

Final Report
A.I.D. Development Education Program
Grant No. FAO-0230-G-00-2068-00
September 30, 1992 - May 30, 1995

Submitted by the
CALIFORNIA MUSEUM FOUNDATION
700 State Drive
Los Angeles, California 90037

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CALIFORNIA MUSEUM FOUNDATION

Final Report

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- WORLD magazine special exhibit edition with student activities
- Exhibit Manual
- Education Manual
- Globe Building/Slide Preparation instructional video
- Exhibit Assembly Walkthrough instructional video.
- Exhibit PSA and Press Coverage video

CALIFORNIA MUSEUM FOUNDATION

I. Project Summary

A. Narrative Description of Project Achievements

Goal 1: Develop Exhibit

1.1 Objective: Develop Exhibit Concept

"Establish the storyline, communication goals, and exhibit components that communicate pertinent information in a clear manner. Work is conducted from September through December, 1992."

Achievements

In the first annual report we requested that the original timeline be extended until July 31, 1993 due to design delays. The work plan was adjusted accordingly, as reflected in the first and second annual reports.

All work on 1.1 was completed by July 31, 1993 and reported in the First Annual Progress Report.

1.2 Objective: Design Exhibit

"Design exhibit to communicate the exhibit storyline and communication goals in an appealing and clear manner. Work is conducted from January 1993 through October 1994.

Achievements

The following activities were completed with the findings as indicated:

At the end of the conceptual design phase a list of preliminary exhibit "case studies" was compiled. Through research and consultation with advisors, a final selection of case studies was made.

The Exhibit Researcher conducted more in-depth research, in concert with the Design Development, concerning each case study. She reviewed pertinent literature in the field, consulted with advisors, collected specific data, and assembled specific visual components and audio-visual programs.

Design began in earnest in August 1993, as discussed in the first annual report.

A preliminary budget analysis was made to gain more confidence that the design met budget restrictions.

Content was reviewed by advisors from the design concept phase

through to the final copywriting phase in March 1995, as reported in previous annual reports.

From July through August 1994, selected exhibit concepts were prototyped and tested with 6th and 7th grade students at the California Museum of Science and Industry. This was done to gain confidence that the exhibits are effectively communicating the desired communication goals to the visiting public. Based on this evaluation, exhibit modifications were made prior to the completion of Design Drawings.

A set of working drawings for all except the Manufacturing section was completed by September 2, 1994. Manufacturing drawings were completed by December 20, 1994. The drawings specified the mechanical, pneumatic and electrical operation of units as well as size and materials.

While copy was completed between November 1994 - January 1995, it was modified in concert with final graphics design, which was completed in March 1995.

A competitive bidding process was used to select the exhibit fabricator. Requests for Proposals were sent to fabricators in August 1994. Prior to the proposal due date a bid briefing was held at the museum to review the design drawing package in considerable detail and answer bidders questions. A total of 5 bids were received by October 3, 1994 and reviewed by the museum. All bidders were determined to be qualified.

In response to the received bids, a final budget review was made with the lowest qualified bidder to determine that the final design would meet budget restrictions. A final design revision was made in consultation with the exhibit fabricator in the Fall of 1994. It was as a result of the final design and budget review that the Organic Cotton exhibits were eliminated from the "Manufacturing section" due to budget and spatial constraints, reducing the overall number of exhibits in that section. It was deemed necessary to add elements in the other 4 sections and modify others to properly support the storyline within the project budget.

The final exhibit consists of the following:

Agriculture section

13 interactive exhibits. (4 more were added after the second annual report)

16 non-interactive exhibits. (5 more were added after the second annual report)

Energy section

10 interactive exhibits. (1 more was added after the second annual report)

23 non-interactive exhibits. (6 more were added after the second annual report)

Manufacturing section

5 interactive exhibits. (3 were eliminated after the second annual report)

9 non-interactive exhibits. (7 were eliminated after the second annual report)

The museum contracted with the lowest qualified bidder, Maltbie and Associates from Mount Laurel, New Jersey, with fabrication work beginning on November 8, 1994.

1.3 Objective: Produce Exhibit

"Construct the exhibit in a format that is easily operated and maintained and is modular for shipping. Work is conducted from November 1994 through April 1995."

Achievements

The exhibit and crating was completed and delivered to the museum on April 6, 1995 for installation.

Exhibit and Educational Manuals are completed, including exhibit description, assembly instructions, layout, copy, bibliography, program scripts and maintenance issues. In October 1995 the manuals were distributed to museums booking the exhibit.

