```
C:\Users\whitl\anaconda3\python.exe "C:\Users\whitl\OneDrive\Documenten\MASTER\Year 2\THESIS\16.02.22.Multiobjective\Multiobjective-multi-reservoir-control-d50e4da0f6a9a9c852b4904e640299adc96714bb\ZambeziSmashPython\notebooks\optimization.py"
after model definition
after model.levers
after model outcomes
within main statement
after ema logging
after model definition
after model.levers
after model outcomes
after model definition
after model.levers
after model outcomes
after model definition
after model.levers
after model outcomes
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after model definition
after model.levers
after model outcomes
after model definition
after model.levers
after model outcomes
after model definition
after model.levers
after model outcomes
after model definition
after model.levers
after model outcomes
[MainProcess/INFO] pool started with 8 workers
100it [12:59,  7.80s/it]
[MainProcess/INFO] optimization completed, found 5 solutions
result type <class 'pandas.core.frame.DataFrame'>
result         v0        v1        v2  ...  Hydropower   Environment  Irrigation
0 -0.038156 -0.398025 -0.940355  ...   19.500797  2.220325e+06    1.482056
1  0.402190  0.800785  0.433939  ...   19.385325  2.178132e+06    2.037419
2 -0.522793 -0.093875  0.751461  ...   16.562246  2.781547e+06    1.090555
3 -0.168150 -0.566124  0.538016  ...   18.296207  2.377334e+06    2.093824
4  0.022354 -0.071297 -0.363116  ...   17.712240  2.476120e+06    0.824197

```

```
[5 rows x 233 columns]
results type <class 'list'>
100it [12:41,  7.62s/it]
result type <class 'pandas.core.frame.DataFrame'>
result [MainProcess/INFO] optimization completed, found 7 solutions
         v0        v1        v2  ...  Hydropower   Environment  Irrigation
0 -0.035855  0.950722  0.168605  ...   17.766948  2.435437e+06    1.021913
1  0.102450 -0.412699  0.411145  ...   18.851531  2.326108e+06    1.488312
2  0.646489  0.457317  0.401987  ...   15.632618  2.796874e+06    2.066027
3 -0.056059  0.707004  0.115262  ...   18.958506  2.170564e+06    1.675937
4 -0.973771 -0.829127  0.998432  ...   17.231575  2.498797e+06    1.168271
5 -0.647208  0.972638  0.754441  ...   15.375142  3.373314e+06    1.246324
6 -0.071457 -0.684961  0.584998  ...   19.236119  2.162037e+06    1.321998

[7 rows x 233 columns]
results type <class 'list'>
 results [         v0        v1        v2  ...  Hydropower   Environment  Irrigation
0 -0.038156 -0.398025 -0.940355  ...   19.500797  2.220325e+06    1.482056
1  0.402190  0.800785  0.433939  ...   19.385325  2.178132e+06    2.037419
2 -0.522793 -0.093875  0.751461  ...   16.562246  2.781547e+06    1.090555
3 -0.168150 -0.566124  0.538016  ...   18.296207  2.377334e+06    2.093824
4  0.022354 -0.071297 -0.363116  ...   17.712240  2.476120e+06    0.824197

[5 rows x 233 columns],         v0        v1        v2  ...  Hydropower
    Environment  Irrigation
0 -0.035855  0.950722  0.168605  ...   17.766948  2.435437e+06    1.021913
1  0.102450 -0.412699  0.411145  ...   18.851531  2.326108e+06    1.488312
2  0.646489  0.457317  0.401987  ...   15.632618  2.796874e+06    2.066027
3 -0.056059  0.707004  0.115262  ...   18.958506  2.170564e+06    1.675937
4 -0.973771 -0.829127  0.998432  ...   17.231575  2.498797e+06    1.168271
5 -0.647208  0.972638  0.754441  ...   15.375142  3.373314e+06    1.246324
6 -0.071457 -0.684961  0.584998  ...   19.236119  2.162037e+06    1.321998

[7 rows x 233 columns]]
[MainProcess/INFO] terminating pool
after evaluator
problem.nvars 230
problem.nobjs 3
Index(['v0', 'v1', 'v2', 'v3', 'v4', 'v5', 'v6', 'v7', 'v8', 'v9',
       ...
       'v223', 'v224', 'v225', 'v226', 'v227', 'v228', 'v229', 'Hydropower',
       'Environment', 'Irrigation'],
      dtype='object', length=233)
problem.nvars 230
```

```
problem.nobjs 3
Index(['v0', 'v1', 'v2', 'v3', 'v4', 'v5', 'v6', 'v7', 'v8', 'v9',
       ...
       'v223', 'v224', 'v225', 'v226', 'v227', 'v228', 'v229', 'Hydropower',
       'Environment', 'Irrigation'],
      dtype='object', length=233)
problem.nvars 230
problem.nobjs 3
Index(['Unnamed: 0', 'v0', 'v1', 'v2', 'v3', 'v4', 'v5', 'v6', 'v7', 'v8',
       ...
       'v223', 'v224', 'v225', 'v226', 'v227', 'v228', 'v229', 'Hydropower',
       'Environment', 'Irrigation'],
      dtype='object', length=234)
Traceback (most recent call last):
  File "C:\Users\whitl\OneDrive\Documenten\MASTER\Year 2\THESIS\16.02.22.Multiobjective\Multiobjective-multi-reservoir-control-d50e4da0f6a9a9c852b4904e640299adc96714bb\ZambeziSmashPython\notebooks\optimization.py", line 126, in <module>
    "hypervolume": hv.calculate(archive),
  File "C:\Users\whitl\anaconda3\lib\site-packages\ema_workbench\em_framework\optimization.py", line 514, in calculate
    solutions = rebuild_platypus_population(archive, self.problem)
  File "C:\Users\whitl\anaconda3\lib\site-packages\ema_workbench\em_framework\optimization.py", line 885, in rebuild_platypus_population
    raise EMAError(
ema_workbench.util.ema_exceptions.EMAError: The number of columns in the archive (234) does not match the expected number of decision variables and objectives (233).

Process finished with exit code 1

```