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FROM OPIUM PRODUCTION TO MOTION PICTURE PRODUCTION

A Success Story Of The American Foreign Aid Program

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In far-off Saigon, Viet-Nam, one of the largest and most modern motion picture production centers in Southeast Asia has been erected on what until recent years was the site of one of the world's largest opium factories.

The Center was personally dedicated by the President of the Republic, Mr. Ngo-dinh-Diem, who stamped out the drug traffic in Viet-Nam. It is a two-story, air-conditioned building with 14,000 square feet of floor space. It has 33 small laboratory rooms and a sound studio. Its construction cost the equivalent of US\$ 200,000, paid by the Republic of Viet-Nam. Its equipment cost US\$ 400,000, paid by the U.S.A.

This Motion Picture Center presents a dramatic and inspiring example of the American foreign aid program at its best, an example of how joint planning and arduous work on the part of Vietnamese and American officials are transforming a formerly backward and under-developed country into a bastion of the Free World.

For almost five years, the new free nation of Viet-Nam -- created in 1954 from part of the area that was once known as French Indochina -- has faced the task of uniting its people on the side of the Free World. Most of them live in distant villages, far-removed from urban centers, where illiteracy is rampant, and where one of the most effective means of communicating ideas and news is by motion pictures. Lacking any production facilities, but determined to make the documentary films and newsreels necessary for an information program, in 1955 the Viet-Nam Government turned to the U.S. International Cooperation Administration's (ICA) Mission to Viet-Nam for assistance. An agreement was made between the ICA Mission and the Vietnamese Government whereby American financial and technical assistance would be provided for the creation of a modern motion picture production center for the production of such films. Jointly planned and supervised by American and Vietnamese officials and technicians, its actual construction took place over a two-year period. All costs of erecting the physical plant were paid by the Vietnamese Government, while all costs of machinery and equipment, imported from the U.S.A., as well as the services of technical advisors, were paid from American foreign-aid funds.

The center provides Viet-Nam with the most modern facilities for the production and processing of 16/35mm black-and-white documentary films and newsreels, from story-preparation and "shooting", to the production of release prints. To develop a technical staff to operate the center, ICA brought a team of Filipino motion picture technicians from Manila's highly developed motion picture industry to Saigon, and under the direction of the ICA/Viet-Nam motion picture advisor, during the past two years the Vietnamese have been trained in the skills necessary to operate the Center.

The Center commenced actual production in early May. The Vietnamese Ministry of Information has drawn up a program under which hundreds of documentary films and newsreels of modern Viet-Nam will be produced for distribution to the government's mobile information teams which will exhibit them in the thousands of hamlets and villages of rural Viet-Nam. From the swamp lands of southern Viet-Nam to the mountains of its northern reaches, right up to the very borders of Communist North Viet-Nam, the story of the Free World will be brought to the nation's rank-and-file.

Resting on the site of the destroyed opium factory of Viet-Nam's colonial past, the Center symbolizes the Free World's forward march against the forces of evil and Communist enslavement. The United States can be justifiably proud of this concrete example of the American foreign aid program in action.

PRODUCTION: PRESENT AND POTENTIAL

As of July 1959, a scant three months after the opening of the Center, 13 documentary/educational films were in production -- three in color -- with more than 40 new titles waiting to be started. The total release footage of these 13 films will be approximately 800,000 feet. As regards the color films, all necessary work can be done at the Center with the exception of original development and final release printing which will be done in Japan or the U.S.A.

When operated at full capacity, the Center is expected to produce more than 75 films per year, of which five will be in color for world-wide distribution. Expressed in terms of film footage, present facilities will permit the developing and printing of approximately 450,000 feet of film per month. To supply the needs of the Vietnamese Ministry of Information, which will show these films to the nation's 12,000,000 people via mobile units and community information posts, the Center will make as many as 100 16-mm prints of most of the films produced.