1.4 Objective: Develop and Produce Audio-Visual Programs

"Design and produce A-V and computer software programs that convey the personal and dynamic nature of the storyline. Work is conducted from August 1994 through April 1995".

Achievements

A competitive bidding process was used to select the A-V contractor. In the Fall of 1994, Requests for Proposals were sent out for A-V production. By December 22, 1994 a total of 4 bidders responded. The firm of Interactive-Arts of Santa Monica, California was selected. While they were not the lowest bidder, on reviewing past work, references, and project approach, Interactive-Arts was determined to be the lowest bidder that could produce the quality of programs we required within the time frame required.

Scripts were developed through close collaboration with museum staff and project advisors.

The following (6) A-V and (1) computer programs were completed and installed in April 1995:

- Agriculture section: "Faith in the Water"
"Modern Traditionalists"
"Farmer's Meeting"
"The American Farmer"
- Energy Section: "Winds of Change"
"Getting a Charge out of the Sun"
- Manufacturing section: "Auto CADD"

One video program for the entrance section was produced as an in-kind contribution by FOX-KTTV for the museum. This program chronicles the globe building outreach project from classroom to museum construction and exhibit opening news coverage.

1.5 Objective: Install

"Install and put on-line fully operational exhibit. Work is conducted in April 1995".

Achievements

The exhibit was installed from April 14 to April 20, 1995. During installation, in-situ testing was done on all exhibits. Modifications were made to operations as needed.

The press opening for the exhibit was on April 21, 1995 with the public exhibit opening on April 22nd, the 25th anniversary of Earth Day. A final Plan View of the exhibit is enclosed in the Exhibit Manual.

1.6 Objective: Evaluate

"Evaluate the public effectiveness of the completed exhibit. Work is conducted from April through July 1995".

Achievements

Exhibit evaluations by museum staff have been on-going from April 22, 1995 and will continue as needed until the beginning of the exhibit tour. Many revisions have been made to improve ease of maintenance and operations. Findings include: air foil material was determined to be inadequate for long term wear. New materials were prototyped and replacement air foils were made. Also, selected hand cranks that were too easily stripped were replaced. Selected signage has been moved to be more effective.

Due to the exhibit modifications made, summative evaluation of visitor use was not initiated until August 1995. The evaluation instrument was prepared with the in-kind assistance of nationally recognized museum evaluator Beverly Serrell. Evaluation studies are being conducted from September - November 1995. The results will be a part of a national museum evaluation project being organized by Beverly Serrell and Associates.

Goal 2: Develop Educational Materials and Programs

2.1 Objective: Develop and Produce Visitors Self-Guided Tour and Teachers Guide

"Design and produce a Visitors Self-Guided Tour for the general public, and a Teachers Guide for school groups that supplement the information presented in the exhibit for visitors to take home. Work is conducted from July 1994 through September 1995."

Achievements

The WORLD Magazine of the National Geographic Society has produced and distributed a special exhibit edition of its youth oriented magazine as an innovative guide for both parents and teachers. The edition will feature photographs, graphically illustrative articles, games, cartoons, and student activities on the subject of sustainability (copy attached). CMSI has developed an 8-page student activity insert for the magazine. The WORLD magazine and insert will reach a readership of 4.4 million. Additional copies will be available (as supplies last) to museum audiences throughout the exhibit tour.

With funding assistance from the National Oceanic and Atmospheric Administration (NOAA), CMF is preparing a 32-page Teacher's Guide on the topic of sustainability, the environment and global change. The Guide will accompany the exhibit on tour. Guide development is sponsored by NOAA and will be completed this Fall. A funding proposal is pending with NOAA for the design and production of the Guide.

2.2 Objective: Develop and Produce Live Programs

"Design and produce live programs that supplement the information presented in the exhibit. Work is conducted from July 1994 through September 1995".

Achievements

CMF has developed five different workshops to accompany the exhibit:

- Solar Pump
- Pin wheels
- Thermometer
- Worm Terrarium
- Solar Oven

Workshops are geared for different age groups from pre-K through middle school visitors. Each workshop provides opportunities for parents to assist and enjoy the activity with their children. Workshops are conducted during regular museum hours in a specially designed workshop space integrated into the exhibit. See the Education manual enclosed for a description of each workshop activity and supply list.

