HEPC supports this bill for several reasons:
1. It is clearly one of the fastest growing “hands-on” school-based S.T.E.M. programs.
2. It is consistent with the goal to create a more self sustainable population.
3. It clearly fits the Hawai'i Department of Education's Definition of a S.T.E.M. activity.
4. The United States needs a greater emphasis on S.T.E.M. learning.
5. Hawai'i’s students currently do not score well on science tests.

The Status of School Gardens
In 2012, 66% of schools in Hawai'i had a School Garden Program. On Hawai'i Island currently there are 65 schools in the Hawai'i Island School Garden Network out of a possible 75, up from 29 in 2008. As of June 2011 on Hawai'i Island there were:
- 6.8 acres of school gardens planted
- 3,000 students participating
- Garden Time per school averaged 6.0 hours per week
- 26 schools had a designated Garden Educator
- Most Garden Educator positions were funded through grants
- There were 64 regular volunteers in gardens each week

The School Garden Program “fits” the HIDOE definition of S.T.E.M.
According to a 2012 Report to the Hawai'i State Legislature, the Hawai'i Department of education defined STEM:

STEM education integrates the study of science, technology, engineering and mathematics by using scientific inquiry and engineering design as unifying processes. STEM emphasizes innovation and the development of problem-solving, critical thinking and collaboration skills through student-focused, rigorous, relevant, and authentic learning.

Source:
http://doc.k12.hi.us/reports/tolegislature_2012/06_HB0200HB1SD1CD1Section%20132Act%20164(SLH2011).pdf
Recently HIDOE strongly supported bills re-defining and broadening the scope of instructional learning, explicitly including project based learning. HEPC believes with some flexibility and partnerships the safety issues can be overcome.

**The Need for more S.T.E.M. Education**

The United State does not rank high among developed countries for science education. According to a December 2011 report from the National Governors Association, U.S. students rank behind 25 counties in math scores and behind 12 countries in science scores. PISA – Program for International Student Assessments, Organization for Economic Co-operation and Development, reports that students from 16 nations outperformed U.S. students in math in 2010.  
(Source: [http://www.oecd.org/unitedstates/presentationofthepisa2010results.htm](http://www.oecd.org/unitedstates/presentationofthepisa2010results.htm))

A coalition of middle and high school teachers organizing themselves as: *Laying The Foundation* reports that only 30% of U.S. high school students are ready for college-level science, and only about a third of middle school science teachers were highly qualified. (Source: [http://www.ltftraining.org/Home.aspx](http://www.ltftraining.org/Home.aspx))

The Hawai‘i Department of Education tests nearly all 4th, 8th and 10th grade students in science. Recently the tenth grade general science test has been replaced by a Biology test.  

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In 2011, Hawai‘i high school 10th grade reading and math scores indicate a major gap in proficiency levels: the average percent of students meeting proficiency on Hawai‘i’s 10th grade reading test was 69%, while the average proficiency level for math was 39%. A school-by-school examination of proficiency levels indicate that the gaps exist within the same schools, drawing students from the same community. Proficiency levels for 8th grade science averaged 26%, while 22% of 10th graders were proficient on the state science test.

**Baseline Data is Available To Guide This Initiative**

*Hawai‘i County Food Self-Sufficiency Baseline Study 2012.*
"We all know we have to support agriculture, we have to commit to being able to feed ourselves," Mayor Billy Kenoi said in releasing the Hawai‘i County Food Self-Sufficiency Baseline Study 2012. "If you're going to make good decisions, you have to have access to good information. This is what we need to move forward in a very strategic, tactical way."

The report reveals a checkered agricultural landscape. The island produces virtually all the milk it consumes and more than 17 percent of its beef, for example, but with no commercial poultry operations, it imports all its chicken and eggs, aside from farmers market and other informal sales. Despite vast macadamia nut orchards, the study estimated that less than 5 percent of nuts consumed on the island are macadamias. Half of the 42,000 acres in crop production on the island are macadamia orchards, with an additional 6,000 acres in coffee, while vegetables, fruits and aquaculture account for another 10,000 acres of active agricultural use.  

http://geodata.sdal.hilo.Hawai‘i.edu/techgis/sdal/GEODATA/COH_Ag_Project.html

The following Star Advertiser article summarized this study.  
http://www.staradvertiser.com/newspremium/Hawai‘i/newspremium/20120603__Hawai‘i_County__paves_way_toward_food_selfreliance.html?id=156886985

Thank you for seriously considering this bill.