STAFFING

Presently, the Center staff consists of four Vietnamese, assisted by five Filipino technical specialists and 80 young Vietnamese trainees. In addition, the ICA/Viet-Nam motion picture advisor acts as general consultant and senior technical advisor. The Vietnamese staff consists of the Center director, who is also a producer, one sound engineer, one cameraman, and one director. The Filipino specialists include one sound engineer, one processing engineer, one director-producer, one editor-director, and one cameraman-animation expert.

THE PHYSICAL PLANT

The building which houses the Center is a rectangular two-story edifice, 45 feet x 90 feet, with 14,000 square feet of floor space, situated on a level ground area which measures 250 feet x 120 feet. With the exception of the Theater, which extends the full height of the building, and the chemical mixing plant on the second floor, all technical operations and production facilities are now located on the ground floor. The second floor area is presently utilized as office space for writers, directors, and general administration. On this

second floor is a large terrace, running the length of the building, which will be converted into additional working area as the Center's operations require such added expansion.

Following is a brief description of the Center's facilities and equipment:

(a) Sound Department

Consisting of Theater, Mixing Booth and Recording Room, and Projection Booth, this department is placed in the center of the building and is isolated from the other working sections.

The Theater, completely air-conditioned, is a combination projection and recording studio, and will seat a maximum of 70 people. Its dimensions are variable and designed for maximum acoustical absorption. It measures 55 feet in overall length, its width is 32 feet at the widest point, and its ceiling is 18 feet at the highest point. The sidewalls flare out from the Projection Booth for about one-third of the Theater's length, then narrow down to the projection screen, where the Theater width is 21 feet. All walls are of double construction with four inches of fiber glass between, giving excellent sound-proofing and thermal insulation. A false ceiling below the main roof gives additional sound-proofing from aircraft and other external noises and all inside wall areas are covered with acoustical tile. The Theater is isolated from ground transmissions by a special trench, 6 feet deep x one foot wide, dug around the outside walls and filled with a mixture of sand, gravel and asphalt to cushion low frequencies originating from the generating and air-conditioning plants.

The Mixing Booth and Recording Room extends three feet into the Theater, with the booth having double glass ports ahead and to both sides, giving excellent vision in all directions. The mixer can see all activity both behind and ahead of him during all operations. He is elevated two feet above the Theater floor level, which gives him eye-level position with reference to the personnel standing in the Theater and with the machine operators behind him. The recording operators can see the mixer and the machine operators, as well as the screen, at all times through the mixing booth glass port. Everybody has excellent vision of all operations in the sound department. There is a small room behind the recording section containing the darkroom recording equipment and serving as a loading room. Selsyn generators and power panels for sound are located directly outside the Recording Room under the stairs leading to the second floor and the power lines are co-axed into the various sections, including the Projection Booth.

The Projection Booth, immediately above the Mixing Booth and Recording Room, is entered from the corridor on the second floor of the building. It contains two 35mm Westrex Arc projectors and one 16mm Eastman Kodak Arc projector, all synchronous/interlock type, controlled from the Mixing Booth immediately below the Projection Booth. The 35mm projectors are equipped with anamorphic lens of 2:35/250-to-1 ratio (variable), as well as standard flat screen lens. The 16mm projector is mounted in the center of the booth with the 35mm projectors on either side, and with a common exhaust through the front of the booth. Power supplies and rectifiers are mounted on the booth interior walls, adjacent to the projectors. The booth is equipped with storage racks and cabinets.

The theater screen is Cinemascope, 2.55-to-1, 8 feet x 17 feet, keystoned and curved to match the 35 mm projectors, with curtains to

mask the screen for 16mm flat picture projection. Apertures are cut into the 35mm academy mask to project the sound track on the left side of the screen.

All sound at the Center is recorded on magnetic tape. Location sound is usually done on 1/4-inch tape with Rangertone sync and later transferred to 16mm tape for editing and mixing. Final mix is done on 16mm tape for interlocks and then transferred to 16mm optical film for printing. Final optical tracks are recorded on a Reeves Lab-16 optical recorder which can make either positive or negative optical tracks.