The centerpiece of the exhibit is a 14' diameter globe, created and assembled by school children in an exhibit outreach program. The project was developed by the museum in cooperation with the globe piece designers Skyline Displays, Inc. The project is coordinated by the museum in conjunction with local schools. The program consists of two main phases:

Phase 1: In the classroom, students discuss environmental issues and create a mosaic of the Earth made from small triangle pieces cut from old magazines.

Phase 2: Students meet at the museum in a "globe building event" to assemble the large aluminum globe structure and attach their individual pieces of the Earth's skin with velcro.

Over 1,200 students, representing schools from each cluster of the Los Angeles United School District participated in the CMSI event. Students were assisted in their activities by museum staff and over 100 community volunteers. The event received significant press and TV coverage (see enclosed PSA/Press Coverage video cassette).

Goal 3: Distribute Exhibit and Educational Materials/Programs

3.1 Objective: Tour Exhibit

"Travel exhibit nationally and to selected international museum venues. Work is conducted from October 1995 until the close of exhibit tour in December 2000."

Achievements

The exhibit tour will begin in February 1996. The exhibit tour will include the following museums: Liberty Science Center in New Jersey, Boston Museum of Science, Fort Worth Museum of Science and History, Minnesota Science Museum. Other museums are being booked on an on-going, first-come, first-served basis. The tour will begin at the Liberty Science Center in Jersey City, opening on February 9, 1996.

3.2 Objective: Distribute Educational Materials and Programs

"Develop methods to disseminate educational materials and programs to the broadest public audience through museums on the exhibit tour and other arenas. Work is conducted from August 1995 until the close of the exhibit tour in December 2000."

Achievements

Scripts are developed for each exhibit workshop and will be distributed to each museum on the exhibit tour. This will encourage the continuation of educational workshops through the end of the exhibit tour.

The "globe building" outreach project will be duplicated in each museum on the exhibit tour, impacting an estimated 10,000 elementary school students. CMSI has developed a manual and training video and will work closely with each museum on the tour to enable a successful and smooth running outreach program.

B. Description of Unanticipated Results

Due to lack of funding, the "organic cotton clothing" exhibits were not produced. Also due to budget constraints the "visitors self guided tour brochure" was not produced. However, we were able to add a "student recommended reading list" available for distribution in the exhibit.

C. Project Summary Update

See Attachment A. for an updated version of the one-page project summary.

II. Project Evaluation

A. Criteria for Project Success

The project will be successful to the degree that it meets the project goals as stated in the proposal workplan:

Goal 1: Develop Exhibit. Develop an interactive, traveling exhibit that introduces museum visitors to key concepts about sustainable technologies and the role they play in accomplishing sustainable development. Success will be measured by the extent to which visitors understand the major goals of the exhibit through engaging in the exhibit displays.

Goals 2: Develop Educational Materials and Programs. To enhance the exhibit experience, provide museum visitors with supplemental educational materials and programming about the subject. Success will be measured by the number of visitors impacted by the exhibit outreach programs and on-site workshops throughout the exhibit tour.

Goal 3: Distribute Exhibit and Educational Materials/Programs. Make the exhibit, and educational materials and programs available to as many people as possible. Success will be measured by the number of visitors attending the exhibit throughout its national tour, and by the number of educational materials distributed.

B. Subjective Analysis of Project Impact

Impact on Target Audience

The project has reached our target audience not only through (a) regular museum visits, but through (b) special outreach programs and (c) on-going educational workshops.

(a) An estimated 200,000 museum visitors have attended the exhibit in its first five months. The museum's main audience is families and reflects the general population of the greater

metropolitan area of Los Angeles. Of our annual approximately two million visitors, it is estimated that 50% are minorities. Of these, 37% are Hispanic, 9% are African-American, and 4% are Asian. The museum also hosts groups through partnerships with community-based organizations established through programs such as the Girl Scouts, and YouthALIVE. We host regular visits from groups of visually impaired as well as mentally and physically challenged individuals.

(b) The central piece of the exhibit is a 14' diameter spinning globe. The globe skin consists of a mosaic of recycled magazine pieces, glued onto plastic panels. Students created their panels as a classroom activity, learning about the geography and ecology of different regions of the world. Once completed, the panels were brought to the museum where the students assembled the aluminum globe structure and the globe skin. Over 1,200 6th grade students from each region of the Los Angeles School District participated in the project, including a class for the deaf.

