low	High	2.2
Dry zone (NCP/East)	Low	High	High	Low	Med	2.0
Colombo	Low	High	Low	Med	Med	1.8

Reading the risk scores

- Hill country (Nuwara Eliya, Badulla, Kandy, Kegalle, Ratnapura) all in NBRO's 10 landslide - prone districts and hardest hit by Ditwah. Excess rain and landslides dominate, Uva also faces dry spells.
- Low country wet zone (Galle, Matara, Kalutara) Gin, Nilwala and Kalu river flooding, rain cuts rubber tapping days.
- Coconut triangle & dry zone drought and water stress, Ditwah also flooded 58,000 ha of eastern paddy.
- El Niño 2026 - 27: Met Dept expects below - normal rain in the north, east and parts of Uva now, then heavier rain in Sabaragamuwa, Kandy, Nuwara Eliya, Galle and Matara.

[E]

Climate scenarios: the crop losses and costs tested

Crop loss assumptions by scenario

Crop	Moderate crop loss	Severe crop loss	Recovered via price	Net sales loss (mod / sev)
Tea	6%	15%	30%	4.2% / 10.5%
Rubber	10%	22%	20%	8.0% / 17.6%
Palm oil	5%	12%	10%	4.5% / 10.8%
Coconut	8%	20%	50%	4.0% / 10.0%
Maize	8%	20%	0%	8.0% / 20.0%
Farm input demand	5%	12%	0%	5.0% / 12.0%

Net sales loss = crop loss × (1 – share recovered via price). Tea, Moderate: $6\% \times (1 - 30\%) = 4.2\%$. When national supply falls, prices rise and win back part of the lost volume.

Other assumptions

- **Extra climate cost:** 0.5% of exposed revenue (Moderate), 1.5% (Severe) for repairs, tree losses, roads and hydro losses. 0.5% matches TPL's FY26 Ditwah costs: Rs 41.8 Mn on Rs 7,851 Mn revenue.
- **Share of that cost applied:** High exposure 100%, Medium 50%, Low 25%.
- **Tax:** 30% on lost profit, the standard company rate.
- **What the scenarios mean:** Moderate is a year like FY26; Severe is a 2016-type drought or repeated El Niño events.

Why each crop's losses were set at these levels

Crop	Why the Moderate and Severe losses	Why this price recovery
Tea (6% / 15%)	Moderate matches FY26 weather-hit estates (AGPL –2%, KGAL –5%, HAPU –9%). Severe: 2016 drought cut national output 12%; TPL low-grown –17.4% in FY26.	30%: auction prices hit records in 2017 after the 2016 drought
Rubber (10% / 22%)	Moderate: FY26 KVAL –9%, HAPU –10%. Severe: very wet years remove tapping days (BALA –15%, KGAL –14% with leaf disease).	20%: price set by global markets
Palm oil (5% / 12%)	Drought cuts bunches 6–24 months later; wet-zone estates face floods more than drought.	10%: price tied to import parity
Coconut (8% / 20%)	National output fell 20% from 2022 to 2024 after drought.	50%: local nut demand barely falls when prices rise
Maize (8% / 20%)	Rain-fed dry-zone crop, exposed to drought and seasonal floods.	0%: imports cap the price
Farm inputs (5% / 12%)	Droughts and floods cut planted area; FY26 crop-care sales fell 11% in weather-hit areas.	0%: lower volume, no price gain

Profit model: eight steps from crop loss to net profit

#	Step	How it is worked out
1	Lost crop sales	FY26 revenue × own-crop share × net sales loss
2	Costs saved	Cost of sales × own-crop share × variable-cost share (35% for estates) × crop loss
3	Higher raw-material cost	Cost of sales × raw-material share × price multiplier × crop loss (processors and traders)
4	Price passed to customers	Higher raw-material cost × share passed on
5	Extra climate cost	Revenue × 0.5% or 1.5% × exposure share (100 / 50 / 25%) × own-crop or raw-material share
6	Change in gross profit	Change in sales – change in costs – extra climate cost
7	Change in net profit	Change in gross profit × (1 – 30% tax)
8	Stressed net profit	FY26 net profit + change in net profit

Two routes: estates lose their own crop (steps 1–2); processors and traders such as RAL, HVA and GRAN pay more for crops they buy (steps 3–4).

Reading the result: profit change % is measured against FY26 net profit, so small bases (KAHA, MADU, HVA) show very large percentages. Stressed profit in Rs Mn is the better guide.

Worked example, estate: AGPL loses 45% to 116% of profit

Rs Mn	How it is worked out	Moderate	Severe
Lost crop sales	$7,436.7 \times 97\% \times 4.2\% / 10.5\%$	-303.0	-757.4
Costs saved	$6,834.6 \times 97\% \times 35\% \times 6\% / 15\%$	+139.2	+348.1
Extra climate cost	$7,436.7 \times 0.5\% / 1.5\% \times 97\%$	-36.1	-108.2
Gross profit change	Sum of the three lines above	-199.8	-517.6
Tax saved (30%)	Gross profit change $\times$ 30%	+59.9	+155.3
Net profit change	Gross profit change $\times$ 70%	-139.9	-362.3
Stressed net profit	312.3 + change in net profit	172.4	-50.0
Profit change	Change $\div$ 312.3	-45%	-116%

Read across: each Moderate figure uses the first number in the formula, each Severe figure the second (e.g. 4.2% for Moderate, 10.5% for Severe).

