The Fossil Fuel Nexus and Regional Vulnerability: The Case of the San Joaquin Valley

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The Fossil Fuel Nexus

1. The fossil fuels are the lynchpins of modern society and global population growth;
2. Fossil fuels are the basis for our high calorie/low value diet, which in turn drives chronic disease;
3. Fossil fuel impacts on the hydrological cycle increases the chance of long-term drought and economic devastation, particularly in semi-arid regions;
4. Disruption of the regional nitrogen cycle by fossil fuel combustion is the primary cause of excess health impacts from ozone and PM 2.5;
5. San Joaquin poverty and low access to care act in synergy with the negative health impacts of fossil fuels;
6. Fossil fuel dependence is a central force behind the current U.S. geopolitical, fiscal, and monetary crises.
Socioeconomic Disparity in the San Joaquin Valley
Source: CVHPI Healthy People 2010 Report

<table>
<thead>
<tr>
<th>Category</th>
<th>San Joaquin Valley</th>
<th>California</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Capita Personal Income</td>
<td>$36,969</td>
<td>$23,882</td>
</tr>
<tr>
<td>% 25 years+ Without High School Diploma</td>
<td>16.9%</td>
<td>25.3%</td>
</tr>
<tr>
<td>% Annual Unemployment Rate</td>
<td>9.0%</td>
<td>5.2%</td>
</tr>
<tr>
<td>% of Total Population Below 100% of FPL</td>
<td>21.7%</td>
<td>15.1%</td>
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<tr>
<td>% of Children, Under 18, in Families with Income Below 100% of the FPL</td>
<td>25.7%</td>
<td>20.9%</td>
</tr>
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Excessive PM 2.5 in the San Joaquin Valley
(15 micrograms is the Federal Standard for Annual Daily Average Exposure)
Prevalence of Overweight or Obese in the San Joaquin Valley

Source: CVHPI Healthy People 2010 Report
Asthma Prevalence for Adults and Children (2005 Data)

California Data: CHIS
U.S. Data: CDC

<table>
<thead>
<tr>
<th>Area</th>
<th>Asthma (18 or older)</th>
<th>Asthma (0 to 17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>12.5</td>
<td>12.7</td>
</tr>
<tr>
<td>California</td>
<td>12.7</td>
<td>16.1</td>
</tr>
<tr>
<td>San Joaquin Valley</td>
<td>14.8</td>
<td>22.3</td>
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Percent Ever Diagnosed
Mortality Disparity in the San Joaquin Valley:
Coronary Heart Disease and Diabetes
Data Source: California DHS

Mortality per 100,000

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<tr>
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<th>Coronary Heart Disease</th>
<th>Diabetes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age-Adjusted National</td>
<td>180</td>
<td>25.4</td>
</tr>
<tr>
<td>Age-Adjusted State</td>
<td>175.9</td>
<td>21.3</td>
</tr>
<tr>
<td>Age Adjusted San Joaquin Valley</td>
<td>231.94</td>
<td>36.68</td>
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</tbody>
</table>
New Collaborations in the San Joaquin Valley

– **Central California Regional Obesity Prevention Program (CCROPP):** Community-led efforts to improve the social and physical environment for healthy eating, active communities, and wellness.

– **San Joaquin Valley Regional Blueprint:** The eight Councils of Governments (COGs) are developing a coordinated Valley land use planning framework. Reinforced by passage of SB375.
Takeaway Points

1. Fruits, nuts, and vegetables from the San Joaquin Valley are the lynchpins to an affordable, healthy diet in the U.S.;

2. The largest public health threats from climate change in the San Joaquin Valley are from the loss of Sierra snowpack and long-term drought;

3. Confronting fossil fuels creates the opportunity for new alliances and public investments derived from carbon taxes or fees;

4. Investments in public education about the fossil fuel nexus is a key prerequisite for increased political will;

5. The public health community is well positioned to lead a public education effort (K-12 and adults) grounded in the principles of human ecology.