(c) Educational workshops on issues of sustainability are conducted in the exhibit's Global Town Hall. The workshops are conducted on weekends and at selected times during the week, reaching an estimated 2,000 students during the first five months of the five year exhibit tour. These exhibit workshops have benefited both the participants and workshop leaders. Workshops have been led by a group of trained volunteers and staff: inner-city high school students, college students, community volunteers and museum education staff. Drawing from such a diverse group not only provides valuable role models for our diverse youth audience, but it provides leadership, educational, and community service experiences for young adults in the museum's community.

Impact on CMSI/CMF

The project has enabled the museum to expand its (a) community relationships, (b) programs, and (c) relations with the scientific community.

(a) The exhibit and accompanying outreach projects have enabled the museum to forge new relationships with the schools and students in our community and with local teachers. Teachers introduced to the museum through the exhibit project have become participants in other museum projects.

(b) The educational workshops developed under this project have expanded the offering of the museum, and will be incorporated into our on-going program of science workshops classes.

(c) Research for the project has introduced museum staff to new members of the scientific community, some of whom (such as the scientists at the Union of Concerned Scientists) have expressed an interest in working with the museum on future projects.

Contribution to the Field of Development Education

The project contributes to the field of development education by providing (a) new audiences, (b) new arenas for learning, (c) basic science concepts and (d) evocative experiences.

(a) The museum exhibit project expands the reach of development education by offering a new audience, approximately 2.5 million visitors over a 5 year period. The science center appeals to an ethnically diverse population and families with children.

(b) The project provides a new, engaging and non-threatening arena for learning about important development and environmental issues. This is accomplished primarily through the tools and techniques of interactive exhibits, workshops, video, live specimens and real artifacts.

(c) The project focuses on important educational issues in the field of development education. The exhibit illustrates that we have something to learn from research and development in other countries. While evaluation studies are on-going, several visitors stated they enjoyed hearing about and/or learned something from the exhibit on what other countries are doing to address environment/development issues.

(d) The exhibit seems to encourage people to be more aware of and sensitive to the needs of developing nations. For instance, many visitors reported that they did not know there are people in the world without electricity.

C. Evaluation Design

Project evaluation is being conducted in three main phases, during which several different techniques are used:

Front-end evaluation. Through a series of focus groups, lead by Responsive Research, Inc. an independent market research firm, CMF assessed understanding by the general public of particular concepts, visitor interest, and pre-conceived ideas about the subject matter before exhibit design began.

Formative evaluation. Working through groups of school children and adults, museum staff assessed the appeal and effectiveness of the design prior to construction.

Summative evaluation. Through "tracking and timing" studies and exit interviews, museum staff are evaluating the overall communicative and operational effectiveness of the exhibit, prior to the exhibit tour.

At the end of the tour, attendance figures (or estimates, when figures are unobtainable) will ascertain the number of visitors seeing the exhibit and participating in the educational programs.

At the end of the tour, a distribution count will ascertain the number of educational materials distributed to teachers, and/or taken home by visitors.

Evaluation techniques have ranged from formal surveys to interviews and observations. Considerable attention was directed toward sampling a diverse population in terms of age, and ethnicity. Sample sizes were selected to be appropriate, from a functional and statistical perspective, to the level of evaluation required (e.g front-end evaluation sample sizes are generally smaller than summative sample sizes). Both qualitative and quantitative data have been collected, and will be collected throughout the tour for analysis.

Front end and formative evaluation reports have been submitted with previous reports. Summative evaluation is on-going, and will not be completed until the close of the exhibit at CMSI, in January, 1996.

See Attachment B for a copy of the summative evaluation instruments.

III. Lessons Learned

Front end evaluation was very useful in detecting the public's understanding and misconceptions regarding development/environment issues. We learned there was strong opposition to the term "sustainable development" and "sustainable technologies" because they were considered "jargon", even though most people had an intuitive sense for the meaning of each term. The introduction of these terms should be done carefully, and explained as new vocabulary words.

It was surprising the extent to which children understood environmental issues of ozone depletion, global warming, deforestation and similar topics. It appeared that good command of geography and knowledge of other cultures was lacking.

The view of the world as a "global village", where "we all have to work together" to solve global problems seems to be a fairly accessible concept. It is much more difficult to communicate the notion that science and technology are shaped by a culture's world view, and that different cultures may have different solutions to similar problems.

Finally, visitors seem to perceive they can have an impact on environmental conditions through changing their behavior (such as by recycling, conserving water, and carpooling). However, there

was not an expression that world development problems could be similarly effected. Moreover, there was not a strong demand for industry to alter its behavior to address environment or development problems, indicating a need for increased education in this realm.