Inputs

- FY26 revenue Rs 7,436.7 Mn, cost of sales Rs 6,834.6 Mn, net profit Rs 312.3 Mn
- 100% high-grown tea; 97% of revenue from its own crop
- 35% of costs vary with the crop; High exposure

Why the hit is so large

When the crop falls, sales fall, but wages and estate upkeep (65% of costs) stay. With a gross margin of only 8%, a 6% crop loss removes 45% of net profit, and a 15% loss turns it into a loss.

Worked example, processor: RAL's costs rise faster than sales

Rs Mn	How it is worked out	Moderate	Severe
Lost own sales	$10,839.4 \times 10\% \times 4.0\% / 10.0\%$	-43.4	-108.4
Own costs saved	$8,942.4 \times 10\% \times 35\% \times 8\% / 20\%$	+25.0	+62.6
Higher nut cost	$8,942.4 \times 60\% \times 2.5 \times 8\% / 20\%$	-1,073.1	-2,682.7
Price passed on	Higher nut cost $\times$ 60%	+643.9	+1,609.6
Extra climate cost	$10,839.4 \times 0.5\% / 1.5\% \times 60\%$	-32.5	-97.6
Gross profit change	Sum of the five lines above	-480.1	-1,216.4
Tax saved (30%)	Gross profit change $\times$ 30%	+144.0	+364.9
Net profit change	Gross profit change $\times$ 70%	-336.1	-851.5
Stressed net profit	510.4 + change in net profit	174.3	-341.1
Profit change	Change $\div$ 510.4	-66%	-167%

Inputs

- FY26 revenue Rs 10,839.4 Mn, cost of sales Rs 8,942.4 Mn, net profit Rs 510.4 Mn
- Only 10% of revenue from own estates; bought nuts are 60% of costs
- Nut prices rise 2.5 $\times$ the supply fall; RAL passes 60% on

Why profit still falls

Sales rise 5.5% (Moderate) and 13.8% (Severe) as higher prices are passed on, but RAL absorbs 40% of a much larger nut bill. The 2.5 $\times$ reflects 2024–25, when nut prices roughly doubled on about 20% less supply.

How the exposure and vulnerability ratings are set

Climate exposure

Start from the location rating.

1. **Move up one level** when profit rests on one weather-sensitive crop, grown or bought: most tea and rubber estates, RAL (coconut), HVA (auction tea).
2. **Move down one level** when palm oil or a service business softens the hit: NAMU, CTBL.
3. **Record** the final call with a written reason.

Result: 14 High, 7 Medium, 3 Low.

Used in the model: High companies carry the full extra climate cost, Medium half and Low a quarter.

Example: AGPL is High on financial sensitivity because its 8.1% gross margin means a 6% crop loss removes about 45% of net profit. Each rating is a judgement, not a formula score.

Financial vulnerability: six ratings

Rating	What it measures	Rated High when
Revenue	Share of sales from weather-hit crops	Most sales come from one crop
Production	How far output falls in bad weather	Hill or wet-zone estates with rain-sensitive crops
Cost	How much cost stays fixed or rises	Fixed estate wages, or bought crops that jump in price
Climate risk	Location score plus crop sensitivity	High location score and sensitive crops
Financial	How far profit moves for a given loss	Thin margin, high debt, large model profit fall
Adaptation	Ability to cope and adjust (strength)	Several crops, pricing power, irrigation, hydro, cash

How the resilience map and factor table are built

Resilience map

- **Across:** the change in net profit under Severe stress, from the profit model (page 32). Falls beyond -150% are drawn at -150% so loss-makers fit on the chart.
- **Up:** FY26 reported gross margin, from 0% to 55%. A higher margin leaves more room to absorb a bad year.
- **Reading it:** top right is resilient (wide margin, small profit fall); bottom left is fragile (thin margin, large fall).
- **Left out:** CTBL (70% margin, service business) and TESS, which would stretch the scale.

Factor levels: each factor is set High, Medium or Low from FY26 segment mix, estate locations, margins, debt and what the annual report discloses.

Resilience factors: seven strengths

Factor	Rated a strength (green) when
Geographic spread	Estates spread across several districts and climate zones
Crop mix	Palm oil or other crops alongside tea and rubber
Integration	Own factories, processing or brands
Pricing	Higher costs can be passed on to buyers
Balance sheet	Low debt and cash to pay for repairs
Water and renewables	Irrigation, own hydro power, certified palm
Disclosure	Many climate words per 10,000 words of the annual report (AGPL highest, 15.2)



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