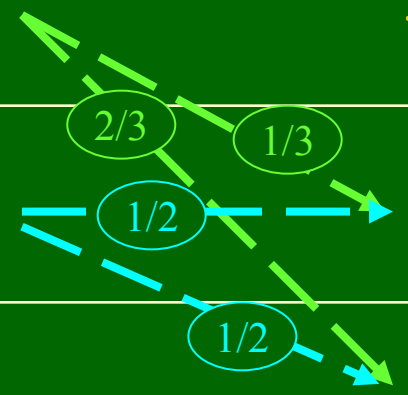
THE EIA PROCESS: A CHALLENGE TO DECISION MAKING ENGINEERS

Luis E. Montañez-Cartaxo

Environmental Impact Assessment Vicemanager
Environment Protection Division
Comisión Federal de Electricidad (CFE)
Mexico

PROBLEM ORIGIN AND OCCURRENCES IN CIVIL ENGINEERING

Stage of project	*Problem origin (%)*	*Problem occurrence (%)*
Planning	1	<1
Design	58	<1
Construction	38	41
Operation	4	57



CAUSES OF SERIOUS PROBLEMS, SOWERS (1993)

Absence of contemporary appropriate technology — 12%

Ignorance of contemporary technology — 33%

Rejection of contemporary technology — 55%

IAIA'02 CONCLUSIONS DAD → DDD

	From:	To:
1	Project design with deep engineering and economic considerations but without timely and serious environ-mental and social studies. →Decide *(D)* to undertake the project	Project design with equivalent considerations regarding engineering, economic, environmental and social aspects. In depth discussion *(D)* of the project all kinds of implications.
2	Preparation of the resulting EIS. The project is announced *(A)* to the environment authority and to the public.	Decide *(D)* to undertake the project and present the EIS to the authority for approval.
3	Defend *(D)* the decision taken against any observation or objection by the authority or the public.	Deliver *(D)* the project (construction, operation & maintenance) making sure that the design considerations are fulfilled and monitoring the environmental and social impacts.

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SOLUTIONS TO ENGINEER'S DEFICIENCIES

Engineers must abandon their arrogance and intolerance regarding other points of view

Both generalists and specialists should recognize their own limitations as well as the essential value of the other's knowledge

Engineers have a professional responsibility to engage only in tasks for which they are properly qualified

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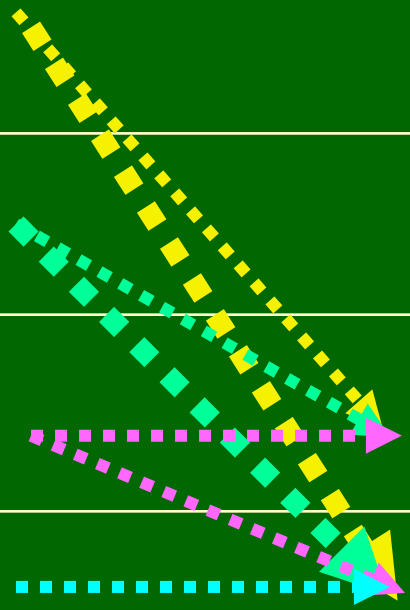
SOLUTIONS TO ENGINEER'S DEFICIENCIES

Precise communication is essential for the work of engineers. Communication is a skill, so it can be learned either at the professional school or by attending continuing education courses. The same can be said about integral project appraisal, environmental management and EIA methods

Formal and infromal rules that interfere with sound management of projects, designed to preserve jurisdiction, turf, and organization pride, have to be turned down

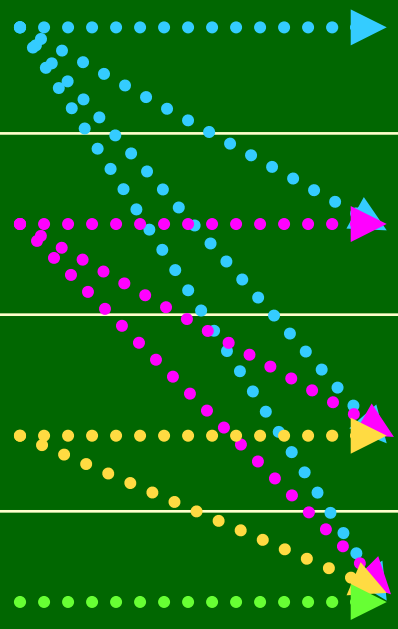
ORIGIN AND OCCURRENCES OF ENVIRONMENTAL IMPACTS

Stage of project	*Problem origin (%)*	*Problem occurrence (%)*
Planning		
Design		
Construction		
Operation		



ORIGIN AND OCCURRENCES OF SOCIAL IMPACTS

Stage of project	*Problem origin (%)*	*Problem occurrence (%)*
Planning		
Design		
Construction		
Operation		



CONCLUSION

Engineers must realize that a well designed project in terms of its functionality is not a good project unless it fits into the environmental and social surroundings of the site where it is to be developed.