IV. Resource Materials

The following materials were produced under this grant and with matching funds:

- Exhibit: "Balancing Acts"
- Exhibit Prospectus
- Exhibit Press Kit
- WORLD magazine special edition
- WORLD magazine insert: 8-page student activities
- Exhibit Manual
- Education Manual
- Globe Building/Slide Preparation instructional video
- Exhibit Assembly Walkthrough instructional video.
- Exhibit PSA
- 32-page Teacher's Guide (in progress)

See Attachment C. for an update of the AID Development Education Resource Inventory.

V. Budget

Pipeline Analysis
Detailed Project Budget
Project Budget Narrative

CALIFORNIA MUSEUM OF SCIENCE AND INDUSTRY
FAO-0230-G-00-2068-00
PIPELINE ANALYSIS
OF FINANCIAL EXPENDITURES

COST ELEMENTS	(1) ACTUAL EXPENDITURES 09/11/92 - 5/31/95		(2) CONTRACTED BUDGET 9/11/92 - 5/31/95		(3) VARIANCE +/-	
	AID	MATCH	AID	MATCH	AID	MATCH
SALARIES	78,306	73,720	107,059	73,720	(28,753)	0
FRINGE	15,780	20,642	20,341	20,642	(4,561)	0
EQUIPMENT	0	25,278	0	20,000	0	5,278
TRAVEL	0	4,397	0	15,200	0	(10,803)
CONSULTANT	24,210	15,095	14,000	35,000	10,210	(19,905)
SUBCONTRACT	175,951	312,836	150,000	150,000	25,951	162,836
OTHER DIRECT COSTS	5,753	16,268	8,600	17,000	(2,847)	(732)
TOTAL	300,000	468,236	300,000	331,562	0	136,674

DETAILED PROJECT BUDGET

"Balancing Acts: Providing for Today, Preserving Tomorrow"
 AID Project Period: September 30, 1992 - May 30, 1995 (32 months)

Budgeted Expenses	CMSI/CMF Match	AID	TOTAL
<hr/>			
A. Salaries			
A.1 Co Prin. Investigator Dr. Ann Muscat Deputy Director 32 mo at aver. of 3% salary of \$64,000 with 5% annual increase	5,475	0	5,475
A.2 Co Prin. Investigator Dr. Diane Perlov Curator 32 mo at aver. of 40% salary of \$57,000 with 5% annual increase	55,560	0	55,560
A.3 Lead Designer Alexandra Wilson 26.5 mo at aver. of 90% salary of \$38,500 with 5% annual increase	0	59,570	59,570
A.4 Manager of Exhibits Nathan Miranda 20 mo at aver. of 8% salary of \$55,440 with 5% annual increase	7,540	0	7,540
A.5 Director of Education Carol Valenta 12 mo at aver. of 10% salary of \$50,000 with 5% annual increase	5,145	0	5,145
A.6 Research Assistant 12 mo at aver. of 50% salary of \$25,000	0	10,027	10,027
A.7 Prototype Developer 4 mo at av of 100% salary of \$30,000	0	8,709	8,709
Total Salary and Wages	73,720	78,306	152,026

Budgeted Expenses	CMSI/CMF Match	AID	TOTAL
B. Fringe Benefits	20,642	15,780	36,422
Total Salaries Wages and Fringe Benefits (A+B)	94,362	94,086	188,448
C. Equipment			
C.1 Audio Visual/Computer Equipment	25,278	0	25,278
Total Equipment (C):	25,278	0	25,278
D. Travel (incl: perdiem)			
D.1 Domestic Advisory meetings	4,357	0	4,357
Calif. site-visits	40	0	40
USA site-visits	0	0	0
International	0	0	0
Total Travel (D):	4,397	0	4,397
E. Exhibit Tour Expenses			
Total Tour Expenses (E):	0	0	0
F. Consultants			
F.1 Copywriter	0	12,000	12,000
F.2 Evaluator	0	0	0
F.3 Designer	15,095	12,210	27,305
Total Consultants (F):	15,095	24,210	39,305
G. Subcontractors			
G.1 Audio/Visual and Computer Production	0	12,468	12,468
G.2 Exhibit Fabrication	312,836	163,483	476,319
Total Subcontracts (G):	312,836	175,951	488,787