An Altec Lansing 550 theater horn with two 15-inch low frequency woofers and one high frequency tweeter with crossover network comprises the speaker system, powered by a 50-watt driver amplifier through the mixing console.

Monitoring is both by speaker and headphone in the Mixing Booth, and by speaker in the Projection Booth. A complete intercommunication system gives the mixer contact with all sections of the sound department. Signal light panels are installed on the mixing console to indicate the exact operating condition of all equipment in the section. Patch panels built into a control rack next to the mixing console give the mixer complete control of traffic and continuity of all equipment in operation through the mixing console.

Location crews work with a Magnacord M-90, equipped with a Rangertone sync-generator for sync/sound on location. This is later transferred to 16mm magnetic film for editing purposes and final operations. A PV-100 can also be used for direct 16mm recordings on location. A special sound truck carries location crews for both sound and camera. This truck is equipped with battery-powered generators and small motor generators for shooting sound and pictures.

(b) Animation Department

This department is set up as a separate part of the Center and is used for special treatment of audio-visual films. There is an animation camera room, containing an Oxbury camera, 16/35mm combination. A special pit, two feet deep, had to be built in the floor of one room to handle the extra height of this camera. The camera has automatic follow-focus for both 16mm and 35 mm film, automatic fading device, projection equipment, bi-pack magazines, control boards, etc. Lights are mounted on both sides of the camera on special stands. The animation art room is equipped with three artists tables and one assembly table where all art work and layouts are made. Story-board layouts and final layouts are roughed out for art work and are assigned to the various artists. Here also, pre-production animation tests are carried out before the final art work begins. Storage shelves and cabinets along the walls provide space for all art and animation supplies for this department.

(c) Music and Effects Department

This department occupies one room and is specially soundproofed in modern fashion. It contains two Rek-O-cut transcription turntables, and one tape recorder for playback of 1/4-inch tapes. All sound effects and music are transferred to discs for quick selection of the desired effects for the film being cut. The music and effects are then transferred to 16mm tape by the sound department for final editing and synchronizing.

(d) Positive Editing Department

This department occupies three rooms, and is provided with all the standard editing equipment to handle the work of eight positive editors. Walls are provided with necessary storage racks for the traffic of positive films in the Center. Portable cutting bins constructed of dexion are provided for each editor. All splicers are electric hot splicers, with two foot-operated models for negative cutting.

There are six Movieolas, all 16mm picture-sound combinations. Each table is specially constructed in such a way that they act as both breakdown and assembly tables, with double wells and extra long light windows for visual checking.

(e) Magna Striping and Edge Numbering Department

This department occupies one room and contains an edge-numbering machine and a magnaStriper. The magnaStriper is a Reeves machine and is continuous in oxide application. The machine will apply a 100 mil, 50 mil, or 29 mil track on either side of a film, base or emulsion type, depending upon requirements.

In a country such as Viet-Nam, where there are many dialects and languages and a wide variety of audiences, each numerically small, the magnaStriper is of great use. Special technical films that would not necessarily be of general use can be striped for language variations and used over and over again simply by changing the tracks. This reduces the necessity of making many optical prints which would have very limited distribution.

(f) Processing and Printing Laboratory

Two adjoining rooms are used for this operation, one for the "wet end", the other for the "dry end". A Houston S-10-C 16/35mm neg-pos developing machine is employed, with the darkroom "wet end" in one room and the "dry end" in the other room.

A special light trap is constructed between the two rooms. All floors, walls, and ceilings are covered with white tile. Safelights are built into the walls. Special drain pits are built in the floors to allow waste materials to be evacuated directly to the local sewerage system. Signal lights outside the darkroom trap indicate what type of material is going through the machine at any time. An auxiliary water pump is built into the water system to give extra pressure if necessary.

