Bad Debt handling

CONTEXT

lending smart contracts, **bad debt** refers to a situation where a **borrower's collateral is insufficient to cover their outstanding debt**, and the protocol **cannot recover the loaned funds**, even through liquidation. This results in a **loss for the protocol or its liquidity providers**.

CAUSE

Bad debt typically arises when:

- The value of the **collateral sharply drops** (e.g. in a market crash).
- The **liquidation mechanism fails** to act in time or isn't profitable.
- There is **not enough liquidity** or demand to purchase the collateral.
- The loan is **under-collateralized** and cannot be covered.

IMPACT : HIGH

- **Liquidity providers (LPs)** may bear losses.
- Some protocols use **insurance funds** or **reserves** to cover bad debt.
- In extreme cases, protocols may issue new tokens or socialize the loss across users (e.g., as seen in some DeFi exploits or crashes).

PREVENTION MECH.

- **Over-collateralization** (e.g., requiring $150 of ETH to borrow $100).
- **Liquidation incentives** to keep liquidators active.
- **Price oracles** to provide timely and accurate asset valuations.
- **Circuit breakers** or pausing mechanisms during market volatility.

PROTOCOL

```
https://code4rena.com/reports/2024-07-benddao
```

- Bug found on :

```
https://github.com/code-423n4/2024-07-benddao/blob/main/src/libraries/logic/LiquidationLogic.sol#L99-L105
```