Budgeted Expenses	CMSI/CMF Match	AID	TOTAL
<hr/>			
H. Other Direct Costs			
H.1 Artifact & AV Acquisition (purchase, ship)	11,202	0	11,202
H.2 Dev. of Educational Activities	2,798	0	2,798
H.3 Materials & Supplies: prototyping, research, & design materials	2,268	5,753	8,021
Total Other Costs (H):	16,268	5,753	22,021
I. Total Estimated Costs (A-H)	468,236	300,000	768,236

Project Budget Narrative

The project variance reflects adjustments in the expenses as follows:

As reported on the Second Annual Report of January 8, 1994, a line item transfer was requested to enable two design consultants to assist the project's Lead Designer. No additional monies were required. Funds were available through salary savings because the Designer was delayed in beginning the project. The actual design expenses proved to save an additional \$14,115.

The funds saved in design were reallocated to fabrication costs.

The museum raised and allocated an additional \$136,674 in funds to increase the match. These funds enabled the museum to increase the overall quality of the exhibit and educational materials to support the exhibit throughout the tour.

VI. Project Sustainability

The exhibit opened at the California Museum of Science and Industry in April 1995. It will tour to science and natural history museums through December 1999. To date, the exhibit will be hosted in the following cities: Los Angeles, Jersey City, Boston, Fort Worth, and St. Paul.

In addition to touring the exhibit, CMSI will assist museums on the tour with educational programming and lecture programs related to the exhibit.

VII. Recommendations

The assistance of David Watson was instrumental throughout each phase of the project. Without his support, consultation and good will, the project never would have been so successfully completed. Our foremost recommendation is to continue supporting grantees with such dedicated staff. We miss David.

In addition, peer review of the project has been most helpful, particularly during the early stages of development. By hosting more annual conferences at west coast venues, western grantees will be able to take advantage of this opportunity more fully.

ATTACHMENT A.
PROGRAM DESCRIPTION
(updated version)

Program Description

Exhibit Purpose and Theme: To create a traveling exhibit that increases public awareness about the linkages between development and the environment, and illustrates how sustainable technologies can meet the basic human needs of the present without sacrificing the cultural and ecological resources of future generations.

Exhibit Content: The exhibit is divided into five main sections:

1. State of the World. Featured is a 14' diameter globe, created in mosaic form and assembled entirely by school children. The piece is surrounded by highly illustrated graphic panels presenting major problems in the areas of agriculture, energy production and industry. Sustainable technologies are introduced as solutions being explored worldwide.

2. Garden of Eatin'. Two case studies of sustainable agriculture are explored: rice production in Bali and corn production in Iowa. In each case, the scientific basis of sustainable agriculture is presented within two different cultural and ecological contexts. Visitors also learn of sustainable agriculture implemented elsewhere in the world.

3. Harnessing Nature's Energy. Two case studies of renewable energy are explored: the science of wind energy is presented within the context of the National Energy Plan in Denmark; the science of solar energy is presented within the context of a community development project in rural Guatemala. Through illustrative graphics, visitors learn of alternative energy projects implemented elsewhere in the world.

4. Industrial Pollution Solutions. Through a case study in Germany, this section addresses how an ecosystems approach to industry can lead to more earth-sensitive automobile production. Through graphics, visitors see industrial pollution solutions implemented elsewhere in the world.

5. Global Town Hall. Displays encourage visitors think about the roles of non-technical factors such as values, behavior and policy in advancing sustainable development. Educational materials are distributed and workshops are conducted in this section.

Target Audience and Intended Outcomes: The exhibit will be on tour to museums nationwide through 1999, where it will be viewed by a cross section of the general public. Emphasis will be on reaching school children, families and culturally diverse populations. Over the five-year tour, the exhibit is expected to attract over 2.5 million people.

The intended outcome of the exhibit is to:

- Introduce museum visitors to the interconnections between environment and development through the concept of sustainable technologies.
- Encourage appreciation for diversity - biological, cultural, and environmental.
- Encourage individuals to reconsider their own technology choices.

ATTACHMENT B.
SUMMATIVE EVALUATION INSTRUMENTS

California Museum of Science and Industry
"Balancing Acts" Questionnaire

Date: _____ Time in: _____ out: _____ Sheet # _____

A A+K Group size: 1 2 3 4 5+ Gender: M F

1. On a scale of 1-10 (10 being BEST) how did you like the exhibit? (circle one)

1 2 3 4 5 6 7 8 9 10

2. What would you say is the main purpose of this exhibit? To show...

To make people think about...