For the "dry end" room, a specially designed air filter has been installed to collect dust from the air so that air brought into the machine's dry box is nearly pure. A duct system draws the air over the surface of a large shallow pan of water. The velocity of the air striking the pan drives the dirt and dust into the water and clean air is picked up and delivered into the dry box. This lessens the problems of cleaning filters daily and contaminating the air in the dry box.

(g) Chemical Mixing Plant

Located on the building's second floor, directly above the developing machines in the Processing and Printing Laboratory, is the Chemical Mixing Plant, where all chemicals are mixed for these machines. The chemicals are fed by gravity through the floor into the darkroom. Special waterproof floors were constructed here to prevent leakage into the rooms below and to prevent contamination of building and materials

by chemical action. Filtered water is used for the mixing of all chemicals, preventing contamination of the mixing process. Chemicals are mixed in four 50-gallon stainless steel mixing tanks run by electric mixers, then fed through the floor by way of special light traps. Next to the chemical mixing plant is a chemical storage room, which is actually part of the chemical mixing room, though separated by the storage racks upon which all chemicals are kept.

These rooms are isolated from all other sections of the center, which prevents the transmittal of any contaminating chemicals into other sections.

(h) Printing Department

Two rooms house the work of this department. Continuous printing is done in one room, which is equipped with a B-and-H model "J" 16mm continuous printer for workprints, and a DePue continuous doublehead printer with automatic light control board for release printing. Rectifiers have been mounted on the walls and each machine works independently of the other.

In an adjoining room is an Optical Reduction Printer and a Cinex Printer. The Optical Printer can make prints 16mm-to-16mm, 16mm-to-35mm, 35mm-to-35mm, and 35mm-to-16mm. The Cinex Printer is a combination 16mm/35mm and is used to maintain both control and printer corrections. Final negative cleaning and checking is done here before the negatives go to the laboratory for printing.

(i) Film Vaults

There are two film vaults. One, with a capacity for 2,000,000 feet of film, is for storage of positive prints and certain laboratory raw stocks. The other, with slightly less capacity, is for storage of camera negative film, and is kept at low temperature.

(j) Lighting and Electrical Storage

The lighting and electrical storage room is so placed that it can be entered only from the outside. Loading can be done regardless of weather and prevent an unnecessary burden on the Center's air-conditioning system. Lamps are stored on shelves while cables are hung on special racks on the walls. This section is the ready section, while the bulk of heavy cables and lighting equipment is kept under storage in another section of the Center. A large part of the location work in Viet-Nam is exterior and in areas where there is very little electricity. Also, it is often impossible to haul generators to the countryside. Thus, the lighting problems are largely restricted to exteriors.

(k) Camera Ready Room

With space sufficient to store cameras and optical equipment for eight crews, this room also has its own outside entrance to reduce carrying of dirt and dust into the building.

(l) Projection Inspection Room

The projection inspection room is equipped with two 16mm projectors running side-by-side. After the Laboratory has established a "fix" on a release print, all other release prints are run against this print to judge the quality and laboratory standards of the release prints. Also, the projection room is used by the Editorial Staff and the Laboratory for checking other materials and to reduce traffic on the location facilities in the Theater.

(m) Machine Shop

Because of the complexities of repairs involving motion picture equipment, a special machine shop provides the necessary equipment for all types of repairs. Equipment includes a lathe, a precision milling machine which will do both horizontal and vertical milling, gear cutting, etc., a drill press, grinders, and a complete complement of special precision instruments for repairs of optical and camera equipment.

(n) Auxiliary Power Plant

Two Diesel electric generators provide stand-by power. An auxiliary source of power is absolutely necessary in Saigon due to frequent shut-downs in the city's power system. Should power be lost, not only would it be disastrous to film in the "wet-end" phase of developing, but the failure of air-conditioning throughout the Center could be extremely serious to all operations in view of Saigon's extremely high humidity and temperatures.