3. What is one new idea you are taking away with you? I didn't know, or never realized that...

4. What is one idea the exhibit reminded you of that you already knew? It reminded me that...

5. Do you think the museum should be doing exhibits like this?

Anything else about the "Balancing Acts" exhibit? (use other side if necessary)

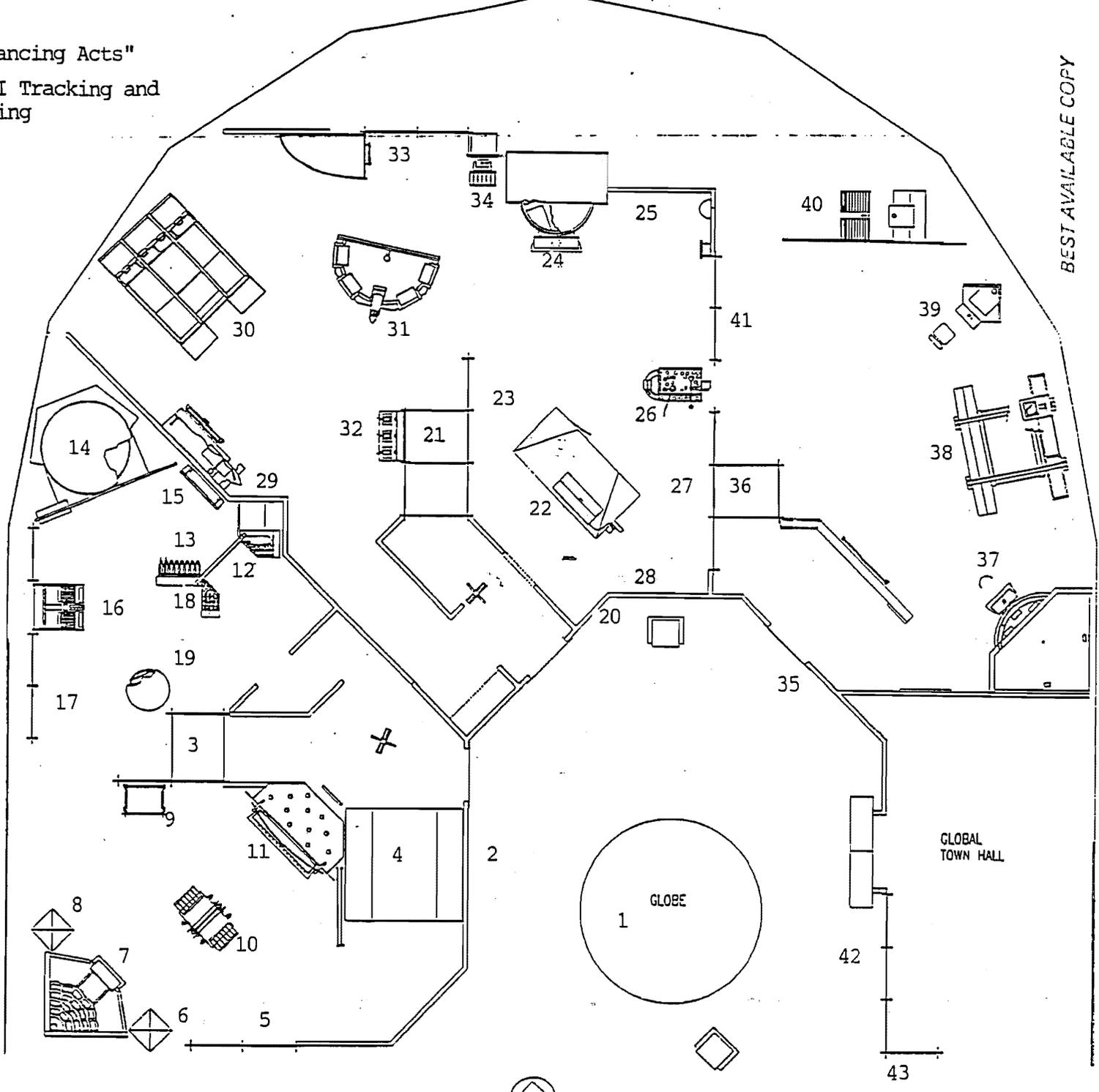
Age category (circle one): 10-15 16-19 20s 30s 40s 50s 60+

Ethnicity: _____

"Balancing Acts"

CMSI Tracking and Timing

BEST AVAILABLE COPY



ELEMENTS NOT WORKING:

COMMENTS:

- = Stop
- R = Read
- I = Interact w/buttons, levers, etc.
- = Using it wrong way

- M/F
- A/A+K
- Age: 10-20
- 20s
- 30s
- 40s
- 50s
- 60s+

Date: _____ Sheet # _____

Day of Work: _____

Time of Day: _____ to _____

Total time: _____ # stops _____

- = Glance
- = Repeats over again (Ox2, Ox3) Group size: 1 2 3 4 5 > 5

ATTACHMENT C.

A.I.D. DEVELOPMENT EDUCATION RESOURCE INVENTORY

**U.S. Agency for International Development
Biden-Pell Development Education Resource Inventory**

Please complete one form for each grant product (if the product is one component of a series or a set, please complete a separate form for each piece beginning with question #5 and completing only those sections which differ from the other components of the set).

1. Grantee Organization/Address/Phone

California Museum Foundation, 700 State Drive, Los Angeles, CA 90037/ 213-744-7547

2. Development Education Contact Person Diane Perlov

3. Phone (213) 744-7547

4. Collaborating Organization/Address (if product was a joint venture)

5. Title

"Balancing Acts": Providing for Today, Preserving Tomorrow" an interactive Museum Exhibition

6. Author(s)

California Museum Foundation

7. Publication Year

1995

8. No. of pages/length 9. Cost

N/A

\$768,236

10. Is the product still available? [X]yes []no -- (if yes, please indicate ordering info if different from #1-2 above)

11. Target Audience (see instructions on back)

Formal Education Sector

- Primary School Teachers (K-6)
- Secondary School Teachers (7-12)
- University Teachers
- 1 Primary School Students
- 2 Secondary School Students
- 3 University Students
- Educational Administrators
- Other - please specify _____

Non-Formal Education Sector

- Agriculture /Agribusiness Community
- Business/Labor Community
- Environmental Community
- X General Public
- Government (State/Local/Federal)
- Health/Medical Community
- Media (Print, Broadcast)
- Membership Group(s) - specify _____
- Religious Community
- Senior Citizens
- Women
- Youth Group(s)
- Other Special Interest Group
please specify _____

12. Type of Material (check one)

- Audio Cassettes
- Bibliography
- Book
- Briefing/Background Paper
- Brochure/Pamphlet
- Catalog/Resource List
- Chart/Poster
- Curriculum Unit
- Directory
- Discussion Guide
- X Exhibit materials
- Game
- Movie/Videotape
- Periodical (magazine/newsletter/etc.)
- Slides/Film Strip
- Training Material
- Other - specify _____

13. Geographic Focus of the Product (if applicable)

- Africa
- Asia/Pacific
- Caribbean
- Middle/Near East
- Latin America
- X Global

14. Subject

- Agriculture
- X Development/General
- X Environment
- Food
- International Trade/Business/Finance
- Microenterprise

- Population/Health/Nutrition
- U.S. Foreign Policy
- Women
- Youth
- Other - specify _____

15. Annotation (Please review instructions and enter annotation on the back of form)

Instructions for Completing this Form

1. **Grantee Organization/Address** - Enter the name and address of the organization responsible for producing the document. Include complete address and zip code.
2. **Development Education Contact Person** - If there is an appropriate individual contact, enter name and address.
3. **Phone** - Include area code and phone number for Number 2 above.
4. **Collaborating Organization(s)** - Indicate Organization name and complete address for any organizations that participated in the development of the product.
5. **Title** - Provide complete title, subtitle, series title, etc.
6. **Author** - Enter personal author(s). Omit titles (Mr., Ms., PhD etc.)
7. **Publication Date** - Enter date of publication.
8. **Pagination** - Include number of pages for single volume. For multi-volume works indicate the number of volumes, i.e. 3 vols. For media works indicate description, i.e. 6 slide/tape units or video/movie length.
9. **Cost** - Cost to those who want to purchase materials.
10. **Availability** - If materials are available from a source other than the Grantee organization.
11. **Target Audience(s)** - Indicate the *primary* audience for whom the work is intended. For example, a teachers guide for secondary school students, is targeted to teachers, not students. If more than 1, please rank 1 = Primary, 2 = Secondary, etc.
12. **Type of Material** - Indicate one.
13. **Geographic Focus** - Indicate geographical region or country.
14. **Subject** - Select those which apply.
15. **Annotation** - Briefly describe the product's major theme, purpose, learning objectives, focus and content. (If the product is part of a set indicate the component part(s) and complete one annotation which is appropriate for all parts.) Limit 200 words.