The two generators are installed in a special room -- adjoining the room containing the air-conditioning machinery -- at ground level, at one end of the Center. The machines are connected with the local public power system in such a way that when the local power shuts off, by means of a transfer panel the local power circuit is broken and the two generators start up.

The generators, weighing 14 tons, rest on a 22-ton block of steel-reinforced concrete. This block is pyramid-shaped, flaring to the ground, and rests on three feet of packed sand. The generators are mounted on steel channels by bolts which pass through 1 1/2-inch pipes filled with asphalt. Between the generators and the base is a 3/4-inch layer of hard rubber. In effect, the two generators are free-floating.

The generator room is double-walled, with four inches of packed glass-wool between the walls. The generators' motor exhaust is run through an aperture in the roof, with a forced draft system to dissipate the heat. No openings in this room are in the direction of the Theater, so all high frequencies which could affect theater operations are dissipated into the air at an extremity of the center. Two 100-gallon underground fuel tanks are located immediately outside the generator room.

(o) Water Filtration Plant

Due to the high concentration of iron, acid, and bacteria in the Saigon city water, a system to provide filtered water for the Laboratory, the Chemical Mixing Plant, and the air-conditioning system was absolutely necessary.

A four-stage, gravity-feed filtration plant was installed. City water is filtered through four tanks of gravel and sand into a ground reserve tank of 60 cubic meters capacity. From here it is automatically pumped to a 45-foot-high water tower, which has a capacity of 34,000 liters. Water pressure from the tower to the adjacent center building is 18 lbs. per square inch at the ground floor level and 14 lbs. at the second floor level.

Maintenance is simple. The system requires cleaning only at 18-month intervals, for which a ten-day shut-down is necessary. All piping from the water tower to the outlets in the center is galvanized and may be cleaned periodically by forcing finesand through the pipes.

(p) Air-Conditioning Plant

A chilled water system of air-conditioning was installed to cope with Saigon's tropical climate, where humidity averages 85-95 percent, and mean temperature, 85-90 degrees Fahrenheit. This system provides a method of air-conditioning which can be expanded at minimum expense.

Two 35-ton-capacity Borg Warner compressors were installed in a sound proofed room immediately adjoining the generator room, the machines mounted in similar fashion to that employed in the case of the generators. Chilled to 45 degrees F. by the two compressors, water is piped to five locations in the Center, at each of which a cooling generator is suspended from the ceiling.

Air-conditioning the Theater presented a special problem in view of the necessity of keeping the noise-level of the system below 50 DB. There are six air diffusers in the ceiling with return ducts at the Theater's rear. Each diffuser has trimmers to allow control of air velocity and adjustment of noise levels of the equipment. The air-conditioning generator for the Theater (which includes the Mixing Booth and Recording Room, and the Projection Room) is suspended from the ceiling at the Theater rear by special mounts, occupying a small orifice which causes a jamming effect on transmission of acoustical sounds.

By adding a very simple baffle backed with fiber glass, it is possible to operate this unit in the Theater and reduce the noise to levels so that a microphone can be operated without shutting down the unit. The generating unit was mounted outside the Theater, on the second floor level, in order to reduce the distance the chilled air had to travel to the Theater ceiling. This offered the opportunity to mount the return ducts high in the walls and thus give full floor working space, and at the same time removed any noise generated by the return system to a level that is not objectionable to the normal working standards. To be sure that no sound could enter the Theater from the ports cut in the side of the Theater for the entry and exit of air, a special sound room was built around the Theater unit. This isolated any sound entering through the equipment into the Theater.

(q) Future Expansion

Due to a greater production potential at the Center than had been anticipated, plans for the expansion of its present physical facilities are already under preparation. Designs and specifications have been drawn to build a second theater, and additional rooms for chemical and film storage and 35mm production, on the Center building's second floor, on which are now located only administrative offices, the Chemical Mixing Plant, and on open terrace.